AMENDED DISCHARGE PERMIT APPLICATION

Property: Cowboy Central Delivery Point Terminal

April 14, 2025

XTO Energy, Inc.
6401 Holiday Hill Road, Building 5
Midland, Texas 79704

Received by OCD: 4/14/2025 11:49:46 AM

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 FACILITY DESCRIPTION 2
2.1 Property, Operator, and Facility Ownership and Contacts 2
2.2 Facility Diagrams 2
2.3 Fencing 3
2.4 Process Units 3
2.5 Tanks 4
2.6 Process Vessels 4
2.7 Berms 4
2.8 Loading Areas 4
2.9 Storage Areas 4
2.10 Pits, Ponds, and Impoundments 4
2.11 Disposal Facilities 5

3.0 SITE CHARACTERISTICS 6
3.1 General Description of Topography, Elevations, and Vegetation Types 6
3.2 Soil Type 6
3.3 Surface Water Features 6
3.4 Water Wells 7
3.5 Shallowest Aquifer 7
3.6 Geological Characteristics 7
3.7 Site Flooding Potential 8
3.8 Groundwater Characteristics 8

4.0 POTENTIAL DISCHARGES 9
4.1 Onsite Disposal 9
4.1.1 Sanitary Sewage 9
4.2 Offsite Disposal 9
4.2.1 Wastewater 9
4.2.2 Closed Drain System 10
4.2.3 Open Drain System 10
4.2.4 Stormwater Management 10
4.2.5 Storage Tank Bottom Sludge/Sludge 10
4.2.6 Maintenance Materials 10
4.2.7 Hydrocarbon Impacted Soil 11
4.2.8 Miscellaneous Solid Waste 11
4.2.9 Ponds, Lagoons, Catchments 11
4.2.10 Groundwater Contamination 11
4.2.11 Commingled Waste Streams 11

5.0 COLLECTION AND STORAGE SYSTEMS 12
5.1 Buried Storage Tanks 12
5.2 Sumps 12
5.3 Buried Piping 12
5.4 Effluent Treatment Facilities 13
5.5 Aboveground Valves and Piping 13

6.0 INSPECTION, MAINTENANCE, AND REPORTING 14

7.0 PROPOSED MODIFICATIONS 16

8.0 SPILL/LEAK PREVENTION AND REPORTING PROCEDURES (CONTINGENCY PLAN) FOR RELEASES 17
8.1 Identification 17
8.2 Response 17
8.3 Control 17
8.4 Notifications 18
8.5 Corrective Actions 18

9.0 PUBLIC NOTICE 19
9.1 SCHEDULE 19
9.2 PROPOSED PUBLIC NOTICE 19

10.0 FACILITY CLOSURE/POST CLOSURE PLAN 21

Released to Imaging: 4/22/2025 3:42:03 PM

11.0 FINANCIAL ASSURANCE 23
12.0 GROUND WATER DISCHARGE PERMIT APPLICATION AND PERMIT FEES 24
13.0 CERTIFICATION 25

FIGURES

FIGURE 1 SITE RECEPTOR MAP
FIGURE 2 SITE LAYOUT MAP
FIGURE 3A NORTH FACILITY PLOT PLAN
FIGURE 3B SOUTH FACILITY PLOT PLAN
FIGURE 4 PROPOSED CLOSURE SAMPLING GRID

TABLES

TABLE 1 OIL AND WATER STORAGE
TABLE 2 MISCELLANEOUS CHEMICAL INVENTORY
TABLE 3 SECONDARY CONTAINMENT CALCULATIONS

APPENDIX

APPENDIX A WASTE MANAGEMENT PLAN
APPENDIX B TIER II - EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY
APPENDIX C SAFETY DATA SHEETS
APPENDIX D DAILY INSPECTION FORM
APPENDIX E ESTIMATED CLOSURE COSTS

1.0 INTRODUCTION

This document provides supplemental information for a discharge permit application for the Cowboy Central Delivery Point Terminal (Facility) operated by XTO Energy, Inc. (XTO) in response to a notice from the New Mexico Oil Conservation Division (NMOCD) stating the Facility is subject to the permitting requirements of Title 20, Chapter 6, Part 2 of the New Mexico Administrative Code (NMAC). There are no intentional discharges to groundwater at the Facility. Instead, pursuant to the notice from NMOCD, this discharge permit application describes the measures in place to prevent potential discharges to groundwater of any water contaminant listed in 20.6.2.3103 NMAC or any toxic pollutant. Existing regulatory and operational programs are discussed in the context of site-specific environmental and operational conditions to verify inadvertent releases of liquids stored and used at the Facility are minimized and contained, waste is managed appropriately, and groundwater resources are protected.

This information for the discharge permit relies heavily on the following existing documents, which are attached. These documents intend to dictate safe and responsible handling and storage of liquids and gas at the Facility with consideration to a reduction of long-term environmental impacts and waste products. XTO uses these documents and manuals to implement best management practices for spill prevention:

- XTO maintains a *Waste Management Plan* for the Permian Business Unit, which is included as Appendix A. This plan was established to minimize waste and manage it effectively while ensuring compliance with federal, state, and local laws for treatment, storage, transportation, and disposal.

- XTO's *Emergency and Hazardous Chemical Inventory* reported for this Facility for the year 2021 as part of Tier II Section 312(a) of the Emergency Planning and Community Right-to-Know Act (EPCRA) reporting requirements is included in Appendix B. The inventory serves to identify materials generated and stored at the Facility.

- Safety Data Sheets for any non-oil-based chemicals stored at the Facility are included in Appendix C and list chemicals that may be used on a temporary basis.

Specific components of the existing plans, policies, and inventories are referenced in subsequent sections of this document. In addition, Risk Based Fixed Equipment Strategies were developed for all piping circuits, vessels, and tanks during design and construction of the Facility. Currently, XTO has implemented over 200 different equipment strategies that consider process conditions, fluids, construction material, and design details to determine probability of failure and assign mitigations when the risk is unacceptable. XTO also maintains an Emergency Action Plan specific to the Facility to address potential impacts that may result from a failure of process equipment, pipelines, tanks, and other equipment. It provides appropriate organization and resources required for small and large emergency events. Portions of the Risk Based Fixed Equipment Strategies and Emergency Action Plan are discussed as part of existing measures applicable to the requirements and recommendations for this discharge permit. Finally, XTO maintains an Emergency Action Plan to describe personnel response to a failure of equipment, pipelines, and tanks at the Facility. This includes discharges or releases of chemicals, oil, and gas. It defines roles, responsibilities, and actions required to minimize potential impacts from releases.

2.0 FACILITY DESCRIPTION

The Facility is located approximately 29 miles southeast of Carlsbad and approximately 20 miles east of Malaga, New Mexico within Section 1 of Township 25 South, Range 30 East in Eddy County (32.16204745°N, -103.8346986°W) as depicted on Figure 1. The Facility began operation in 2020 as a gas processing facility with oil and natural gas liquids (NGL) stabilization. Oil, gas, and condensate are delivered via pipelines from the surrounding production fields to be processed before they are sold to various transmission companies as residue sales gas, Y-Grade NGL, and spec oil products. It is being constructed over multiple phases to reach a full processing capacity of 1.0 billion cubic feet per day (BCFD) of gas processing, 600,000 barrels per day (BPD) of oil stabilization, and 190,000 BPD of NGL stabilization. All existing processing areas, areas currently under construction, and areas with planned construction are described in this document.

2.1 Property, Operator, and Facility Ownership and Contacts

The following list outlines key entities associated with the Facility ID fSCW2306248256, OGRID 5380.

Facility Name:
Cowboy Central Delivery Point Terminal
900 Buck Jackson Road
Loving, New Mexico 88256
T25S R30E S1, Eddy County, New Mexico
32.16204745°N, -103.8346986°W

Landowner:
XTO Energy, Inc.
6401 Holiday Hill Road, Building 5
Midland, Texas 79704

Facility Owner and Operator:
XTO Energy, Inc.
6401 Holiday Hill Road, Building 5
Midland, Texas 79704

Key Facility Contact:
R. Dale Woodall
Water Coordinator
3104 E. Green Street
Carlsbad, New Mexico 88220
robert.d.woodall@exxonmobil.com

2.2 Facility Diagrams

Facility maps and diagrams are described below and referenced throughout this document:

- A topographic map depicting topography and the location of the Facility relative to nearby environmental receptors (waterways and water wells) is included as Figure 1.
- A Site Layout Map depicting an aerial image of the Facility is included as Figure 2.
- Figures 3A and 3B are more detailed plot plans. Figure 3A depicts the existing Facility with three cryogenic trains and a planned fourth. Figure 3B is a plot plan showing a new

oil storage area that is currently under construction and the location of another planned oil storage area that has not yet been built.

2.3 Fencing

The Facility incorporates an outer chain-link perimeter fence. The location of the Facility boundary is depicted in Figure 2.

2.4 Process Units

Processing conducted at the Facility is divided into three streams: oil processing, condensate processing, and gas processing. Crude oil enters the Facility via separate pipelines. The oil is heated in oil inlet heaters before it is routed through inlet surge vessels, which are utilized to ensure a steady stream of oil to the stabilizer units. Some of the oil bypasses the stabilizer units and goes directly to the oil storage tanks before being sold. The rest of the oil is processed in the stabilizer units. The stabilizer units heat the oil to remove residual gas. This is required to make product according to specification for transmission via oil pipelines. The gas from the oil inlet surge vessels and stabilizer units is recompressed, turned back into liquid, and directed to the condensate stabilizer units. The remaining oil is directed to the oil storage tanks, then sold and transported off-site through an oil outlet pipeline. Any free water that is recovered throughout these various processes is routed to a gunbarrel separator. Oil recovered from the gunbarrel separator is sent to a slop oil tank, while water is sent to produced water tanks. The slop oil is blended with the oil sales or trucked off-site. The produced water is transported off-site via pipeline or truck.

Condensate enters the Facility via separate pipelines. It is routed to a slug catcher or condensate surge drum, which are utilized to ensure a steady stream of condensate to the stabilizer units. It is then heated in the stabilizer units. Each of the condensate stabilizer units consists of an inlet flash vessel and two fractionation towers, which are used to produce Y-Grade NGLs and pipeline spec oil. The gas from the condensate stabilizer units is recompressed. This rich gas is then sent gas processing for dehydration and cryogenic processing, before it is sold as lean gas. Any oil or NGLs that are recovered from the condensate stabilizer units are directed to separate storage facilities, then sold through separate outlet pipelines.

Sweet natural gas also enters the Facility via separate pipelines and is directed through the slug catcher for bulk separation. The combined liquid stream leaving the slug catcher is processed by the condensate stabilizer units. The separated rich gas is either sold or fed to the four cryogenic trains. Each cryogenic train is equipped with a dedicated amine treatment unit to remove carbon dioxide followed by a dehydrator unit to remove moisture. The cryogenic processing units are used to recover additional NGLs from the rich gas stream. Any flash and acid gases from the amine treatment unit are routed to a thermal oxidizer to remove volatile organic compounds. After cryogenic processing, the residue gas stream is recompressed once more, then sold as lean gas via separate pipelines. Liquids recovered through the cryogenic processing units are pumped directly into an NGL sales pipeline, while water from the dehydrator unit is sent to produced water tanks. The produced water is transported off-site via pipeline or truck.

While an amine treatment unit is available to strip carbon dioxide, it is currently not utilized based on the low concentration of carbon dioxide in the incoming gas. Utility hot oil systems with gas-fired auxiliary heaters are used to provide the required heat to the distillation processes throughout the Facility. The Facility also temporarily stores the processed oil and a portion of the NGLs before export.

2.5 Tanks

The Facility utilizes aboveground tanks and totes, as well as underground sumps. The locations of existing tanks are included on the Facility Plot Plan in Figure 3A. Details for storage capacity and contents are included in Table 1. Two additional oil storage areas are shown on Figure 3B. One area (Berm Area 4) is under construction and will include four new oil storage tanks. Another oil storage area is planned to be constructed on the southern end of the Facility (Berm Area 5). Total oil storage capacity is planned to be approximately 1,000,000 barrels at full build-out. Other chemicals, such as biocide and corrosion inhibitor, may be temporarily stored in small totes or 5-gallon buckets before use. Those items are listed in Table 2.

2.6 Process Vessels

The Facility utilizes process equipment with regular liquid inventories (e.g., flow-through process vessels) for recovery and/or intermediate storage of liquids. A description of process vessels and their locations are included in Figures 3A and 3B. Automated vents and process reliefs are routed to a Facility's flare system, which consists of three dual-tip flares.

2.7 Berms

Lined berms are constructed of steel or engineered earthen material and used as secondary containment for tanks and other areas with liquid storage capacity. Information regarding containment, including containment capacity as related to the currently stored liquids, is included in Table 3. The existing berms are identified on the Facility Diagram in Figure 3A. Planned storage areas are identified on Figure 3B. All bulk storage container installations, including those under construction or planned for construction, are built so that a means of secondary containment is provided for the entire capacity of the largest container and sufficient freeboard to contain precipitation. Bermed areas are sufficiently impervious to contain discharges of oil and other liquids.

2.8 Loading Areas

The majority of the liquids arrive and exit the Facility through pipelines. Trucks may occasionally receive wastewater from tanks or sumps and these activities occur at tank loadouts. Spill control equipment, including dedicated catch pans, spill pans, sorbent materials, and/or spill control boom, are present to provide spill control during truck loading. The Facility also requires that truck drivers chock their wheels prior to loading. Trucks are inspected for discharges from drains and/or outlets before loading/unloading as well as departure. If necessary, the drains and/or outlets are tightened, adjusted, or replaced.

2.9 Storage Areas

The Facility uses a mixture of indoor storage, outdoor storage, and roll-off bins to store materials and equipment within the Facility. A warehouse storage area is completely enclosed or covered to prevent contact of equipment with stormwater. A storage yard includes surplus equipment that has not been in service. These may include valves, piping, fittings, gaskets, and bolts/tools. Any liquids stored in storage areas are stored in plastic or stainless-steel totes/containers and fitted on individual containment structures.

2.10 Pits, Ponds, and Impoundments

There are no permitted pits, ponds, or impoundments associated with oil and gas processing at the Facility.

2.11 On-Site Disposal

There is no on-site disposal at the Facility.

3.0 SITE CHARACTERISTICS

The following sections describe the hydrologic/geologic characteristics in the vicinity of the Facility.

3.1 General Description of Topography, Elevations, and Vegetation Types

The Facility is located within a portion of the Lower Pecos River Surface Water Basin and within the Carlsbad Declared Groundwater Basin[1]. This area is relatively flat and largely covered by sand dunes underlain by a hard caliche surface. The dune sands are locally stabilized with shin oak, mesquite, and some burr-grass. The vegetation on these soils ranges from open grass stands, grasses, shrubs, desert succulent mixtures and some piñon-juniper woodlands. Mixed stands of trees and riparian vegetation can be found along the Black, Delaware and Pecos rivers, and around springs and playas. These areas are used for oil and gas development, forage production, farming, wildlife habitat, and recreation, while they also provide aesthetics and watershed benefits[2].

3.2 Soil Type

Based on the available site-specific and regional subsurface information, the Facility is underlain by the Berino complex on 0 to 3 percent (%) slopes – eroded and Simona gravelly fine sandy loam, on 0 to 3% slopes. These surficial soils are classified as well drained, moderately permeable soils that formed by sandy eolian deposits that were derived from sedimentary rock and mixed alluvium. Further classification of these soils indicates that the capacity of the most limiting layer to transmit water is moderately high to high (0.60 to 2.00 inches per hour) and runoff potential is low [3]**.** The soil encountered in geotechnical borings generally consisted of silty sands (SM) to a depth of approximately 35 feet underlain by poorly graded sand with silt (SP-SM) to boring termination. The soils exhibit loose conditions at the surface to the depth of approximately 2.5 feet underlain by very dense conditions, attributed to carbonate cementation in the silty soils and cleaner sands at boring termination depth. Generally, the soil at the site is classified as moist to dry.

3.3 Surface Water Features

Figure 1 is a topographic map depicting water bodies, streams, and watercourses within a 1-mile radius of the Facility boundary. There are no natural surface bodies of water or seeps within ¼-mile of the Facility and where drainages exist in interdunal areas, they are ephemeral, discontinuous, dry washes. Figure 1 applies the following databases for surface water features: National Wetlands Inventory, National Hydrography Dataset, and United States Geological Survey. One freshwater emergent wetland is located within ¼ mile of the Facility and a second is just over ¼ mile from the Facility. These appear as surface depressions and visual inspection has identified no wetland features such as wetland vegetation or standing water. It appears they are topographic depressions that receive surface runoff and temporarily store precipitation for short

[1] New Mexico Office of the State Engineer (NMOSE) – online query November 2022
[2] Lower Pecos Valley Regional Water Plan. Volume II Regional Water Plan. Prepared for New Mexico Interstate Steam Commission Regional Water Planning Program. Prepared July 2001. Prepared by Pecos Valley Water Users Organization.
[3] Natural Resources Conservation Services. Web Soil Survey. National Cooperative Soil Survey. Eddy County, New Mexico. Online query accessed November 22, 2022. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

periods until evaporation occurs. They are mostly dry except during large storm events. The Facility is located approximately 2.5 miles east of Wood Draw, which is the nearest significant watercourse.

3.4 Water Wells

Using information from the New Mexico Water Rights Database from the New Mexico Office of the State Engineer (NMOSE), several water wells exist within a one-mile radius of the facility boundary and are identified in Figure 1. The nearest water well with depth to water information is Point of diversion (POD) File Number C-03716-POD1. The static water level in C03716-POD1 is recorded as 425 feet below ground surface (bgs). The depth to the first water bearing strata was recorded on the boring log for C-03891-POD1 as 420 feet bgs and the static water level was recorded as 429 ft bgs. The static water level in C-04520-POD1 was recorded as 455 ft bgs.

3.5 Shallowest Aquifer

In this area of the Delaware Basin, groundwater occurs in the Cenozoic alluvium, Permian Dewey Lake Red Beds, and Rustler Formation. Alluvial groundwater occurs closest to the Pecos River and is not present at the Facility. The Permian Dewey Lake Red Beds are the chief source of groundwater in the eastern part of Eddy County. The depth to water is generally less than 500 feet, but deeper than 350 feet[4]. Drilling logs for water wells within a 1-mile radius of the Facility indicate that depths to groundwater range from approximately 425 to 460 feet bgs. Additionally, discontinuous zones of perched water may exist within the overburden materials and/or at the contact with clay lenses.

3.6 Geological Characteristics

The Facility is constructed on Cenozoic alluvium overlying Permian Ochoa Series - Dewey Lake (Pierce Canyon) Red Bed Formation and the Rustler Formation[5]. Average thickness of the Dewey Lake Formation is about 560 feet. Generally, the upper 50 feet of the formation consists of alternating layers of clays and sands. The middle interval from 50 to 280 feet is mudstone underlain by sandstone and fractured sandstone. Individual sandstone units are light- to dark- or greenish-gray, buff, and red. The basal 50 feet are fine-grained sandstone and thin- to medium-bedded siltstone interbedded with gypsum and carbonate. The gypsum and carbonate are interbedded with anhydrite[6].

The Rustler Formation is approximately 560 feet deep near the Facility. The Rustler Formation is characterized by anhydrite, gypsum, two dolomite marker beds, interbedded red and green sandy clays, with a basal zone of sandstone, siltstone, and shale[7]. The Rustler conformably overlies the

---

[4] S. F. Richey, J.G. Wells, and K.T. Stephens., 1985, Geohydrology of the Delaware Basin and vicinity, Texas and New Mexico. Water-Resources Investigations Report USGS Numbered Series - 84-4077. vi, 99 p. :ill., maps ;28 cm.

[5] D. N. Miller; Petrology of Pierce Canyon Redbeds, Delaware Basin, Texas and New Mexico. AAPG Bulletin 1966; 50 (2): 283–307. doi: https://doi.org/10.1306/5D25B487-16C1-11D7-8645000102C1865D

[6] S. F. Richey, J.G. Wells, and K.T. Stephens., 1985, Geohydrology of the Delaware Basin and vicinity, Texas and New Mexico. Water-Resources Investigations Report USGS Numbered Series - 84-4077. vi, 99 p. :ill., maps ;28 cm.

[7] Hendrickson, G.E., and Jones, R.S., 1952, Geology and Ground-Water Resources of Eddy County, New Mexico: New Mexico Bureau of Mines and Mineral Resources, New Mexico Institute of Mining & Technology Groundwater Report 3

thick sequences of Permian through Ordovician rocks consisting of evaporites, limestone, and siltstone, beginning with the Salado Formation[8].

3.7 Site Flooding Potential

Annual precipitation of the region in Eddy County is 14 inches. The most likely flood events occur from heavy storms during the summer months of June through September resulting from prolonged heavy rainfall over dry areas and is characterized by peak flows of moderate duration. These summer rain showers and thunderstorms account for more than half of the annual precipitation[9]. Most of this rainfall collects and runs through dry arroyos, of which none are near the Facility. Based on Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL), the nearest mapped floodplain is associated with the Pecos River, some 5.6 miles to the west.

3.8 Groundwater Characteristics

Groundwater in this region is sourced from the Permian Dewey Lake Red Beds for stock and domestic supply at depths near 450 feet bgs. The groundwater is generally poor quality and classified as moderately saline with total dissolved solids (TDS) content ranging from 3,000 to 10,000 milligrams per liter (mg/l) and generally closer to 4,000 mg/l; however, it is satisfactory for irrigation[10]. It contains greater than 2,000 mg/l sulfate and 400 to 900 mg/l of chloride[11].

[8] S. F. Richey, J.G. Wells, and K.T. Stephens., 1985, Geohydrology of the Delaware Basin and vicinity, Texas and New Mexico. Water-Resources Investigations Report USGS Numbered Series - 84-4077. vi, 99 p. :ill., maps ;28 cm.

[9] Flood Insurance Study Eddy County New Mexico and Incorporated areas. Prepared by Federal Emergency Management Agency (FEMA) Flood Insurance Study Number 35015CV000A. Effective June 4 2010. Online query accessed November 22, 2022. https://msc.fema.gov/portal/advanceSearch

[10] S. F. Richey, J.G. Wells, and K.T. Stephens., 1985, Geohydrology of the Delaware Basin and vicinity, Texas and New Mexico. Water-Resources Investigations Report USGS Numbered Series - 84-4077. vi, 99 p. :ill., maps ;28 cm.

[11] Hendrickson, G.E., and Jones, R.S., 1952, Geology and Ground-Water Resources of Eddy County, New Mexico: New Mexico Bureau of Mines and Mineral Resources, New Mexico Institute of Mining & Technology Groundwater Report 3

4.0 POTENTIAL DISCHARGES

The NMOCD has determined that a discharge application must be submitted for natural gas plants because inadvertent discharges of liquids stored at such facilities have the potential to impact groundwater. The contents of aboveground oil storage tanks and process vessels, volume of containers and associated containments, as well as predicted direction of a release should containment fail are included in attached Tables 1, 2, and 3. Additionally, XTO's Emergency and Hazardous Chemical Inventory reported for 2023 is included in Appendix B. The inventory serves to identify materials generated and stored at the Facility, which could be considered for potential discharges. Miscellaneous chemicals are not always on-site but included in the attached Safety Data Sheet (SDS) inventory because they are sometimes used for maintenance of equipment. Some of these materials are maintained temporarily at minimal volumes and stored in a warehouse, covered area, or on pallets/spill containment when present. The SDSs for these materials are included in Appendix C to provide chemical composition information.

The information provided below discusses Facility operations and use or storage of these materials, as requested by NMOCD, to mitigate unintentional discharges to groundwater. Site conditions should also be considered. The ground surrounding the Facility was generally set to an even grade prior to construction to provide a stable base for the equipment and structures. The level surface reduces the potential runoff from the Facility for a release to nearby ditches, creeks, or watercourses. As detailed above, groundwater occurs at approximately 450 feet deep at the Facility. This depth, in addition to the range and thicknesses of low permeable underlying lithologies consisting of caliche, alluvial clays, claystone, and shales, would limit any vertical migration of liquids inadvertently discharged at the ground surface. The immediate manned response from XTO to any release based on 24-hour staffing and as required in 19.15.29 NMAC, as well as implementation of Risk Based Equipment Strategies, further decrease the likelihood of an accidental discharge actually reaching groundwater.

4.1 Onsite Disposal

This Facility does not have an onsite disposal system.

4.1.1 Sanitary Sewage

Sanitary sewage is a separate system and does not commingle with any waste generated by processing at the Facility. The sewage system consists of a septic tank and leach field within the Facility, which are maintained and emptied on an as-needed basis.

4.2 Offsite Disposal

Oil collected or generated during processing is generally returned to processing in a closed-loop system. Wastewater and solid waste are collected at the Facility, properly characterized, and transported offsite for disposal. XTO has established methods of disposal for recovered materials in accordance with applicable legal requirements as documented in the attached *Waste Management Plan* (Appendix A). The XTO Safety, Security, Health and Environmental (SSH&E) manager coordinates the disposal of any transported materials.

4.2.1 Wastewater

Wastewater from processing consists of produced water and oil and is stored in tanks in secondary containment as shown on the Facility Diagram in Figures 3A and 3B. In general, wastewater moves via pipeline to the wastewater tanks and is then transported offsite for injection through an outlet pipeline. The wastewater is injected into a nearby saltwater disposal well. Slop oil is returned to processing or, rarely, hauled offsite via truck for disposal.

4.2.2 Closed Drain System

The Facility operates a closed drain system between process vessels. The purpose of the closed drain system is to collect gas and oil (recoverable product) and route it through processing and sales. Any water is directed to the wastewater tanks for offsite injection.

4.2.3 Open Drain System

An open drain system is used to collect stormwater and oily skid runoff from inside curbed areas. Pumps send any collected fluids to the produced water tank, which is emptied on an as-needed basis to be disposed off-site by vacuum trucks. The open drain system is available to collect and separate wash water for equipment maintenance on an as-needed basis. The open drain system can collect wash water and direct it into the closed drain system.

4.2.4 Stormwater Management

Stormwater surface flow is toward the south across the Facility. The Facility is designed to keep stormwater or other surface flows on site and to avoid contact with equipment and storage containers/tanks. A new drainage system is under construction that consists of concrete-lined or pre-cast concrete open drainage channels, manholes, and underground drainage pipes to remove stormwater from the north side of the Facility. Stormwater flows along sloped surface areas toward concrete channels or installed piping and drains to a collection basin near the southern oil storage area. Any stormwater that collects in secondary containment is directed to sumps associated with each containment and recovered by a third-party vacuum truck for off-site disposal as exploration and production (E&P) waste according to the attached *Waste Management Plan* (Appendix A). Stormwater that may collect in tank cellars is also connected to the buried sump system.

The Facility has implemented procedures for drainage from undiked areas, including visual inspections. The Facility is manned 24-hours a day, 7 days a week, and the processes are monitored by the onsite personnel in the control room as well as operators during rounds. Visual inspections of process areas are performed twice daily. Currently, no stormwater is discharged, and it is all collected in the sumps. Should discharge of accumulated rainwater to ground surface be required, trained personnel will conduct visual evaluation of the water to ensure the release of uncontaminated stormwater only. The evaluated accumulated stormwater must be clear and free of color; odor; floating, settled, and suspended solids; foam; and oil sheen to be authorized for any discharge.

4.2.5 Storage Tank Bottom Sludge/Sludge

Oils and sludge can accumulate in the bottom of compressor skids, containments, or tanks. Tanks may be periodically taken out of service for integrity inspections and/or service changes. This material is collected as E&P waste with a vacuum truck and disposed offsite at a nearby R360 disposal facility or the Delaware Basin Landfill according to XTO's *Waste Management Plan* (Appendix A).

4.2.6 Maintenance Materials

During equipment maintenance, used oils are collected and stored in containers with general secondary containment. Periodically, this material is shipped off-site for recycling according to the *Waste Management Plan* (Appendix A). Various quantities of lubricants, oils, and other unused chemicals that are utilized for operations are stored in the warehouse yard under a cover and with concrete flooring.

4.2.7 Hydrocarbon Impacted Soil

Nonhazardous soils that may be impacted with crude oil, petroleum products, or produced water are promptly removed and disposed according to waste disposal procedures in the *Waste Management Plan* (Appendix A) and secondary containment systems are provided to prevent releases from reaching groundwater or surface water.

4.2.8 Miscellaneous Solid Waste

Non-hazardous solid waste is segregated on site and collected in roll-off bins according to waste stream. These consist of waste from the office, E&P waste from operations, process filters, and scrap metal. All are segregated, handled, transported, and disposed of according to the attached *Waste Management Plan* (Appendix A).

4.2.9 Ponds, Lagoons, Catchments

A new drainage system is under construction that consists of concrete-lined or pre-cast concrete open drainage channels, manholes, and underground drainage pipes to remove surface runoff and firewater from the process areas on the north side of the Facility. The design includes sloping surface areas toward these channels and piping to direct the fluids to a collection basin near the southern oil storage area (Figure 3B). The collection basin is designed to retain runoff and ensure any potentially contaminated runoff is not discharged inadvertently to the surrounding environment. The collection basin will be sized to retain accumulated runoff from the greater of a 100-year rainfall event or a 4-hour firewater event until it can be trucked offsite and double-lined with two impermeable geo-membrane layers with a leak detection layer in between. In addition, the collection basin may be equipped with oil skimming capabilities and allow for recycling clean runoff for use as firewater. The catchment basin dimensions will be 250 feet by 150 feet and 6 feet deep.

4.2.10 Groundwater Contamination

There is currently no known groundwater contamination associated with the Facility.

4.2.11 Commingled Waste Streams

There are no commingled waste streams at the Facility.

5.0 COLLECTION AND STORAGE SYSTEMS

Oil and produced water are stored on site in tanks ranging in size from less than 100 barrels (bbls) to 50,000 bbls. New construction will include the addition of 100,000 bbl tanks. Pumps, valves, and piping systems are used throughout the Facility to transfer various liquids among tankage and process vessels. Lube oil and casing oil are stored in aboveground fixed containers. The Facility also receives, stores, and uses a variety of additives and chemicals that are stored in small volumes in totes and other containers. Oil-filled operational equipment and storage containers are used to manage the process flow. Secondary containments are constructed to contain the largest container plus freeboard to account for large precipitation events. Transformers containing oil are installed at the Facility. The transformers are included in Facility inspections so that leaks or malfunctions can be identified and addressed.

The Facility has over 200 different equipment strategies related to tanks, piping, and vessels. Risk Based Fixed Equipment Strategies have been developed for all piping circuits, vessels, and tanks. All strategies follow their respective inspection code (e.g. API 510, API 570, API 653, API 12R1, etc.) and XTO's internal approach to Risk Based Inspection (RBI) meets the intent of API 580. The Equipment Strategies take into account process conditions, process fluids, materials of construction and equipment design details to determine probability and consequence of failure. Mitigations, ranging from non-destructive testing (i.e. ultrasonic thickness or x-ray) to full internal inspections, are assigned when the risk is determined to be unacceptable. When an inspection is performed, any data, findings and/or repairs are then documented in XTO's Inspection Data Management System (Meridium) where the probability, overall risk profile, and next inspection/mitigation are updated.

5.1 Buried Storage Tanks

The Facility does not have buried storage tanks installed at the Facility, except the sumps associated with the open drain system described in Section 5.2.

5.2 Sumps

There are two types of sumps utilized at the Facility. There are three 182-gallon waste oil sumps used to collect oil from compressors. Additionally, there will be a total of eight skid drain sumps that will direct stormwater and minor releases into an open drain system. These open drain sumps are approximately 1,200 gallons each. The open drain system is used to collect stormwater and oily skid runoff from inside curbed areas. Pumps inside of these sumps send any collected fluids to the gunbarrel separator and produced water tanks, which are emptied on an as-needed basis to pipeline or truck for disposal. Waste oil sumps are installed under a sloped concrete spill pad outfitted with concrete curbing to prevent overflow. Collection sumps are pre-cast or cast-in-place concrete, leak-tight, and sized to retain a 200-bbl spill event until it can be trucked offsite. The locations of sumps are shown on Figure 3A.

5.3 Buried Piping

The majority of piping at the Facility is aboveground; however, some pipelines are buried. The Facility is less than 5 years old, and all piping was recently installed. XTO employs best management practices for buried piping design, installation, and maintenance. This is part of XTO's Risk Based Fixed Equipment Strategy and includes assessing use, content, and projected lifecycle to determine the likelihood of corrosion, then selecting the appropriate construction materials and inspection type and frequency based on calculated failure rate using input from decades of industrial operation at XTO operations. Currently, two types of buried piping have been installed at the Facility: high density polyethylene (HDPE) for water collection associated

with the open drain system and carbon-steel piping for transport of oil or oil-water mixes. Integrity and leak testing of buried piping is performed at the time of installation, modification, construction, relocation, and/or replacement. XTO conducts isolation testing on the HDPE pipelines to evaluate integrity every five years. All buried carbon-steel piping is protected with cathodic protection to prevent corrosion, and this cathodic protection is inspected via electric current testing annually. If results are not acceptable, sections of the pipelines are exposed for visual and non-destructive inspections. Additionally, should any section of buried line be exposed during general construction, it is inspected for signs of deterioration. Detailed records of inspection are maintained, and corrective actions are taken as indicated by the magnitude of the damage.

5.4 Effluent Treatment Facilities

The Facility does not have an effluent treatment system.

5.5 Aboveground Valves and Piping

Informal and formal regular visual inspections of aboveground piping are performed daily during facility operations. Visible surfaces of piping are inspected for signs of leaks, corrosion, or deterioration. Flange joints, expansion joints, piping supports, metal surfaces, catch pans, and valve locks and/or seals are also observed. If any leaks are observed, the cause of the leak is determined and corrected.

6.0 INSPECTION, MAINTENANCE, AND REPORTING

XTO personnel and contractors routinely conduct inspection, maintenance, and repair of all tanks, equipment, instrumentation, valves, piping, and other items necessary for the continued safe operation of the Facility. These activities involve detailed recordkeeping and reporting daily. XTO retains all inspection and monitoring records for a period of at least five years.

Similar to buried pipeline construction, tank and aboveground pipeline design is managed under XTO's Risk Based Fixed Equipment Strategy, which assigns construction material and testing protocols based on likelihood of corrosion and potential failure rate. Once a failure rate is calculated, XTO assigns an inspection frequency for each piece of equipment or pipeline that is half of the projected failure timeline. Inspection, repair, and modifications for vessels and piping are conducted in accordance with the American Petroleum Institute (API) standards 510 and 653. Aboveground piping was designed and installed according to 40 CFR 112.8(d).

XTO personnel conduct visual inspections two times daily to identify leaks, housekeeping issues, operation and maintenance issues, equipment conditions, soil erosion (if applicable), the condition of structural controls, and secondary containment structures. Inspectors look for visual evidence of leaks and observe odors that may be present around equipment and piping. Inspectors are trained to conduct visual surveillance of pipe sagging, corrosion, abrasion, expansion joints, valve locking mechanisms, catch pans, pipeline supports, and metal surfaces. All oil containing drums, totes, or portable tanks are inspected routinely. These containers are typically elevated on separate containment pallets without direct contact to the ground, which poses a minimal risk of corrosion and allows for all sides of the containers to be inspected. All malfunctions, improper operation of equipment, evidence of leaks, stains, or discolored soils, etc. are logged and communicated to management. Problems with containment systems and potential signs of leaks, puddles, corrosion of the liner, holes in the berm, buildup of precipitation or deterioration to the structure are reported for immediate repairs. A copy of the inspection sheet showing observations required is included in Appendix D.

XTO conducts emissions inspections on a quarterly basis using optical gas imagery (OGI). An OGI camera can identify emissions leaks, which are repaired upon identification.

All bulk storage containers are inspected and necessary testing techniques for bulk storage containers are subject to quantitative integrity testing requirements. Visual or nondestructive testing is conducted at least every 10 years based on the likelihood of corrosion. Additional integrity testing is conducted according to the predetermined Risk Based Fixed Equipment Strategies.

Oil-filled equipment is designed and constructed according to good engineering practices and industry standards. The compatibility of the oil and container's construction material has been evaluated prior to use. Preventive maintenance, based on regularly scheduled visual inspections or evidence of oil spills is prescribed. Critical process vessels are emptied and inspected based on the likelihood of corrosion. This includes every 5 years for heaters, every 10 years for heat exchangers, and every 20 years for pressure vessels.

Inspections for waste management are performed weekly for container integrity, proper labeling, and other potential issues. Biannual waste management trainings are conducted by XTO that include a review of operation and maintenance of equipment to prevent discharges; applicable pollution control laws, rules and regulations; general Facility operations; persons accountable for discharge prevention; and the contents of the *Waste Management Plan*. Moreover, a review of

XTO's policies and procedures related to spill prevention, cleanup, disposal, reporting, inspections, and routine handling of products will be covered during training.

7.0 PROPOSED MODIFICATIONS

There are no planned modifications related to inability to meet necessary criteria or failure to demonstrate protection of groundwater. Construction to increase production capacity at the Facility is underway and described in previous sections.

8.0 SPILL/LEAK PREVENTION AND REPORTING PROCEDURES (CONTINGENCY PLAN) FOR RELEASES

XTO maintains various management practices relating to the responsible operations of the Facility. These practices outline appropriate response measures for an emergency to protect the welfare of personnel as well as the environment. Further, tables included in this document provide Facility storage (Tables 1 and 2) and storage and berm capacity with secondary containment calculations (Table 3) that allow for XTO to anticipate where releases might occur. Additionally, an Emergency Action Plan documents actions necessary to respond to small and large discharges events due to failure of process equipment, pipelines, tanks, and other equipment.

8.1 Identification

Discharges are typically discovered by instrumentation or during routine inspections. Facility personnel rely on input from an automated alarm system and coordination with on-site operations through the manned control room. Internal emergency notifications are updated and maintained on site in the Emergency Action Plan. This document additionally includes emergency spill response contractors.

8.2 Response

A general response will include ensuring all personnel are notified, isolating the source, establishing an appropriate perimeter and control points, and assessing the hazard, then implementing appropriate control measures. These actions vary based on size and source of a release or incident. The following procedures will be implemented following discovery of a release to reduce the quantity of liquids released and facilitate cleanup and disposal:

- Sound the appropriate audible and visual alarms
- Contact the Plant Foreman, then follow emergency and notification procedures in the Emergency Action Plan;
- Shut-in equipment to eliminate supply by turning off valves, pumps, piping, or switches;
- Shut off ignition sources;
- The Plant Foreman will evaluate the situation to obtain and direct the personnel, materials, and equipment required. If necessary, response contractors will be contacted to assist;
- The Environmental Group will notify appropriate external parties, including federal, state, and local governmental agencies and public safety personnel; and
- Initiate source control and containment measures;
- If necessary, local emergency agencies will be contacted to assist in minimizing public exposure by evacuating the public, controlling traffic, assisting in fire control, and providing emergency medical care.

8.3 Control

After safeguarding life and property, the next step is to find the source and stop additional loss of fluid. XTO will contain the spill and/or dike ahead of the spill using on-hand equipment or response personnel. XTO is committed to providing all appropriate manpower, equipment, and materials required to control and remove any quantity of discharge from this Facility. Depending on the size

of the discharge, the following equipment and materials are available onsite or through emergency spill contractors: bulldozers, backhoes, vacuum trucks, pumps, hose, booms, and fencing. On-site personnel are provided with spill cleanup materials including absorbents and booms.

8.4 Notifications

Notification of discharges in accordance with local, state, and federal requirements will be directed by XTO's Environmental Group. It will be the responsibility of the Plant Foreman to act as the initial response coordinator. The Plant Foreman will provide information regarding the characteristics of the materials and equipment involved and provide access to XTO resources as requested by responding agencies. The Plant Foreman will determine if emergency contractors are needed and contact them for assistance. In addition, the Environmental Group will perform a site inspection to verify any spill at the Facility of a reportable quantity or if any quantity has reached a waterway and will report such spills to the appropriate governmental agency and activate incident management as necessary. A list of emergency numbers will be kept on the location at multiple points in case of an such undesirable events. Releases that cannot be immediately addressed by hand shoveling will be reported to NMOCD's Administrative Permitting Section via the E-Permitting System on Form C-141 within the required timeframe (within 24 hours of discovery of the release for a release meeting the criteria in section 19.15.29.7(A) NMAC or within 15 days after discovering any other discharge and/or release regardless of the amount released). Other notifications may include local fire, ambulance, and police; emergency management agencies (local, state, and federal), and/or the National Response Center. Contact information for these agencies is included in the Emergency Action Plan.

8.5 Corrective Actions

In the event of a release, XTO will develop a plan for remediation according to 19.15.29 NMAC. For *de minimis* (less than 5 bbls) releases, the response will generally involve stopping the release (if applicable), use of absorbent materials, collection and containerization of the spill and any contaminated media, and notification of additional response personnel if needed. Chemicals stored on site that are not oil-based are minimal in volume and unlikely to result in a discharge to groundwater based on extent, underlying lithology, and short-term identification and response associated with a manned facility. However, these materials will be addressed similarly according to 19.15.29 NMAC.

9.0 PUBLIC NOTICE

XTO will provide written notice of the Discharge Permit Application by the following methods per Subsection B of 20.6.2.3108 NMAC.

- One sign measuring at least 2 feet by 3 feet will be displayed at the main entrance to the Facility on Buck Jackson Road. The sign will display the public notice in English and Spanish languages and will be displayed for 30 days.
- One additional notice will be posted at the Carlsbad, New Mexico Post Office. The sign will display the public notice in English and Spanish languages and will be displayed for 30 days.
- Written notice will be given by mail or electronic mail in English and Spanish to owners of all properties within 1/3-mile distance from the property boundary of the Facility.
- A summary of the notice will be given in English and Spanish languages in a display ad at least 3 inches by 4 inches in a newspaper of general circulation (not in a classified or legal advertisement section) in the *Carlsbad Current-Argus*, a newspaper of general circulation in southeastern New Mexico.

9.1 Schedule

XTO will issue public notice within 30 days after the NMOCD determines the Discharge Permit application is administratively complete. This includes public notice to the newspapers and mailings to the appropriate surface owners identified for distribution. The newspaper publication will run for 1 business day.

Within 15 days of completion of the public notice requirements, XTO will submit proof of notice to the NMOCD that includes an affidavit of mailings and a list of property owners, proof of publication in a newspaper, and an affidavit of posting.

9.2 Proposed Public Notice

The proposed public notice is presented below and includes the items specified in Subsection F of 20.6.2.3108.

NOTICE OF PUBLICATION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 of the New Mexico Administrative Code) and the NMOCD Guidance Document, the following discharge permit application has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3441:

NMOCD Discharge Permit Number GW-XXX
Cowboy Central Delivery Point Terminal
XTO Energy Inc. (XTO)
32.16204745°N, -103.8346986°W; SWSW quarter section of Section 1, Township 25S, Range 30E
900 Buck Jackson Rd, Loving, Eddy County, NM, 88263,
Ms. Carolina Kysiak (432-661-7232, carolina.d.kysiak@exxonmobil.com)

XTO announces the submittal of an application for potential unintended discharges at the Cowboy Central Delivery Point Terminal located approximately 29 miles southeast of Carlsbad, New Mexico on Buck Jackson Road. The Facility is a compression facility through which oil, natural gas, and condensate from nearby oil and gas production facilities is

transported by pipeline for treatment and processing. Once gathered at the Facility, the oil and gas are compressed through cryogenic processing, dehydrated to remove the water content, and processed to remove and recover natural gas liquids. The Facility was designed to process 1000 million standard cubic feet per day of natural gas, 550 kilobarrels (kbd) of oil and 50 kbd of condensate. The discharge permit includes a description of materials stored and used at the Facility and any waste generated for off-site disposal. Groundwater occurs at approximately 425 feet below ground surface and contains total dissolved concentrations (TDS) of approximately 3,000 milligrams per liter (mg/l). The discharge permit addresses how liquids and solid waste will be handled, stored, and disposed of, including procedures to prevent unintended discharge. Response actions and corrective actions for spills and leaks are addressed.

The NMOCD has determined the application is administratively complete and is in the process of preparing a draft permit. The NMOCD shall post notice on its website and distribute notice of the submittal of the application to affected local, state, federal, tribal, or pueblo government agency, political subdivisions, ditch associations, and land grants as identified by the department, and persons on a general and facility-specific list maintained by the department who have requested notice of discharge permit applications. Interested persons may obtain information, submit comments, and request to be placed on a facility-specific mailing list for future notices. The NMOCD will also accept comments and statements of interest regarding the application and will create a facility-specific mailing list for persons who wish to receive future notices. Prior to ruling on any proposed permit, the Director shall allow a period of at least (30) days after the draft permit is posted, during which time interested people may submit comments.

Persons interested in obtaining further information, submitting comments, or requesting to be on a facility-specific mailing list for future notices may contact the Oil Conservation Division contact listed below:

Mr. Joel Stone
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Division
1220 South St. Francis Drive Santa Fe, NM 87505
(505) 709-5149

10.0 FACILITY CLOSURE/POST CLOSURE PLAN

Since this discharge permit is for unintended discharges, a closure and post-closure plan must include the entire Facility. The Closure/Post Closure Plan must meet the requirements of 20.6.2.3107(A)(11) NMAC and provide an acceptable cost estimate to conduct closure and post closure activities. The following general procedures will apply to prevent impacts to groundwater upon cessation of Facility operations:

- XTO will remove all fluids from storage tanks. Liquids and sludges will be disposed of off-site as described above in Section 4.2.
- Liquids that are not oil-based will be segregated. Any unused chemicals will be identified and profiled, then handled and disposed of using a third-party waste handler licensed and certified to handle hazardous and non-hazardous waste.
- All aboveground tanks, storage vessels, process equipment, and piping will be dismantled and removed from the Facility. Buried tanks or sumps will be excavated. Disposal of scrap material and equipment will be through recycling or offsite disposal based on appropriate waste profiling.
- Belowground piping will be cut at 3 feet bgs, capped on both ends, and buried in place.
- Any solid waste, such as building materials, concrete, containment metal, liner, and miscellaneous metal or lumber will be recycled or disposed offsite as solid waste.
- Any releases that were deferred under 19.15.29 NMAC will be addressed under the requirements of Part 29.
- Once all equipment has been removed, XTO will collect soil samples from each plant area identified in Figure 4. Proposed sample locations are based on operations and designed to identify any residual impacted soil prior to reclamation.
    - Soil samples will be collected from the ground surface and field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. If field screening indicates the samples exceed 100 milligrams/kilogram (mg/kg) total petroleum hydrocarbons (TPH) or 600 mg/kg chloride, a hand auger will be used to advance a borehole in that location. Samples will be collected every foot until field screening indicates residual impacts are absent. If the boreholes are advanced deeper than 4 feet, field screening results will be compared to 2,500 mg/kg TPH and 20,000 mg/kg chloride.
    - All soil samples will be placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples will be transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to a certified laboratory for analysis of the following chemicals of concern (COCs): benzene, toluene, ethylbenzene and xylene (BTEX) following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

- Laboratory analytical results will be compared to the requirements of 19.15.29 NMAC and reported, addressed, and closed according to those regulations.

- Upon determination that the Central Delivery Point is no longer needed, 100% of equipment and any associated structures will be cleaned and removed from the location to be disposed of at an approved local, state, and federal facility.

- Following any remediation of impacted soil, XTO will restore the site to match surrounding contours and reseed according to the preferences of the landowner.

- XTO will monitor revegetation for two successive growing seasons and reseed, apply fertilizer, or water, or repair any areas not successfully exhibiting growth. Once revegetation achieves 70% of surrounding conditions, XTO will close the Facility through NMOCD and the landowner.

11.0 FINANCIAL ASSURANCE

The estimated costs for closure/post-closure activities are located in Appendix E. XTO will submit financial assurance to the NMOCD in the amount of the Facility's estimated closure and post-closure costs within 30 days of NMOCD's approval of this permit. The financial assurance will be provided on NMOCD-prescribed forms or forms otherwise acceptable to the NMOCD, payable to the NMOCD.

12.0 GROUND WATER DISCHARGE PERMIT APPLICATION AND PERMIT FEES

Pursuant to 20.6.2.3114 NMAC, a filing fee of $100.00 is being submitted with this application. The permit fee of $4,000.00 for a gas processing plant will be submitted within 30 days of receipt of the approved Discharge Permit.

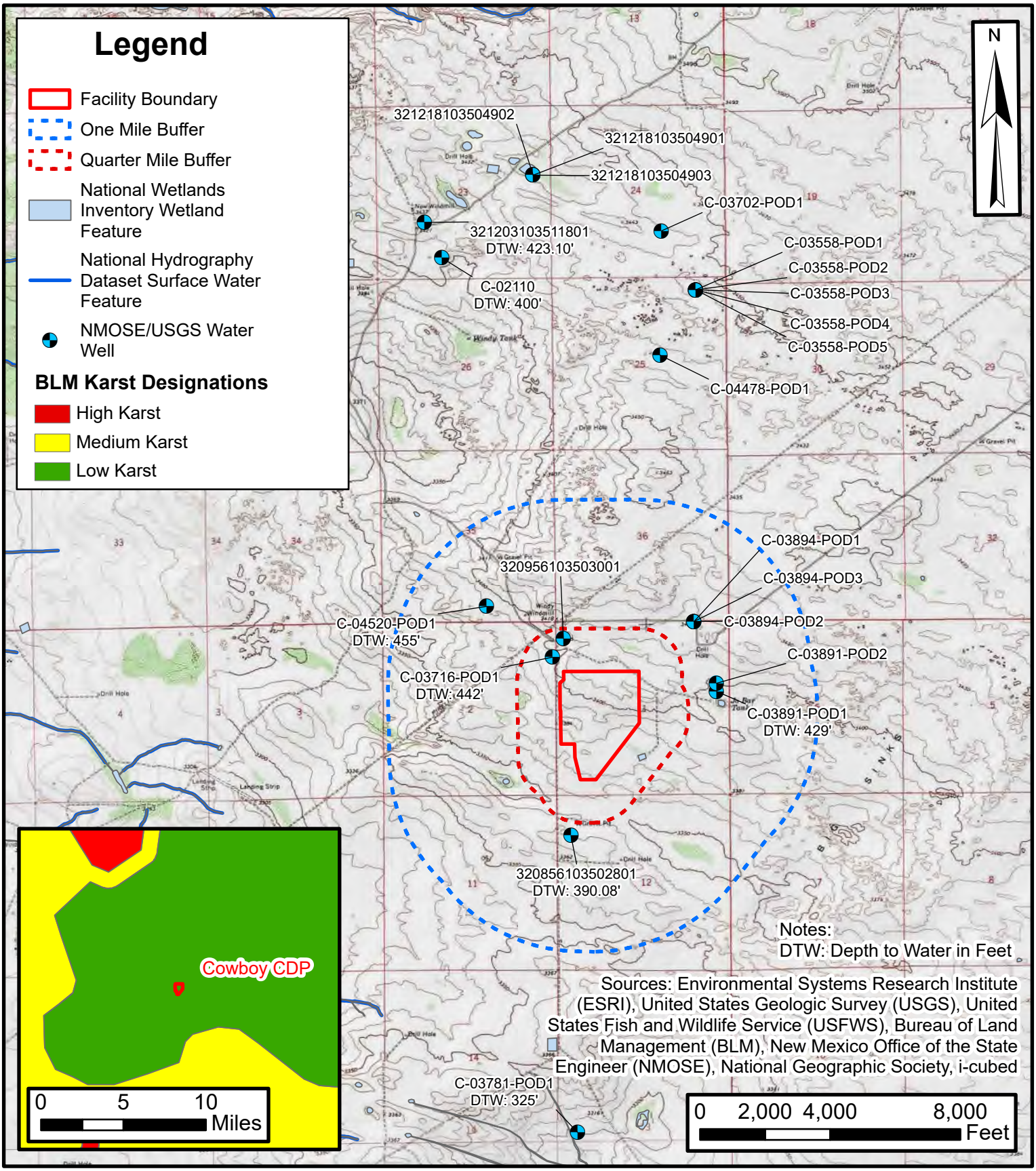
13.0 CERTIFICATION

Include a certification statement: CERTIFICATION: I hereby certify that the information submitted with this application is true, accurate, and complete to the best of my knowledge and belief.

R. Dale Woodall
Water Coordinator

XTO Energy, Inc.
3104 E. Greene Street
Carlsbad, NM 88220

FIGURES



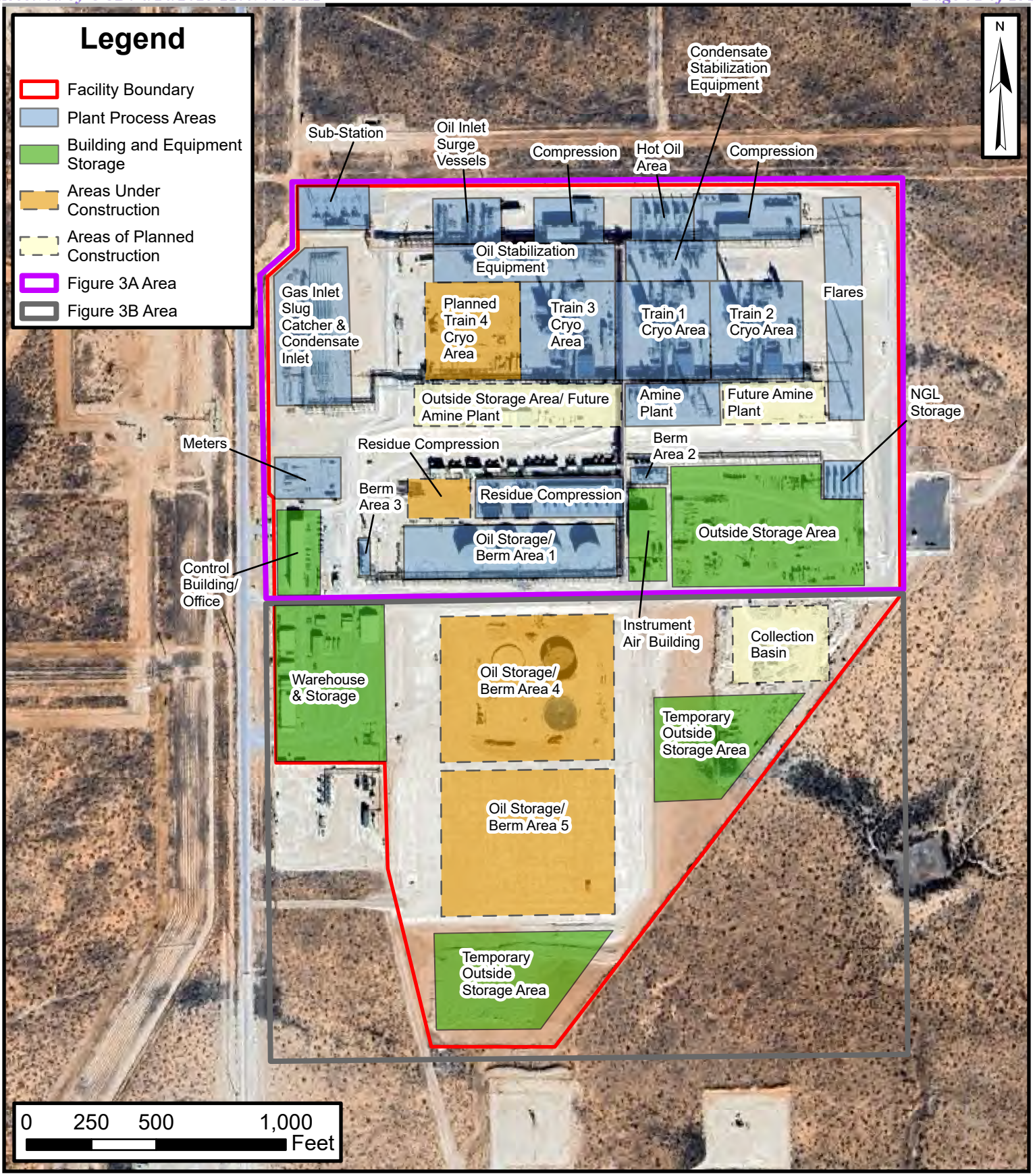
ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Location Map

Cowboy CDP
XTO Energy, Inc.

Sec 1, T25S, R30E
Eddy County, New Mexico

FIGURE
1



Default Folder: C:\Users\Greg Pates\OneDrive - ENSOLUM, LLC\Desktop\Ensolum GIS\Ensolum GIS\3 - Carlsbad\XTO\Cowboy CDP

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Site Layout Map

Cowboy CDP
XTO Energy, Inc.

Sec 1, T25S, R30E
Eddy County, New Mexico

FIGURE
2

Sources: Google Earth (2023)

Page 32 of 1315

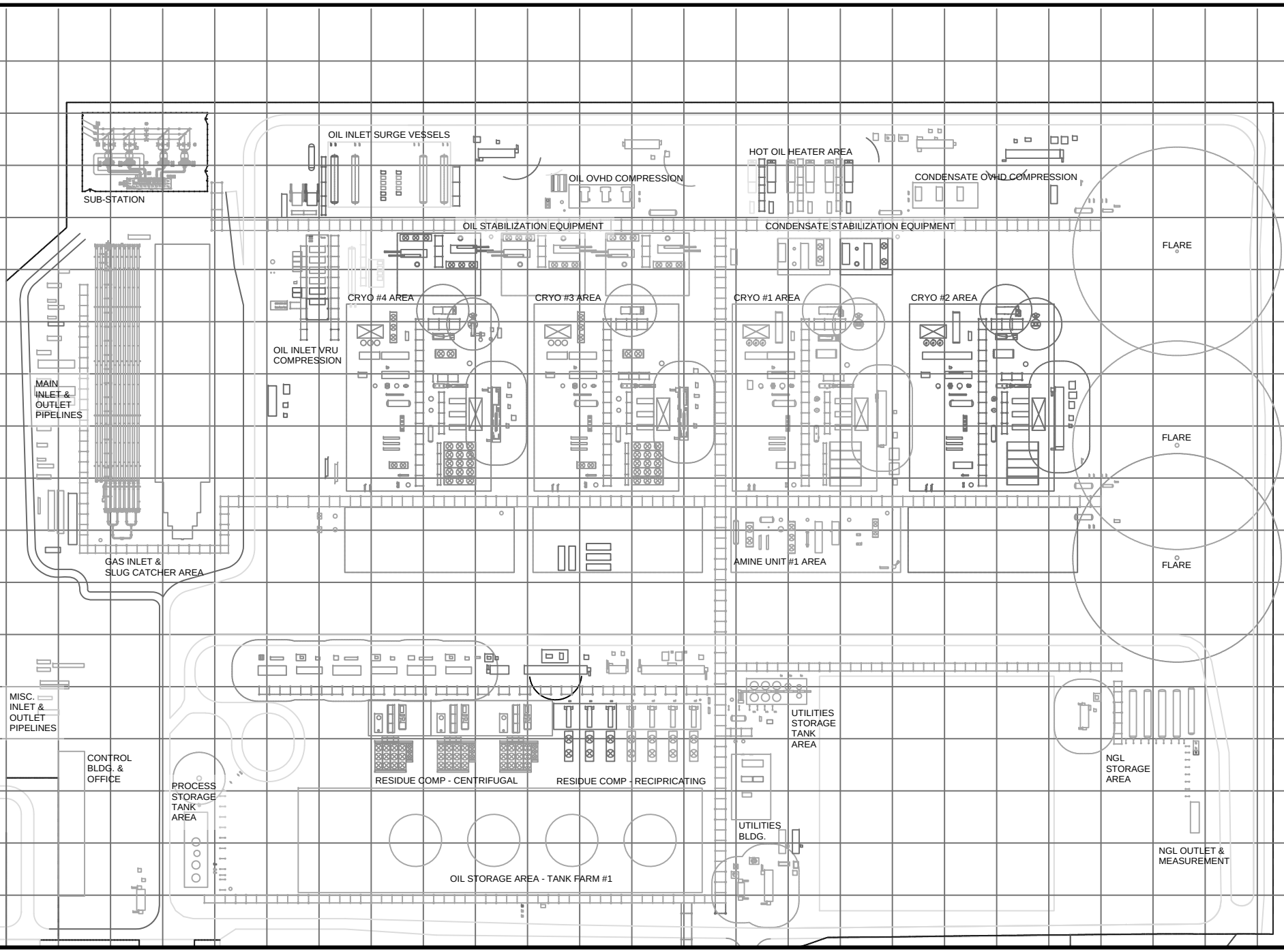


Figure 3A - North Facility Plot Plan
Cowboy CDP

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 33 of 1315

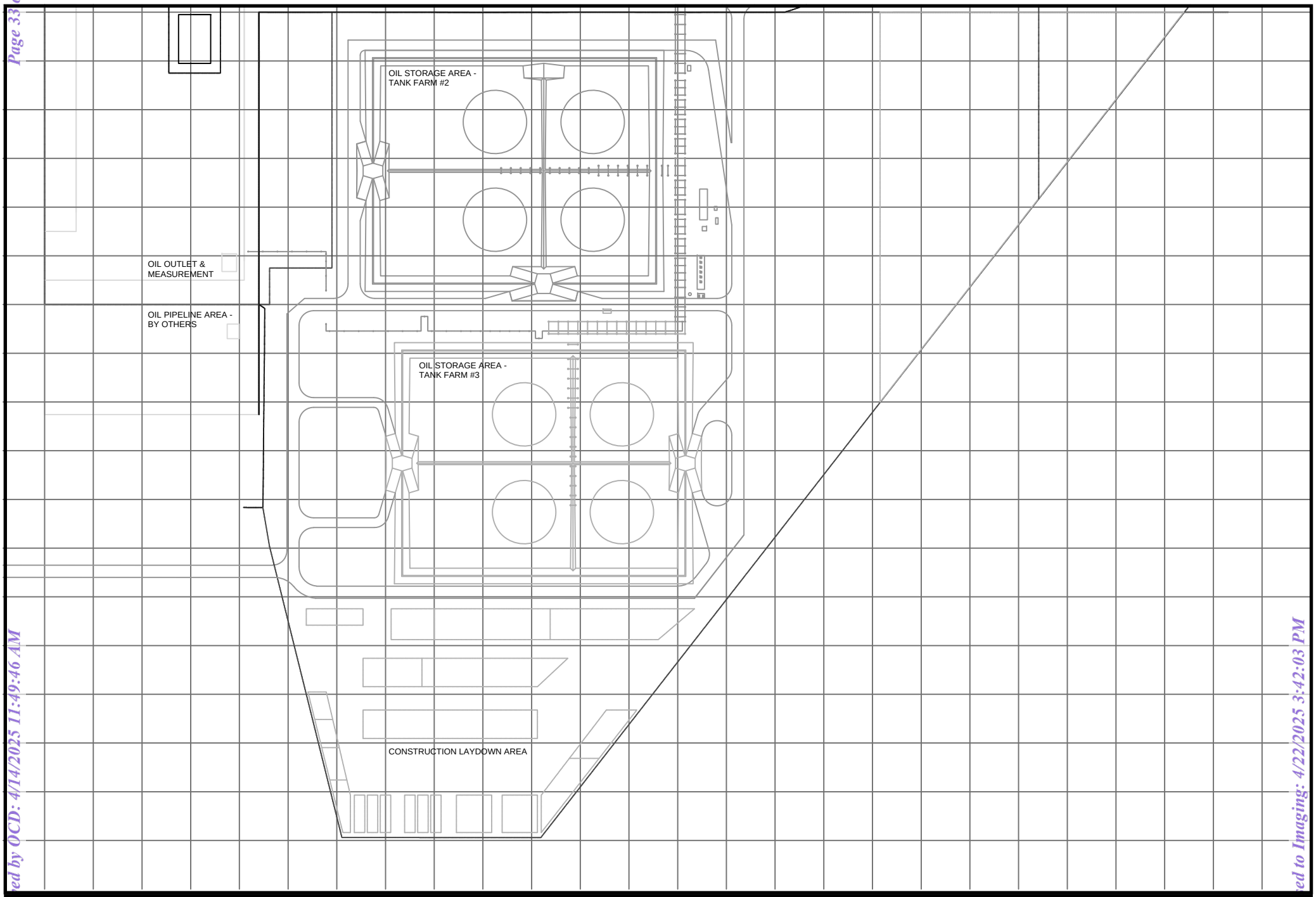
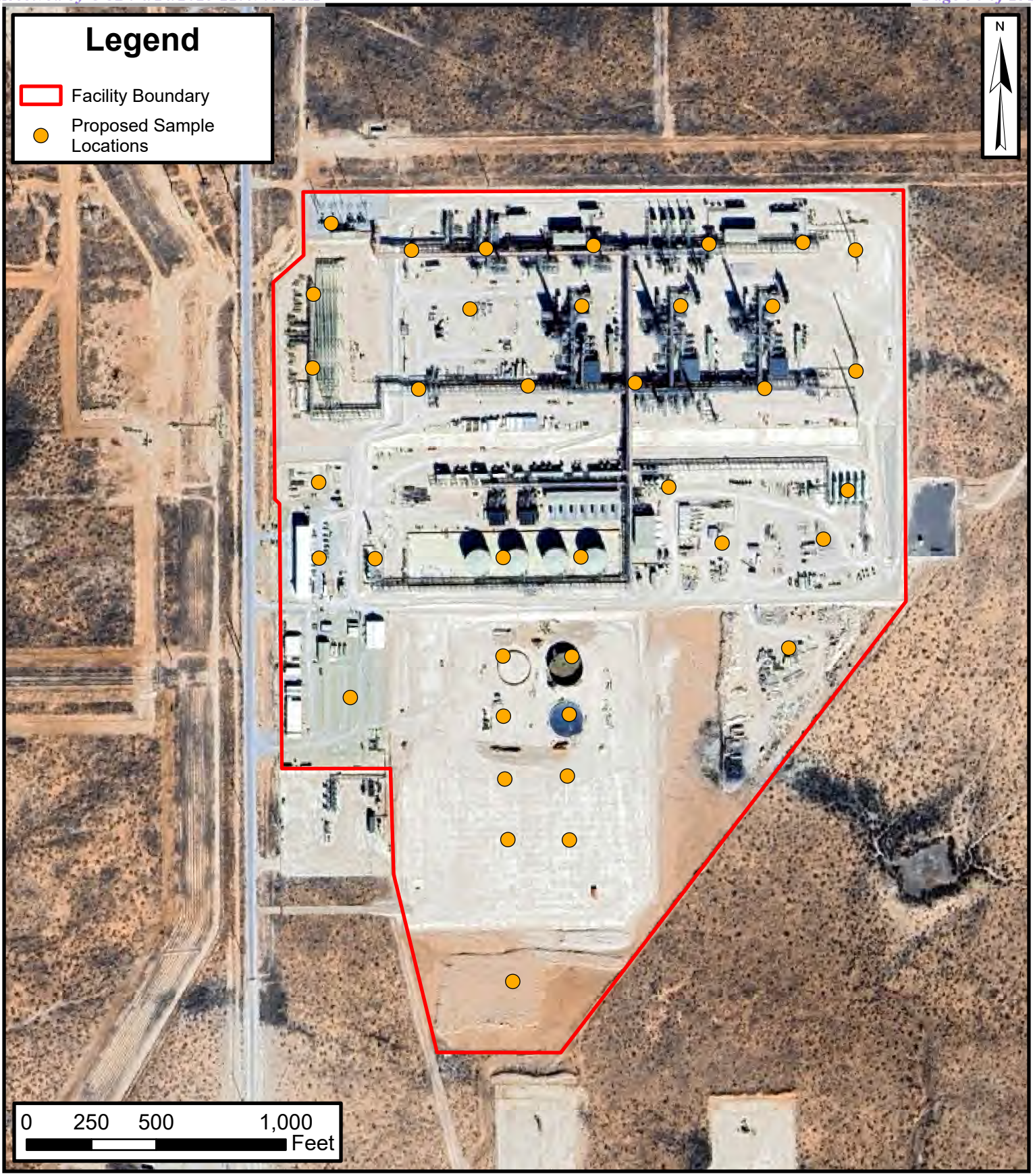


Figure 3B - South Facility Plot Plan
Cowboy CDP

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM



Default Folder: C:\Users\Greg Pates\OneDrive - ENSOLUM, LLC\Desktop\Ensolum GIS\Ensolum GIS\3 - Carlsbad\XTO\Cowboy CDP

ENSOLUM
Environmental, Engineering and Hydrogeologic Consultants

Proposed Closure Sampling Grid

Cowboy CDP
XTO Energy, Inc.

Sec 1, T25S, R30E
Eddy County, New Mexico

FIGURE
4

Sources: Google Earth (2023)

TABLES

TABLE 1
OIL AND WATER STORAGE
XTO ENERGY, INC.
COWBOY CDP TERMINAL
EDDY COUNTY, NEW MEXICO

Potential Event	Number of Containers	Maximum Volume of Potential Release (bbl)	Direction of Flow	Secondary Containment
Tank Berm Area 1				
Crude Oil	4	50,000	South	Metal Berm
Tank Berm Area 2				
Lube Oil	2	100	South	Metal Berm
Waste Lube Oil	1	300	South	Metal Berm
Deluge Water	1	1,000	South	Metal Berm
Demineralized Water	1	1,000	South	Metal Berm
Raw Water	1	1,000	South	Metal Berm
Raw Water	1	1,000	South	Metal Berm
Amine Makeup	1	750	South	Metal Berm
Utility Water	1	750	South	Metal Berm
Tank Berm Area 3				
Slop Oil	1	500	Southeast	Metal Berm
Gunbarrel	1	1,000	Southeast	Metal Berm
Produced Water	2	750	Southeast	Metal Berm
Tank Berm Area 4 (Under Construction)				
Oil Storage Tank	4	100,000	South	Earthen Berm
Tank Berm Area 5 (Planned Construction)				
Oil Storage Tank	4	100,000	South	Earthen Berm

TABLE 2
MISCELLANEOUS CHEMICAL INVENTORY
XTO ENERGY, INC.
COWBOY CDP TERMINAL
EDDY COUNTY, NEW MEXICO

Storage Location	Name	Content / Description	Volume	Container Type	Quantity
Outside Storage Area 1	Cleaning solution	Cleaning solution	225 gal	Plastic with individual containment	1
	Highway Diesel	Diesel	500 gal	Metal/steel with individual containment	1
	Gasoline	Gasoline	500 gal	Metal/steel with individual containment	1
	Methanol	Methanol	55 gal	Steel drum on wooden pallet	2
	Methanol	Methanol	520 gal	Metal/steel with individual containment	1
	BIOC16975A	Biocide	75 gal	Plastic with individual containment	1
	CORR11385A	Corrosion Inhibitor	130 gal	Plastic with individual containment	1
	ACP26495B	Corrosion Inhibitor	550 gal	Plastic with individual containment	3
Cryo Train Area	Methanol	Methanol	550 gal	Stainless steel on concrete pad	3
Instrument Air Building	Pure Oil #128	Oil	55 gal	Steel drum on wooden pallet	53
	Mobil SHC 625	Synthetic Bearing and Gear Oil	55 gal	Steel drum on wooden pallet	3
	Mobil Teresstic 220	Circulating Oil	275 gal	Plastic tote on wooden pallet	2
	Mobil ATE D/M	Automatic Transmission Fluid	55 gal	Steel drum on wooden pallet	1
	Envirotemp FR3 Fluid	Natural Ester Dielectric Coolant	250 gal	Plastic tote on wooden pallet	1
	Envirotemp FR3 Fluid	Natural Ester Dielectric Coolant	300 gal	Plastic tote on wooden pallet	1
	Mobil Teresstic 150	Circulating Oil	300 gal	Plastic tote on wooden pallet	1
	TO-4 SAE 30W	Hydraulic Oil	5 gal	Plastic bucket	1
	Premium AW-68	Hydraulic Oil	5 gal	Plastic bucket	2
	Barrier Fluid 17	Synthetic Lubricant	5 gal	Plastic bucket on shelf	3
	Mobile DTE 26 Ultra	Hydraulic Oil	5 gal	Plastic bucket on shelf	24
	Mobil SHC 624	Synthetic Bearing/Gear Oil	5 gal	Plastic bucket on shelf	45
	VF-40	Valve flush	5 gal	Plastic bucket	1
	Ball valve sealant #5050	Sealant	5 gal	Plastic bucket	1
	AW 32	Hydraulic Oil	5 gal	Plastic bucket on shelf	1
	Synthetic Lubricoolant	Lubricant	5 gal	Plastic bucket	3
	Mobilgear 600 XP 220	Premium Industrial Gear Oil	5 gal	Plastic bucket	1
	Mobil SHC Rarus 32	Synthetic Rotary Screw Compressor Lube	5 gal	Plastic bucket	10
	DC-32-F	Synthetic Fluid	5 gal	Plastic bucket on wooden pallet	8
	DC-5-F	Synthetic Fluid	5 gal	Plastic bucket on wooden pallet	22
	PGI-100	Synthetic Lubricant	55 gal	metal drums on pallet	4
	Chemtherm 550	Heat Transfer Fluid	300 gal	Plastic tote on wooden pallet	1
	DC-5-F	Synthetic Fluid	55 gal	Steel drum on wooden pallet	1
	Eco Friendly Ice Melt	Ice Melt	50 lb	Bags on shelf	10
	Activated Alumina 4x8 Mesh	Filter Media	25 lb	Bags on pallet	30
	Compressor Fluid	Compressor Fluid	5 gal	Plastic bucket	5
	Clorox	Chlorinating Tablets	35 lb	Plastic container on ground	1
	Oil Absorbent	Absorbing Material	50 lb	Bags on shelf	8
	Paint and Diesel Fuel	Paint and Diesel Fuel	various	Small cans in paint locker	10
Main Office	Paint	Paint	various	Paint Lockers	3
Warehouse	Industrial Purple Degreaser	Degreaser	5 gal	Plastic bucket	7
	Pesticide, Adhesive, Lubricant	Pesticide, Adhesive, Lubricant	various	Paint Cans	8
	Valve Lube sealant	Sealant	5 gal	Plastic bucket	2
	Seafoam Motor Treatment	Oil	5 gal	Plastic bucket	6

TABLE 3
SECONDARY CONTAINMENT CALCULATIONS
XTO ENERGY, INC.
COWBOY CDP TERMINAL
EDDY COUNTY, NEW MEXICO

Containment Description	Berm Height (Feet (ft))	Formula	Empty Capacity (barrel (bbl))	Displacement (bbl)	Freeboard Requirement (10%)	Available Containment Capacity (bbl)
Tank Berm Area 1						
Metal Berm Irregular Top Equivalent = 393 ft x 393 ft Height = 3.67 ft Thickness = 0 ft	3.67	3.67 ft * (393 ft * 393 ft) =566,828 ft^3 * 7.48 gallons / ft^3 = 4,239,873 gallons /42 bbl / gal =100,949 bbls	100,949	15,400	5,000	80,549
Tank Berm Area 2						
Metal Berm Irregular Top Equivalent = 48 ft x 116 ft Height = 3.67 ft Thickness = 0 ft	3.67	3.67 ft * (48 ft * 116 ft) = 20,434 ft^3 * 7.48 gallons / ft^3 = 152,851 gallons / 42 bbl / gal = 3,639 bbls	3,639	791	100	2,748
Tank Berm Area 3						
Metal Berm Irregular Top Equivalent = 43.6 ft x 145 ft Height = 3.75 ft Thickness = 0 ft	3.75	3.75 ft * (43.6 ft * 145 ft) = 23,708 ft^3 * 7.48 gallons / ft^3 = 177,332 gallons / 42 bbl / gal = 4,222 bbls	4,222	156	100	3,966

ENSOLUM

APPENDIX A

WASTE MANAGEMENT PLAN

ExxonMobil

2025

WASTE MANAGEMENT PLAN
Permian Business Unit
Delaware Basin

Tori Miller
Environmental Engineer
Carlsbad, NM

Review History

Date	Description	Reviewer	Title
10/18/2024	Author	Tori Miller	Environmental Engineer

Table of Contents

1.0 Contacts **5**
2.0 Waste Abbreviations **6**
3.0 Waste Management Definitions **8**
4.0 Waste Management Purpose **10**
5.0 Responsibilities **11**
5.1 Corporate Environmental Responsibility Statement 11
5.2 Management and Employee Roles & Responsibilities 12
5.3 Contractor Waste vs ExxonMobil Waste 13
6.0 Training Requirements **15**
7.0 Defining / Classifying Waste **16**
7.1 Definition of a Solid Waste 16
7.2 Categories of Waste 16
7.2.1 Hazardous Waste Definitions and Determinations 18
7.2.2 Universal Waste Definitions and Determinations 21
7.2.3 E&P Waste Definitions and Determinations 21
7.2.4 Used Oil Definitions and Determinations 22
7.3 NORM 22
7.4 Analytical Samples 22
8.0 Labeling and Storage **24**
8.1 Non-Hazardous Waste Management 24
8.1.1 Labeling and Storage of Non-Hazardous Waste 24
8.2 Universal Waste Management 26
8.2.1 General Storage of Universal Waste 26
8.2.2 Labeling Universal Waste Containers 27
8.3 Hazardous Waste Management 28
8.3.1 General Storage of Hazardous Waste 28
8.3.2 Labeling Hazardous Waste Containers 28
9.0 Waste Storage Areas **30**
9.1 90- and 180-Day Storage Areas 30
9.2 Satellite Accumulation Areas 31
10.0 Generator Status **32**
10.1 Episodic Generation 35
11.0 Waste Tracking **36**
11.1 Reporting / Recordkeeping 37
12.0 Transportation **39**

Received by OCD: 4/14/2025 11:49:46 AM

12.1 Transporter Selection 39
13.0 Disposal 40
13.1 Waste Facility Risk Assessment (WFRA) 40
Appendix **41**
A Waste Storage Area Map 41
B Storage Area Examples 41
C Labeling Examples 41
D Transporter Options 41
E Waste Procedures / Profiles 41
Aerosols 41
Batteries 41
Chemicals 41
Coolant 41
Filters 41
Glycol 41
Paraffins 41
Pigging Waste 41
Pigs 41
Rags 41
Scrap Metal 41
Tank Bottoms 41
Trash Trailers 41
Used Oil 41

Released to Imaging: 4/22/2025 3:42:03 PM

1.0 Contacts

Tori Miller – (432) 967-6505
Waste Advisor

Ashley McAfee – (575) 988-0812
Waste Support

Kaylan Dirkx – (406) 478-4039
NM Soil-Water-Waste Supervisor

Katelyn Lucas – (225) 540-5507
NM Environmental and Regulatory Manager

2.0 Waste Abbreviations

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund. Addresses waste site liability and requires spill reporting for hazardous substances when more than reportable quantity (RQ) is spilled.

CESQG – Conditionally Exempt Small Quantity Generator. A generator of 220 pounds or less of RCRA hazardous waste in a calendar month.

CFR – Code of Federal Regulations

CSA – Central Storage Area

DOT – Department of Transportation. Regulates transportation of hazardous materials including hazardous waste.

E & P – Exploration and Production. Refers to the RCRA exemption at 40CFR 261.4(b)(5) that excludes wastes directly associated with oil and gas exploration and production from the definition of hazardous waste.

HVLT – High Volume Low Toxicity.

LDR – Land Disposal Restrictions. Certain hazardous wastes must be treated to reduce contaminant levels below specified amounts before they may be land disposed.

LQG – Large Quantity Generator. A generator of 2200 pounds or more of RCRA hazardous waste in a calendar month.

MSDS – Material Safety Data Sheet. Provides information about the safe handling and storage of commercial products, and their physical and chemical properties. Waste disposal information reported on MSDS's is usually too general to be of practical use.

NORM – Naturally Occurring Radioactive Material. Not a RCRA hazardous waste but subject to special disposal requirements.

NPDES – National Pollutant Discharge Elimination System. Regulates discharge of runoff and other wastewaters through NPDES permits.

PCB – Polychlorinated Biphenyls. At one time a commonly used transformer and capacitor oil. Not a RCRA hazardous waste but regulated by TSCA.

RCRA – Resource Conservation and Recovery Act. Defines and regulates hazardous waste.

SAA – Satellite Accumulation Area

SARA – Superfund Amendments and Reauthorization Act. Contains the "community right to know" provisions. Requires notification to state and local emergency response agencies regarding hazardous substances stored onsite.

SQG – Small Quantity Generator. A generator of more than 220 pounds but less than 2200 pounds of hazardous waste in a calendar month.

TCLP – Toxicity Characteristic Leachate Procedure. A test method for determining if wastes are hazardous wastes due to the toxicity characteristic.

TSCA – Toxic Substances Control Act. Regulates PCB's.

TSDF – Treatment, Storage, or Disposal Facility. Refers to sites that perform these functions in hazardous waste management.

UHC – Underlying Hazardous Constituent. Refers to pollutants regulated by land disposal restrictions.

UHWM - Uniform Hazardous Waste Manifest. Federally required form for hazardous waste disposal.

UIC – Underground Injection Control.

VOC – Volatile Organic Compounds. Hydrocarbons heavier than ethane.

VSQG – Very Small Quantity Generator. A generator of 220 pounds (100kg) or less of RCRA hazardous waste in a calendar month.

3.0 Waste Management Definitions

Associated/HVLT Wastes – Exempt wastes are subdivided into associated wastes and high-volume low toxicity (HVLT) wastes. Drilling muds, cuttings, produced water, cooling tower purge water, reserve pit liquids, and well cement are HVLT wastes. All other exempt E&P wastes are associated wastes.

Characteristically Hazardous Waste – Ignitable, corrosive, reactive, or toxic hazardous waste as defined at 40CFR subpart C, (40CFR 261.21 through 261.24).

Discard – To intentionally or unintentionally allow a material to enter the air, land, or water in a manner other than its intended use. Dumping pesticide on the ground or allowing it to leak from a container constitute discarding. Spraying a pesticide on crops is an intended use.

Exempt – Also referred to as RCRA exempt, meaning wastes that are directly excluded or exempted are exempt waste.

F-list Hazardous Waste – Used solvents, wastewaters, and dioxin bearing wastes from non-specific sources listed with an "F" code at 40CFR 261.31.

K-list Hazardous Waste – Hazardous wastes from narrowly defined specific sources listed with a "K" code at 40CFR 261.32. Typically, no production wastes fit this category.

P-list Hazardous Waste – Acutely toxic discarded commercial chemical products listed with a "P" code at 40CFR 261.33(e). Typically, no production wastes fit this category.

U-list Hazardous Waste – Discarded commercial chemical products listed with a "U" code at 40CFR 261.33(f).

RCRA Empty – Refers to whether containers may be hazardous waste due to contained residue. To be RCRA empty, gas containers and aerosols must be at essentially atmospheric pressure. Liquid and solid containers must be emptied by commonly used methods. For liquids, that means inverting the drum and allowing contents to drain. For adhering solids or semi-solids like greases, that means scooping adhered material from the container. No more than 1 inch or 3% of the weight of the material may remain as residue, and typically much less will remain. For P-list wastes and biocides, the container must be triple rinsed with a solvent capable of removing the contents to be RCRA empty. Most drum reclaimers require containers to be completely empty, not just RCRA empty.

Source Reduction – The use of better practices or substitute products to reduce the volume or toxicity of waste before it is generated. Source reduction addresses waste issues before waste is generated whereas treatment addresses wastes after they are generated. Finding a valid use for surplus materials rather than disposing of them is an example of source reduction. Purchasing and using a high flash point solvent to avoid generating flammable hazardous waste is another example.

Treatment – Any process that reduces the volume of waste after it is generated or that reduces its potential harmful effects, such as neutralizing acid prior to disposal.

Waste – Any material that is discarded, recycled, or abandoned is a waste. A material that has been used and cannot be used further without reclaiming or reprocessing is a waste.

Waste Management Plan – A site specific document that identifies the waste management practices for each type of waste. A well-prepared plan will focus on source reduction, recycling, treatment, and disposal, in that order.

Received by OCD: 4/14/2025 11:49:46 AM

4.0 Waste Management Purpose

The objective of the Waste Management Plan (WMP) is to ensure that effective processes are in place to assist ExxonMobil Operations/Field Staff in managing all wastes in a manner that protects human health and the environment, and complies with all laws, regulations, and ExxonMobil policy. This is achieved by:

1. Providing ExxonMobil personnel with tools (i.e., checklists, tracking tables, examples of completed waste forms, summaries of waste regulations, links to regulations and company documents, etc.) to assist with managing all waste streams generated at Delaware Basin facilities.

2. Communicating regulatory requirements and company policy by summarizing the applicable rules and regulations as well as providing guidance on topics specific to ExxonMobil-generated waste streams.

Released to Imaging: 4/22/2025 3:42:03 PM

5.0 Responsibilities

Management and SHE

- Maintain a current Waste Management Plan for the area
- Ensure all employees and contractors know their responsibilities for waste management
- Ensure all employees received the required training
- Periodically monitor contractors for compliance with the waste management plan
- Review the Waste Management Plan annually

Employee

- Adhere to the waste management plan and follow waste management standards
- Report any spills or waste management issues to XTO manager/supervisor

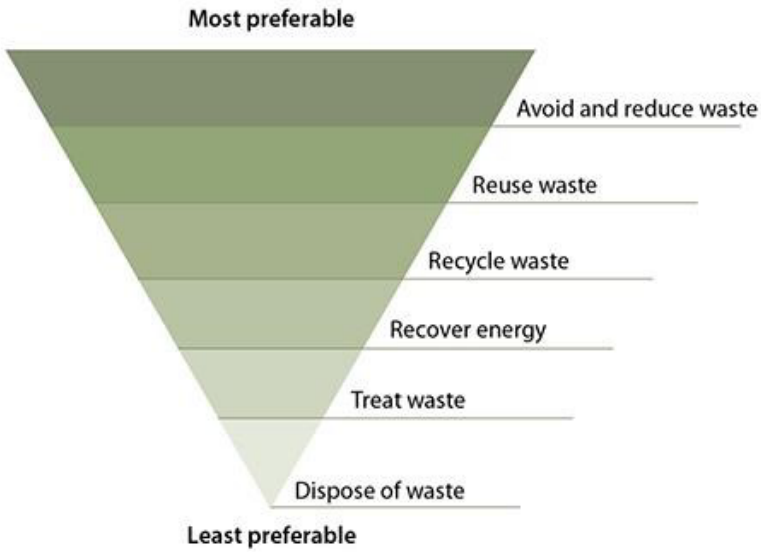
Contractor

- Comply with waste standards set by XTO
- Ensure that federal, state and local waste laws, rules and regulations are followed
- Obtain XTO approval before implementing new waste management techniques
- Report any spills or waste management issues to XTO
- Remove all wastes brought onto XTO property and dispose of the wastes properly

5.1 Corporate Environmental Responsibility Statement

This Corporation is committed to continually improving its environmental performance throughout its operations. It is important to remember that the following order of options should always be evaluated when managing waste:

Figure 1 Preferred Waste Disposal Options



The following waste management practices are specifically prohibited:

- Open dumping or unauthorized open burning.
- Disposal of hazardous or non-hazardous liquid wastes in landfills.
- Land disposal of hazardous wastes, unless the waste is treated to specified standards.
- Use of used oil (waste oil) for dust suppression or road treatment.
- Any unauthorized discharge of wastes into surface waters, or the public sewer system. All authorized discharges must comply with the site-specific National Pollution Discharge Elimination Standard (NPDES) permit or state similar permit, or have written approval from the Public Wastewater Treatment Plant Manager for discharges to Publicly Owned Treatment Works (POTW).
- Any waste management activity that could create a nuisance or endanger public health, safety, or welfare.
- Disposal, treatment or transfer of Delaware Basin waste to facilities which are not on the ExxonMobil Approved Waste Site List (AWSL).
- Recycling that falls outside of the commercial commodity Resource Conservation and Recovery Act (RCRA) recycling exemption [40 Code of Federal Regulations [CFR] 261.2(c)(2)].
- Introduction of diesel or oil generated from a spill into an on-site Oil Water Separator or Wastewater Treatment Plant without confirmation from SSHE that the permit for the unit includes spill residual.

5.2 Management and Employee Roles & Responsibilities

The following is a summary of the Delaware Basin waste management personnel and their assigned responsibilities. See Org Charts for employee assignments.

Table 1 Organization Contacts, Roles and Responsibilities

Job Title	Responsibility
Area Managers/ SSHE Manager	Communicate Management's commitment and expectations for waste and pollution prevention. Ensure that clear roles and responsibilities are assigned and understood, and that the system receives proper resources for implementation.
Waste Advisor	**Owner of the Waste Management Plan.** Responsible for distribution and updating the WMP. Provide regulatory interpretations, guidance, and assistance regarding implementation of the WMP. Responsible for ensuring that waste training programs are developed for employee training and awareness.

Job Title	Responsibility
Area Supervisors and Superintendents	Responsible for assisting SSHE in the distribution of notices of amendments to the WMP as well as changes in policy. Responsible for the implementation of spill response plans and procedures. Ensure that the guidelines in this plan are followed by all field personnel, subcontractors and affiliates during all ExxonMobil waste management activities.
Field Supervisors	Assist field operations in implementation of the WMP. Obtain approvals and/or permits required for the disposal of waste. Assist field operations in waste profiling, waste sampling, and communicating with agencies.
Law Department	Assist with the interpretation of applicable laws and regulations.
Employees	Responsible for being familiar with and following established procedures for waste management, reduction, and pollution prevention.

5.3 Contractor Waste vs ExxonMobil Waste

Contractor Waste

- Waste generated as a result of certain limited contractor activity, whether or not the activity is on ExxonMobil property.
- The vendor subcontract indicates the waste is the responsibility of the contractor.
- Contractor waste is not an ExxonMobil waste, and the requirements in this manual do not apply.
- Generally, "Contractor Waste" is limited to the following:
    - Non-hazardous waste generated as a result of contractor activities from contractor-owned equipment, or supplies used on ExxonMobil property.
    - Examples include: impacted personal protective equipment; fluids from contractor owned equipment or supplies used on-site; disposable bailers.
- Materials considered to be contractor-owned materials that are brought onto the site and will be removed from the site by the contractor. Examples include paint and paint solvents, fuel, hard boom, cases of unused absorbent pads

ExxonMobil Waste

- Includes all waste generated as a result of ExxonMobil operations, unless otherwise agreed between ExxonMobil and a contractor or third party.
- Can be generated by ExxonMobil or by a contractor on ExxonMobil's behalf.
- Examples include: soil from construction activities, investigation derived wastes, recovered groundwater.

Multi-Generator Remediation Site Waste

- Orphan sites, remediation involving releases from adjacent properties.
- ExxonMobil may or may not be the generator of the waste.
- If ExxonMobil is managing the waste, the waste must be managed per the guidance in this manual.
- The guidance in this manual does not apply to waste generated at Multi-Party remediation locations where ExxonMobil is not the generator and is not managing the waste.
- Contact your Waste Advisor or FEA for assistance to determine if a waste is considered ExxonMobil or Contractor Waste.

6.0 Training Requirements

Prior to initiating any waste activities, employees must complete applicable state-mandated training, Department of Transportation hazardous materials transportation training (DOT HAZMAT), and RCRA hazardous waste training. Additionally, Consultants must supply appropriate training certificates for any person managing waste on behalf of ExxonMobil.

Note: Management of waste includes: generation, sampling, storage, profiling, manifesting and documenting.

ExxonMobil training requirements potentially applicable to employees handling waste are outlined in the following Webcat trainings.

- ENV-S09 Hazardous Waste Awareness
- SAF-124 General Awareness
- SAF-125 Preparing Shipping Papers, Part 1 and 2
- SAF-127 Non-bulk Filling, Marking, and Labeling, Part 1 and 2
- SAF S-30 DOT Hazardous Material General Awareness
- SAF S-34 Marking, Labeling, and Packaging
- SAF S-35 Placarding
- SAF S-36 Shipping Papers
- SAF S-37 Bulk Loading

Staff should request training through their immediate Supervisor. Training programs can be accessed online through http://goto/webcat

Federal training requirements for all personnel managing hazardous waste and signing manifests are summarized below.

DOT HAZMAT Training: 49 CFR 172, Subpart H. Outlines training requirements for any individual acting as Generator signatory on waste manifests. Training must be completed at least once every 3 years.

RCRA Hazardous Waste Training: 40 CFR 265.16. An annual training course must be taken by employees responsible for hazardous waste management and manifesting.

- Newly hired personnel must complete this training course within 6 months of working on the job.
- Training records on current personnel must be kept until closure of the facility.
- Training records on former employees must be kept for at least 3 years from the date the employee last worked at the facility.

7.0 Defining / Classifying Waste

7.1 Definition of a Solid Waste

A solid waste can be a solid, liquid, semi-solid or contained gaseous material, garbage, refuse or sludge generated from residential, industrial, commercial, mining, or agricultural operations including wastewater treatment plant, water supply treatment plant, and air pollution control facilities.

In all situations, ExxonMobil policy is to reduce the volume of waste being generated through sound waste minimization techniques, reuse, recycling, recovery of secondary materials and treatment.

Materials become "waste" when they become intended for disposal or when they can no longer serve their intended purpose.

- This includes spent chemicals, expired unspent chemicals, contaminated soil, tank bottoms, general trash, old pipe, and many more types.

Waste generation begins when:

- The generator determines that a material no longer serves its intended purpose. (Note that using a solvent for energy recovery/fuel is not using a material for its intended purpose.)
- A material is abandoned (i.e., disposed of, burned, or incinerated).
- The generator determines that a material that is not excluded by 261.4(a), or that is not excluded by variance granted under 260.30 and 260.31, will be recycled, reclaimed, burned for energy recovery or accumulated speculatively.

7.2 Categories of Waste

The following is a brief description of the categories of solid wastes that may be generated at ExxonMobil facilities.

Table 2 Solid Waste Categories

Waste Category	Definition/ Examples	Overseeing
Non-Hazardous Waste	Wastes that do not meet any of the criteria of a hazardous waste or wastes that are excluded from RCRA under 40 CFR 261.4.	Local / State

Waste Category	Definition/ Examples	Overseeing
Municipal Solid Waste (MSW)	Non-hazardous waste that consists of everyday items discarded by the public and by households, also known as “trash”. *Note: While MSW discarded from a household is exempt from hazardous wastes regulations, MSW discarded from a business is NOT exempt, and cannot contain items that would meet the definition of a hazardous waste or a universal waste.*	Local / State
Construction & Demolition Debris (C&DD)	Material resulting from the construction or demolition of man-made structures. C&DD does not include any material that is a hazardous waste, infectious waste or material removed from the structure prior to demolition. C&DD does not include any solid wastes other than specifically allowed in state laws. C&DD may be reused, recycled or disposed in landfills permitted to accept C&DD.	State
Recyclables	Waste materials that can be converted into reusable objects to prevent waste of potentially useful materials, reduce the consumption of fresh raw materials, energy usage, air pollution and water pollution by decreasing the need for "conventional" waste disposal.	Local / State
Hazardous Waste	A hazardous waste is one that is listed as such by the United States Environmental Protection Agency (USEPA) (also called a listed waste) and/or that exhibits one or more hazardous qualities or characteristics (also called a characteristic waste).	Federal

Waste Category	Definition/ Examples	Overseeing
Universal Wastes	A sub-group of hazardous wastes including: batteries, pesticides, mercury-containing equipment and bulbs (lamps). Federally designated "universal wastes" are set forth in 40 CFR Part 273. Many states have elected to enforce stricter Universal waste regulations.	State / Federal

7.2.1 Hazardous Waste Definitions and Determinations

When making a hazardous waste determination, one must first define if the material is a “solid waste” that does not fit an existing exemption. If the answer is yes, one must then consider if this is a listed waste, has potential of leaching any of the “RCRA 8 heavy metals”, or if exhibits any hazardous characteristics such as ignitability, corrosivity, or reactivity. Refer to some of the definitions and flow chart below for clarity on defining what makes something a “solid waste”, and how to determine if it is hazardous.

- Solid Waste: any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material that may be solid, liquid, semisolid, or contaminated gaseous material resulting from industrial, commercial, mining, community activities, or agricultural operations (40 CFR 261.2)

- Listed Wastes: wastes generated from common manufacturing and an industrial process, specific industries (F or K listed). Listed wastes can also be generated from unused commercial chemical products (P or U Listed). (40 CFR 261.31 – 261.33)

    - F-Listed: are wastes from non-specific sources and are shown at 40CFR 261.31. A material must be used to be considered an F list waste. For example, used chlorinated solvents are F list wastes. Automotive maintenance or equipment solvent cleaning are the most likely sources of these wastes in US Conventional facilities.

    - K-Listed: are wastes from specific sources and are listed at 40 CFR 261.32. It would be unlikely that any US Conventional operation would generate K listed wastes. A waste must be generated in exactly the process described for each K waste to meet the definition.

    - P-Listed: are also known as acutely toxic wastes and are listed at 40 CFR 261.33(e). P listed wastes are discarded, unused commercial products. A used material can be an F list waste, but not a P list waste. It is unlikely that US Conventional operations

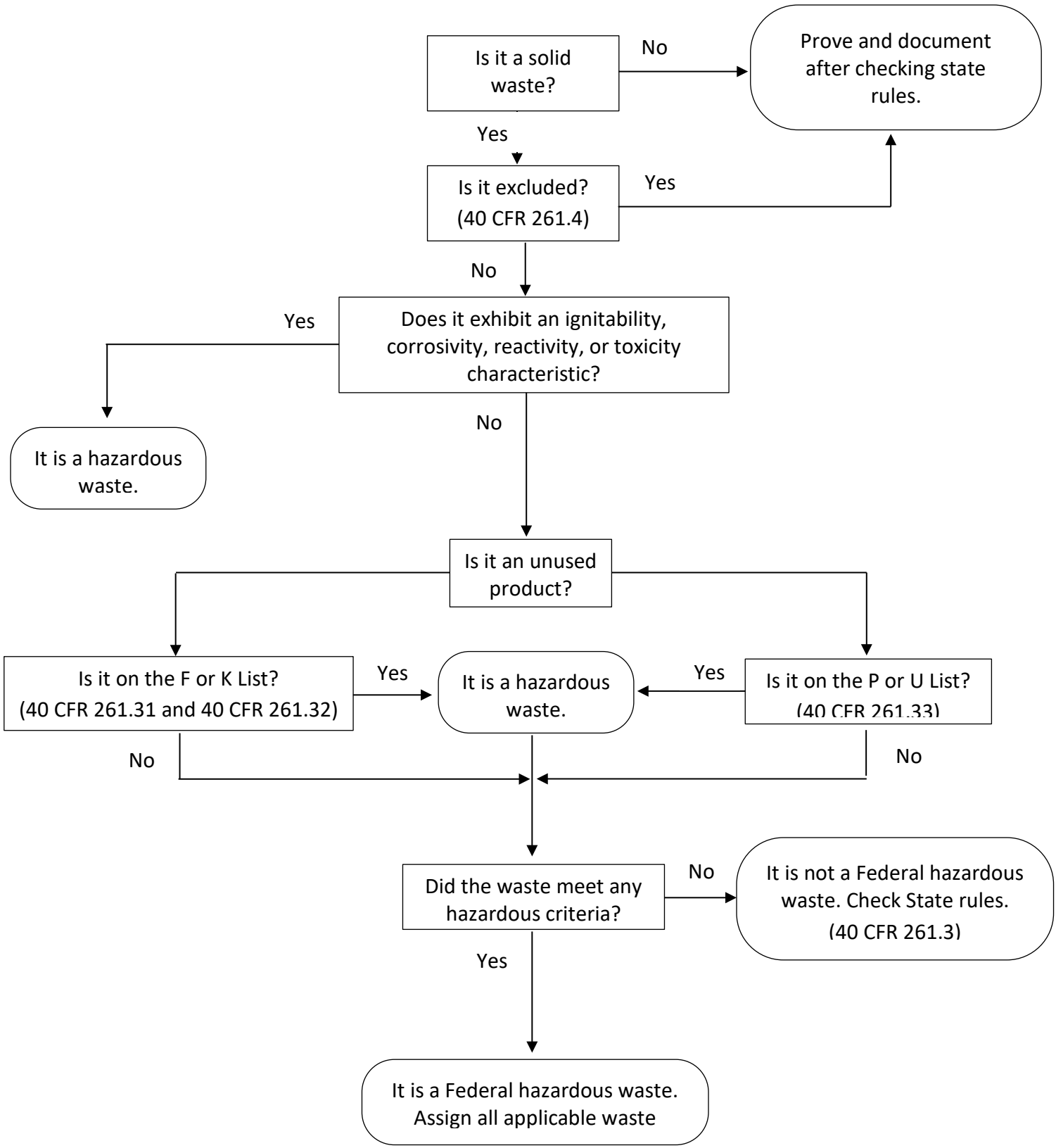
generate P list wastes; however, discarded herbicides or pesticides could be P list wastes.

- U-Listed: are discarded commercial products and are listed at 40 CF 261.33(f). Used materials cannot be U list wastes. Discarded materials from testing labs could be U listed wastes.

- Characteristically Hazardous: wastes that exhibit the ignitability, corrosivity, reactivity, or toxicity characteristics. These characteristics are determined through an analytical and process knowledge. (40 CFR 261.21 – 261.24)

- RCRA 8 Heavy Metals: wastes that contain Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, or Silver.t The EPA has considered be particularly hazardous because they are toxic and can have serious health and environmental impacts.

Note that these definitions and the chart below are here as guidance. Proper waste determinations take expertise, training, and experience, thus all final determinations should always be made by or approved by your E&R representatives.


Is it a solid waste?
No
Prove and document after checking state rules.
Yes
Is it excluded? (40 CFR 261.4)
Yes
No
Does it exhibit an ignitability, corrosivity, reactivity, or toxicity characteristic?
Yes
It is a hazardous waste.
No
Is it an unused product?
Is it on the F or K List? (40 CFR 261.31 and 40 CFR 261.32)
Yes
It is a hazardous waste.
Yes
Is it on the P or U List? (40 CFR 261.33)
No
No
Did the waste meet any hazardous criteria?
No
It is not a Federal hazardous waste. Check State rules. (40 CFR 261.3)
Yes
It is a Federal hazardous waste. Assign all applicable waste

7.2.2 Universal Waste Definitions and Determinations

USEPA's universal waste regulations (40 CFR Part 273) are designed to encourage recycling and proper disposal of certain common hazardous wastes; as a result, they set forth less-stringent requirements for their management.

Under federal regulation, universal wastes included:

- Certain batteries (such as nickel-cadmium and small sealed lead-acid batteries)
- Certain pesticides
- Lamps (such as fluorescent, high intensity discharge, neon, mercury vapor, high-pressure sodium, and metal halide lamps)
- Mercury-containing equipment (device or part of a device that contains elemental mercury integral to its function, including mercury thermostats).

7.2.3 E&P Waste Definitions and Determinations

E&P waste stands for Exploration and Production wastes. E&P can also go by the term associated wastes. RCRA excludes wastes directly associated with oil and gas exploration and production from the definition of hazardous waste, as these streams tend to be high in volume and low in toxicity (HVLT) 40CFR 261.4(b)(5).

Determining if a waste is E&P, is simple. Firstly, there is a complete list of federally exempt and excluded E&P wastes. Secondly, one can also revert to using process knowledge if the compiled lists of exempt vs. non exempt waste is not readily available to reference. Key questions to ask yourself when classifying and identifying something as E&P wastes using process knowledge are:

- Was the waste in contact with the production stream?
- Did the waste come from downhole?

If the answer is yes to any of these questions, then it can immediately be considered as a waste associated with the exploration and production of gas and oil.

To reference example scenarios, the complete list of federally exempt and excluded E&P wastes, compiled list of non – E&P wastes, and a process knowledge flow chart for exempt and excluded E&P wastes, click here to jump to the appendix.

7.2.4 Used Oil Definitions and Determinations

Used Oil – 40 CFR Part 279 - USEPA regulated used oil "means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities". Check with the Generator state and/or Consignment state to determine if they authorize this USEPA regulation.

- Mixtures of used oil and hazardous waste that solely exhibits a hazardous waste characteristic identified in 40 CFR 261 Subpart C and mixtures of used oil and hazardous waste that is listed in Subpart D solely because it exhibits a characteristic of hazardous waste identified in Subpart C, if the resulting mixture does not exhibit any characteristics of hazardous waste identified under Subpart C of 40 CFR 261.
- Mixtures of used oil and a waste that is hazardous solely because it exhibits the characteristic of ignitability (e.g., ignitable-only mineral spirits), provided that the resulting mixture does not exhibit the characteristic of ignitability under 40 CFR 261.21.
- Mixtures of used oil and VSQGs (CESQGs) hazardous waste regulated under 40 CFR 261.5.
- Materials containing or otherwise contaminated with used oil that are burned for energy recovery.
- Used oil drained or removed from materials containing or otherwise contaminated with used oil.
- Mixtures of used oil and fuels or other fuel products.
- Materials produced from used oil that are burned for energy recovery (e.g., used oil fuels).
- Used oil which is intentionally introduced into a hydrocarbon recovery system (e.g., by pouring collected used oil into the wastewater treatment system).

7.3 NORM

ExxonMobil guidance document on the management of waste streams impacted with NORM, is located at the SSH&E Safe Practices SharePoint Site, SWP029. A Waste Summary Sheet for Norm waste can be found on the Environmental Work Practices SharePoint in the Waste Management Plan folder.

7.4 Analytical Samples

If the waste determination is made by laboratory analysis, one or more representative samples of the waste must be collected and submitted for analysis of constituents that will allow the generator to characterize his/her waste.

An ExxonMobil-approved laboratory (EMBSI Contract Lab List) must be used to analyze waste streams generated by ExxonMobil. Use of audited and approved labs is vital to the integrity of analytical data. In

certain situations, approval may be granted by the ExxonMobil SSHE Manager to utilize an “out of network” laboratory; if your project requires this, contact SSHE for approval.

The development and application of a sampling strategy is a prerequisite to obtaining a representative sample capable of producing scientifically viable data. The waste sampling strategy will address the following:

- Types of samples needed
- Selection of sampling locations
- Number of samples
- Sampling frequency
- Sample collection and handling techniques

At a minimum, each non-hazardous waste stream generated from a re-occurring process should be analyzed once every 3 years to prove it does not exhibit a hazardous waste characteristic. For these reoccurring waste streams, it is a BMP to complete a waste determination annually documenting that the process has not changed, the characteristics of the waste have not changed, and the profile and analytical data remain representative of the current waste stream. Hazardous waste streams generated from a re-occurring process should be analyzed every year to verify hazardous constituents and treatment applicability (update LDRs). Disposal facilities may have different requirements for reoccurring waste streams to be sampled with more or less frequency, depending on the volumes generated.

8.0 Labeling and Storage

8.1 Non-Hazardous Waste Management

8.1.1 Labeling and Storage of Non-Hazardous Waste

The following guidelines for container management are required for all areas.

1. It is the responsibility of each employee to maintain his / her work area in a clean, safe and orderly manner.

2. All Waste containers must be:

   a. Stored in a designated waste storage area on ExxonMobil property (inside or outside).

   b. Separated or delineated from product containers and incompatible wastes.

   c. Protected from the weather and vehicles.

   d. Kept closed to prevent spills and eliminate potential for rainwater or other material from entering the container.

   e. Compatible with contents.

   f. Placed in a designated storage within 3 days after the container is deemed full and no containers will be moved unless properly labeled (i.e., acids and bases in plastic containers, clearly marked and separated from each other, flammables in metal containers with pressure release valves as needed, separated from static and heat sources).

3. Storage of wastes and products:

   a. Industrial waste (special waste, residual waste) must be segregated from municipal waste (general office trash and food waste).

   b. Wastes and products must be stored with enough aisle space between the drums to access the drum, and to inspect for leaks or bulging.

4. Use all products to the extent possible to avoid generating waste (e.g., paints, solvents, oils). Products must be used for their intended purpose (e.g., do not use fuel as a solvent or solvent as a fuel).

5. A minimum number of waste containers will be used in each building at the facility.

6. Containers should be emptied and consolidated as appropriate.

7. All products should remain in their original labeled containers, if products are transferred to secondary containers the secondary container must be labelled by the person that generated it. The label must contain the product name and any hazardous characteristics of the product (flammable, reactive, toxic).

8. Used containers may be re-filled with the same product when empty but should not be used for different wastes/ products unless they have been appropriately cleaned.

9. Preventative actions should be employed to prevent spills during loading and maintenance activities (e.g., placing absorbent pads around the bung hole of a drums when transferring products or wastes from one container to another).

10. Routinely inspect valves, piping, tanks, and equipment for drips. Repair dripping connections and temporarily utilize catch basins or buckets at locations where drips cannot be eliminated. If buckets or catch basins are utilized a routine schedule must be established to check the containers and empty them when they are more than 50% full.

11. All Spills and leaks must be cleaned up by personnel trained to respond to spills and reported to the SSHE immediately.

12. Absolutely no wastes or products may be discharged to the ground, or dumped down sinks or drains or storm sewers unless that is the intended purpose of the product (No vehicle washing is permitted on ExxonMobil property unless wash water is collected and treated).

13. Federal regulation requires all waste be placed into DOT approved containers for shipment.

14. Waste containers should only be filled to a maximum 2/3 capacity, never fill containers to 100% capacity.

15. Stockpiling of large volumes of non-hazardous industrial waste is permissible. When generating stockpiles plastic sheeting should be placed beneath the pile to protect the ground surface from being contaminated by the stockpiled waste. The pile should be covered so that rain cannot infiltrate the waste and create runoff of contaminated water. As applicable soil berms and/or hay bales should be placed around the outer edges of the pile to prevent migration of impacts from runoff. All waste, including stockpiles must be labeled and properly disposed of in a timely manner. (Stockpiling of hazardous waste is considered land placement and requires a RCRA permit.)

8.2 Universal Waste Management

8.2.1 General Storage of Universal Waste

Table 3 Requirements for Small and Large Quantity Handlers of Universal Waste

	Universal Waste Requirements	
	Small Quantity Handler of Universal Waste (SQHUW)	**Large Quantity Handler of Universal Waste (LQHUW)**
Quantity Handled by Category	Accumulate <5,000 kg (11,000 lbs) on site at any one time §273.9	Accumulate 5,000 kg (11,000) or more on site at any one time §273.9
USEPA Identification Number	Not required §273.12	Required §273.32
On-Site Accumulation Limit *	<5,000 kg (11,000 lbs) §273.9	No quantity limit
Storage Time Limit (without a storage permit)	1 year, unless for proper recovery, treatment, or disposal §273.15	1 year, unless for proper recovery, treatment, or disposal §273.35
Manifest	Not required §273.19	Not required, but must keep basic shipping records §273.39
Personnel Training	Basic training §273.16	Basic training geared toward employee responsibilities §273.36
- The universal waste citations listed can be found at 40 CFR Part 273. - The generator citations listed can be found at 40 CFR Part 262. - General definitions of terms applicable to these regulations are found in 40 CFR Section 260.10. - * Note this is not a monthly/annual total, but an on-site storage limit.		

All universal waste handlers start out on January 1 of each year as a small quantity handler, as long as they don't have 5,000 kg or more of these wastes on-site at any time throughout the year. If they have more than 5,000 kg on-site at any one time, they are a large quantity handler and remain in that status for the rest of the year.

USEPA clarified that, if mercury has not been removed from mercury-containing equipment, then the weight of the entire device is counted toward the 5,000-kg limit.

ExxonMobil Guideline: Never accumulate a total of 11,000 pounds or more of universal wastes at any site at any time.

For Reference:

- 5,000 kg is approximately 17,000 4-foot fluorescent bulbs.
- A pallet of lead acid car batteries will weight approximately 500-700 lbs.

Accumulation time limits

According to 40 CFR 273.15, (a) A small quantity handler of universal waste may accumulate universal waste for no longer than 1 year from the date the universal waste is generated, or received from another handler, unless such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the handler bears the burden of proving that such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal.

A small quantity handler of universal waste who accumulates universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by:

1. Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;
2. Marking or labeling each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received;
3. Maintaining an inventory system on-site that identifies the date each universal waste became a waste or was received; or
4. Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

8.2.2 Labeling Universal Waste Containers

- Label or mark the waste or waste container with: (1) the type of universal waste contained, and (2) the earliest date any of the material became a waste, as follows:
  - “Universal Waste - Batteries”, (Date)
  - “Universal Waste - Pesticides”, (Date)
  - “Universal Waste - Mercury Thermostats”, (Date)
  - “Universal Waste - Lamps”, (Date)

8.3 Hazardous Waste Management

8.3.1 General Storage of Hazardous Waste

Storage Requirements for all Waste Types and Hazardous Materials (RCRA exempt wastes/ products):

- All waste containers must be stored in a designated waste storage area, separated or delineated from product containers.
- Drums should be stored with enough aisle space between the drums to access the drum, and to inspect for leaks or bulging.
- Preferably, drums containing waste (especially metal drums) should be stored on a concrete base or spill containment pallet, instead of directly on the ground surface.
- Designated full containers of both hazardous and non-hazardous waste will be placed in a designated storage area as soon as possible after filling the container (but no longer than 72 hours [3 days] after the container is deemed full) and no containers will be moved unless properly labeled.
- The time period allowed for on-site storage of a waste depends upon its characterization as non-hazardous or hazardous. Operations is responsible for removal of hazardous waste within the federally required timeframes and removal of non-hazardous waste in a timely manner.
- Facilities are required to keep equipment and supplies, including an emergency communication device, fire control and spill control equipment near all storage area to facilitate immediate respond to a spill or incident (fire). (For SQGs and LQGs of hazardous waste this is a federal requirement (§262.16 and §262.17), for non-hazardous waste it is an ExxonMobil BMP.)

A Hazardous and Universal Waste Inspection Log is to be utilized when conducting weekly inspections of hazardous waste and universal waste container storage areas. The log can be found on the.

8.3.2 Labeling Hazardous Waste Containers

Properly label all containers. Even stockpiles and small 1-gallon containers of waste need to be labelled. If a container is considered RCRA empty, then the container does not require waste labels.

ExxonMobil requires that all waste containers be labeled upon generation. Containers or drums storing waste should always be clearly labeled with:

- The waste type (e.g., hazardous, non-hazardous, Universal, used oil, RCRA Exempt);
- The generator name
- The waste name (Paint Waste Liquids, Solvent Rags, etc.);
- Hazard Identification (Flammable, corrosive, water reactive) (requirements vary by state, so labeling must comply with applicable regulations); and

- Date generated (accumulation start date) for universal waste and hazardous waste staged in the central storage area.

All hazardous waste containers must be labeled when waste is first placed in the container (40 CFR 262). Also, the words “HAZARDOUS WASTE” must be on every container holding hazardous waste (40 CFR 262.32b; 49 CFR 172.304).

Labeling Requirements

- Labels must be completely filled out in a permanent marker. Partially completed labels are not permitted.

- During on-site storage, drummed waste must have one label affixed to the top 1/3 of each drum that is clearly visible. Labels should not be placed on removable parts, such as drum lids.

- When drums and bulk containers are offered for shipment off-site, they must comply with DOT placarding rules as well as RCRA labeling rules. Per DOT rules, roll-off boxes and trucks that contain reportable quantities of hazardous materials will require one label per side (four total). RCRA non-hazardous wastes need only one container label for hazard communication purposes.

Waste Label Usage and Examples for the various waste streams can be found in the appendix. For specific questions regarding labeling of waste containers please consult your waste advisor.

9.0 Waste Storage Areas

Table 4 Container Management Regulatory Standards for Storage Areas

Section of Part 265 Subpart I		Satellite Accumulation Area (SAA) 262.15(a)(1)-(4)	Central Accumulation Area (CAA)	
			SQG 262.16(b)(2)	LQG 262.17(a)(1)
265.171	Condition of containers	YES 2	YES	YES
265.172	Compatibility of waste with containers	YES	YES	YES
265.173	(a) Keep closed, except when adding/removing waste	YES	YES	YES
	(b) Handle containers to avoid ruptures and leaks	NO	YES	YES
265.174	Inspections	NO	YES	YES
265.176	Special requirements of ignitable or reactive wastes	NO	NO	YES
265.177	Special requirements for incompatible wastes	YES	YES	YES
265.178	Air emission standards	NO	NO	YES

9.1 90- and 180-Day Storage Areas

Applies to SQG and LGQ only, VSQG do not have time limitations on accumulation or storage:

Hazardous waste must not be accumulated over 90 days for a LQG and 180 days for a SQG (or for more than 270 days if the generator must transport his waste, or offer this waste for transportation, over a distance of 200 miles or more). §262.16 §262.17

Containers of hazardous waste must be marked clearly with the accumulation start date (date when wastes first entered container), which must be visible for inspection. §262.16(b)(6) §262.17(c)(iii)

Containers of hazardous waste must be marked clearly with the words “Hazardous Waste”. §262.16(b)(6) §262.17(c)(iv)

Containers of hazardous waste must be in good condition, or the contents must be transferred to a new container. §265.171

Containers of hazardous waste must be compatible with the waste contained. §265.172

Containers of hazardous waste must be kept closed and managed properly to prevent a rupture or leak. §265.173

Hazardous waste container accumulation areas must be inspected weekly. §265.174

Containers of ignitable and reactive hazardous wastes must be located at least 50 feet from the facility's property line. §265.176

Incompatible hazardous wastes must be segregated. §265.177

9.2 Satellite Accumulation Areas

The quantity of hazardous waste in a satellite area must not exceed 55-gallons or 1-quart of acutely hazardous waste. §262.15(a)

SAAs must be at or near the point of generation and under the control of the operator. §262.15(a)

Satellite containers must be marked clearly with the words "Hazardous Waste" or with other words that identify the contents of the container. §262.15(a)5

If the quantity of hazardous waste exceeds 55-gallons or 1-quart of acutely hazardous waste the container(s) must be marked with an accumulation start date and be moved from the satellite area to an accumulation area within 3 days. §262.15(a)6

Containers of hazardous waste must be in good condition or the contents must be transferred to a new container. §265.171

Containers of hazardous waste must be compatible with the waste contained. §265.172

Containers must be kept closed and managed properly to prevent a rupture or leak. §265.173

10.0 Generator Status

RCRA established three categories of hazardous waste generators in the regulations. The categories are based on the weight generated in a calendar month NOT on the weight shipped off site in a calendar month:

- LQGs - volume generated: >2,200 lbs./month
- SQGs - volume generated: >220 lbs./month and <2,200 lbs./month
- VSQGs (CESQG) - volume generated: < 220 lbs./month

Table 5 Generator Categories based on Quantity of Waste Generated – 40 CFR 262.13

Quantity of acute hazardous waste generated in a calendar month	Quantity of non-acute hazardous waste generated in a calendar month	Quantity of residues from the cleanup of spilled acute hazardous waste generated in a calendar month	Generator category
> 1 kg	Any amount	Any amount	LQG
Any amount	≥ 1,000 kg	Any amount	LQG
Any amount	Any amount	> 100 kg	LQG
≤ 1 kg	> 100 kg and < 1,000 kg	≤ 100 kg	SQG
≤ 1 kg	≤ 100 kg	≤ 100 kg	VSQG (CESQG)

Note: When calculating generator categories, the quantities of acute hazardous waste and non-acute hazardous waste are considered separately.

A table summarizing the varying degree of regulation to which each of the generator categories are subject can be found on EPA's website.

As a general reference for calculating volume:

- 1 kg = ~ 1 quart.
- 100 kg = ~ 27 gallons (about ½ of a 55-gallon drum) or 220 lbs.
- 1,000 kg = ~ 270 gallons (about five 55-gallon drums) or 2,200 lbs.
- 6,000 kg = ~ 1,620 gallons (about thirty 55-gallon drums) or 13,200 lbs.
- An empty 55-gallon steel drum weighs approximately 45-52 lbs.
- A 55-gallon steel drum full of soil will weigh approximately 450-650 lbs.
- A 55-gallon drum of water would weigh approximately 500-600 lbs.
- There is 0.273 cubic yard in a 55-gallon steel drum.
- There are 2,000 lbs in a U.S. ton.
- Water weighs 8.34 lbs/gallon and 1 inch in a 55-gallon steel drum is equal to approximately 1.62 gallons

The extent to which hazardous waste generators are subject to regulation depends on the volume of hazardous waste each generator produces in a calendar month. To determine the volume of hazardous waste generated below is a summary of how to “count waste.”

The table below provides a summary of requirements for each class of hazardous waste generator. This is not an exhaustive list of all the requirements for generators and should be used as just a guide. Generators are responsible for all applicable requirements in 40 CFR part 262. Additionally, hazardous waste generators should check with their state regulatory agency because certain states have additional or more stringent requirements than the federal government.

Table 6. Generator Status Requirements

Requirement	Very Small Quantity Generators	Small Quantity Generators	Large Quantity Generators
Accumulation Requirements Manage hazardous waste in compliance with certain technical standards.	None	Basic requirements with technical standards for containers, tanks, drip pads or containment buildings §§262.16(b)(2)-(5)	Full compliance for management of containers, tanks, drip pads or containment buildings §§262.17(a)(1)-(4)
Accumulation Time Limits Determine amount of time hazardous waste is allowed to accumulate on site.	None	≤180 days or ≤270 days (if transporting greater than 200 miles) §§262.16(b)-(d)	≤90 days §262.17(a)
Air Emissions Control hazardous air emissions from tanks and containers	Not required	Not required	Required Part 265 subparts AA, BB and CC from §262.17(a)(1) and (2)
Biennial Report Report data from off-site shipments of waste during the previous calendar year	Not required	Not required	Required §262.41
Closure Close equipment, structures, soils and units by meeting specified performance standards and disposal and decontamination requirements	Not required	Required for tanks, drip pads and containment buildings - Tanks only §262.16(b)(3)(vi) Unit specific Part 265, subpart W and DD for drip pads and containment buildings	Required - General §262.17(a)(8) - Unit specific Part 265, subpart W for drip pads
Contingency Plan and Emergency Procedures Develop procedures to follow during an unplanned major event.	Not required	Basic planning required §§262.16(b)(9)	Full plan required Part 262 subpart M (from §262.17(a)(6))
EPA ID Number Acquire a unique EPA identification number that identifies generators by site.	Not required	Required §262.18	Required §262.18
Exception and Additional Reporting Report if any required copies of signed manifests are not received back Provide information on quantities and disposition of wastes upon request	Not required	Required §§262.42(b) and 262.43	Required §§262.42 and 262.43
Facility Type Send off-site shipments to appropriate facilities for management	Facilities noted in §§262.14(a)(5)	RCRA permitted/interim status facility Parts 264/265, 266/267 and 270	RCRA permitted/interim status facility Parts 264/265, 266/267 and 270
Land Disposal Restrictions Meet standards for placing on the land and associated requirements for certifications, notifications, and waste analysis plans	Not required	Required Part 268 from §262.16(b)(7)	Required Part 268 from §262.17(a)(9)

Requirement	Very Small Quantity Generators	Small Quantity Generators	Large Quantity Generators
Manifest Tracking hazardous waste shipments using the multiple-copy manifest - required by the Department of Transportation (DOT) and EPA	Not required	Required Part 262 subpart B	Required Part 262 subpart B
On-Site Accumulation Quantity Determine amount of hazardous waste generators are allowed to "accumulate" on site without a permit.	≤1,000 kg or ≤1 kg acute hazardous waste or ≤100 kg of acute spill residue or soil §§262.14(a)(3) and (4)	≤6,000 kg §262.16(b)(1)	No limit
Personnel Training Ensure appropriate personnel complete classroom or on-the-job training to become familiar with proper hazardous waste management and emergency procedures for the wastes handled at the facility.	Not required	Basic training required §262.16(b)(9)(iii)	Required §262.17(a)(7)
Pre-Transport Requirements Package and label hazardous waste for shipment off site to a RCRA facility for treatment, storage, or disposal	Only if required by the DOT or the state	Required §§262.30-262.33	Required §§262.30-262.33
Preparedness and Prevention Develop procedures to follow in the event of an emergency.	Not required	Required §262.16(b)(8)-(9)	Required Part 262 subpart M (from §262.17(a)(6))
Quantity Limits The amount of hazardous waste generated per month determines how a generator is categorized and what regulations must be complied with.	≤100 kg/month, and ≤1 kg/month of acute hazardous waste, and ≤100 kg/month of acute spill residue or soil §260.10	>100 and <1,000 kg/month §260.10	≥1,000 kg/month, or >1 kg/month of acute hazardous waste, or >100 kg/month of acute spill residue or soil §260.10
Recordkeeping Maintain records of waste testing, manifests, biennial reports and exception reports	Not required	Required (except biennial reports) §262.11(f) and §262.40(a) and (d)	Required §262.11(f) and §262.40
Waste Minimization Certify steps taken to reduce or eliminate the generation of hazardous waste	None	Good faith effort required §262.27	Program in place required §262.27

10.1 Episodic Generation

If the weight/amount of hazardous waste you generate/accumulate causes your generator category to fluctuate month to month, you are an episodic generator. Episodic generators include those who only occasionally generate hazardous waste, those who occasionally fluctuate between the three hazardous waste generator categories and those who routinely change generator categories at least 1 month per year (for example, a generator who routinely generates and accumulates hazardous waste from a product storage tank clean out once a year).

Under the Hazardous Waste Generator Improvements Rule, VSQG or a SQG generating an increased quantity of hazardous waste because of an episodic event that results in a temporary change in generator's category would be able to maintain its existing generator category, provided specified conditions are met.

(1) Episodic events are limited to one per calendar year;

(2) the generator must notify EPA at least 30 calendar days prior to initiating a planned episodic event or within 72 hours after an unplanned episodic event;

(3) the generator must obtain an EPA ID number if not previously held (VSQGs);

(4) the generator must use a hazardous waste manifest and hazardous waste transporter to ship the waste generated by the episodic event to a RCRA-designated facility within 60 calendar days from the start of the episodic event.

If a state has not adopted the Hazardous Waste Generator Improvements Rule and the amount of waste generated in a given calendar month places the generator in a higher category, the generator is responsible for complying with all applicable requirements of that category for all waste generated during that calendar month and notifying the state or USEPA to update the generator category. Depending on the state changing generator status may require submission of an updated 8700-12 form. For example:

- If in March a generator produces <220 lbs of hazardous waste, that waste must be managed in accordance with the CESQG regulations;
- If in April the same generator produces 5 tons (10,000 lbs) of hazardous waste, based on the volume generated that waste must be managed in accordance with the LQG regulations (51 FR 10146, 10153; March 24, 1986) to include a Contingency Plan, weekly container and storage area inspections, etc.
- Now If the generator ships the waste off site for disposal in April and in May that generator has <220 lbs of hazardous waste on site, then what requirements does the generator need to follow? The generator should continue weekly inspections and following LQG regulatory requirements until the generator status is changed back to CESQG. If audited the generator will need to provide the auditor with consecutive weekly inspections for all weeks where the generator was an LQG. If no hazardous waste was on-site the inspection report would simply document that no hazardous waste was staged on-site.

11.0 Waste Tracking

Records regarding waste generation, waste analysis, waste volumes, waste shipments and inspections will be maintained or stewarded by field operations at each facility.

Recordkeeping is an essential procedure to document the cradle-to-grave waste management process. It is important to begin recordkeeping at the point of generation.

Record keeping requirements are based on Generator Status (small quantity generator [SQG] vs. large quantity generator [LQG]) however all waste records must comply with ExxonMobil's Records Management Guidelines.

All hazardous waste generators must comply with the counting requirements found in §262.13, even though the counting requirements are found in the section of the regulations that primarily applies to VSQGs (CESQGs).

To calculate the total volume of waste generated in a calendar month the generator (VSQG, SQG or LQG) must sum the volumes of all hazardous waste generated.

Examples of what to count include:

- All quantities of listed and characteristic hazardous wastes that are accumulated on your property for any period of time before treatment, disposal or recycling, except for wastes managed immediately upon generation only in on-site ENUs, wastewater treatment units or totally enclosed treatment facilities.
- All quantities of listed and characteristic hazardous wastes that is accumulated and transported off-site.
- All quantities of listed and characteristic hazardous waste that are placed directly in an on-site regulated treatment container or tank.
- All quantities of listed and characteristic hazardous wastes that are generated as still bottoms or sludges and removed from product storage tanks.

Examples of what NOT to count:

- Samples which are collected to determine if a waste is hazardous, treatability samples. (Exempt from regulation in §261.4(c) through (f), 261.6(a)(3), 261.7(a)(1), or 261.8);
- Specific recyclable materials that will be recycled, including scrap metal;
- Hazardous waste remaining in either an empty container or an inner liner removed from an empty container;
- PCB wastes regulated under the Toxic Substances Control Act;
- Wastes that are recycled, without prior storage, only in an on-site recycling process subject to regulation under §261.6(c)(2);
- Waste residues that have not yet exited raw material storage or a production unit, unless the hazardous waste remains in the unit more than 90 days after the unit ceases to operate;

- Wastes that are managed in an “ENU,” a “totally enclosed treatment facility” or a “wastewater treatment unit,” without being stored in a separate container/tank that is not a part of the wastewater treatment unit, totally enclosed treatment facility or ENU first §260.10;
- Wastes that are discharged directly to a POTW without being stored or accumulated first. Discharges to a POTW must comply with the Clean Water Act. POTWs are public utilities, usually owned by the city, special districts or the county, that treat industrial and domestic sewage for disposal;
- Used oil managed under the requirements in §261.6(a)(4) and Part 279;
- Spent lead-acid batteries that will be reclaimed and managed under the universal waste requirements in Part 266, Subpart G; and
- Universal waste managed pursuant to §261.9 and Part 273.

11.1 Reporting / Recordkeeping

All environmental documentation and records must be maintained in accordance with ExxonMobil’s Records Maintenance Guidelines regardless of regulatory requirements. The retention period for waste related documentation is indefinite with legal clearance. The list below outlines the minimum recordkeeping requirements provided in the regulation.

- A generator must keep a copy of each manifest signed in accordance with 40 CFR 262.23(a) for 3 years or until he receives a signed copy from the designated facility. This signed copy must be retained as a record for at least 3 years from the date the waste was accepted by the initial transporter. §262.40(a)
- A generator must keep a copy of each Biennial Report or Exception Report for a period of at least 3 years from the due date of the report. §262.40(b)
- A generator must keep records of any test results, waste analyses, or other determinations made in accordance with 40 CFR 262.11 or at least 3 years. §262.40(c)
- Periods of retention referred to in 40 CFR 262.40 are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the state. §262.40(d)
- SQGs of Hazardous Waste must comply with the exception reporting requirements as stated in 40 CFR 262.42(b).
- An Annual or Biennial Hazardous Waste Report must be submitted to the appropriate state waste management agency for certain hazardous waste generation, transportation, treatment, storage, and disposal activities by March 1 of each calendar year (even year for biennial reports and every year for annual reports). Check the appropriate state regulations to determine frequency of report filing and due dates.

- Permanent records of the following must be maintained for each hazardous waste generation, transportation, treatment, storage, and disposal activity (EMPCo Form PL-1503, "Waste Shipment Documentation Form" & Waste Tracking Data Base):
  - Results of any tests or other waste analyses or determinations
  - Waste characterization, classification and quantity
  - Waste generating activity
  - Method and location of storage or disposal
  - Date of shipment or disposal
  - Identity of transporter and disposal
  - Waste manifests
  - LDR Notification / Certification
  - Exception reports
  - Annual reports

12.0 Transportation

Waste transportation is regulated under Department of Transportation (DOT) regulations (49 CFR part 172). Contact your Asset SSH&E team for detailed guidance.

Waste must be placarded according to the DOT regulations. The selected waste transporter can sometimes provide this service if requested.

The generator's name & address, generator ID#, manifest tracking # must be displayed.

A Uniform Hazardous Waste Manifest (UHWM) must accompany hazardous waste shipments.

A Bill of Lading, Non-Hazardous Waste Manifest, or shipment ticket can be used to meet the manifesting requirement for non-hazardous waste.

A Materials Movement Form (MMF) must be used when sending materials in or out from offshore locations.

RCRA requires that generators of hazardous waste subject to manifesting meet several requirements before transporting or offering hazardous waste for transport off-site, including:

- Packaging (RCRA: §262.30, reference DOT: Parts 173, 178 and 179);
- Labeling (RCRA: §262.31, reference DOT Part 172);
- Marking (§262.32 reference DOT Part 172); and
- Placarding (§262.33).

12.1 Transporter Selection

ExxonMobil does not have an approved list of transporters for waste handling. The Project Manager or their Managing Consultant are responsible for ensuring that the Transporter is qualified and has the proper permits necessary to transport the waste. The following are some guidelines that may be used in the selection of transportation contractors if applicable.

1. Make sure that the transporter has valid permits and insurance. The permits will depend upon the type of waste (non-hazardous versus hazardous) and should include all states that they will be traveling through.
2. Some state agencies have a list of approved transporters for hazardous waste. Check with them to see if the transporter has an USEPA ID# that is valid. For hazardous waste, they must have a valid USEPA ID.
3. The transporter should also provide an emergency response plan. They may have their own spill cleanup kit or could have a contract with an emergency response vendor and provide that information.
4. Obtain a list of the types of trucks or other equipment they provide and check the condition of their vehicles. Their maintenance records could be used as a check.
5. Check their safety record.

Note: If you have an ExxonMobil facility nearby, check with them to see which transporters they use

13.0 Disposal

3rd party disposal and recycling facilities must be chosen from the current Waste Facility Risk Assessment (WFRA). The current list can be found on the GO&S SharePoint page: https://ishareteam1.na.xom.com/sites/SSHE002/ER/SitePages/AWSL.aspx

Once a 3rd party disposal/recycling site is selected from the WFRA, contact the site to initiate the waste profiling process. Make sure your Asset SSH&E team approves the individual waste profiles.

Construction, workover or drilling wastes generated at ExxonMobil operated assets should be handled by the local operations staff for disposal to ensure proper disposal according to the local waste management plan or matrix.

Wastes generated at legacy or locations where there are no local operations staff will develop their own waste disposal plan or matrix.

13.1 Waste Facility Risk Assessment (WFRA)

https://ishareteam1.na.xom.com/sites/SSHE002/ER/SitePages/AWSL.aspx

Appendix

A Waste Storage Area Map

B Storage Area Examples

C Labeling Examples

D Transporter Options

E Waste Procedures / Profiles

ENSOLUM

APPENDIX B

TIER II - EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY

Facility: XTO ENERGY INC - COWBOY CDP

FACILITY NAME AND LOCATION:
XTO ENERGY INC - COWBOY CDP
Dept:
Rural - See Lat/Long
Carlsbad, New Mexico 88220 USA
County: Eddy
Fire District:
Latitude: 32.159
Longitude: -103.841
MAILING ADDRESS: 6401 Holiday Hill Rd
Midland, Texas 79701 USA

☐ All facility information (not including chemical information) is identical to last year's submission

IDENTIFICATION NUMBERS:
Dun & Bradstreet: 80-471-2347
NAICS: 211120 (Crude Petroleum Extraction)
SIC: 1311 (CRUDE PETROLEUM & NATURAL GAS)

Is the facility manned? ☐ Manned ☑ Unmanned
Maximum No. of Occupants: 0

REGULATORY INFORMATION:
Subject to Emergency Planning under Section 302 of EPCRA (40 CFR part 355)? ☐ Yes ☑ No
Subject to Chem. Accident Prevention under Section 112(r) of CAA (40 CFR part 68, Risk Mgmt. Pgm.)? ☐ Yes ☑ No

STATE-SPECIFIC FACILITY DATA FIELDS FOR NEW MEXICO:
Facility is on Tribal Land: No
If Yes - Name of Nation:
Owner/Operator Name: XTO Energy, Inc.
Number of facilities for this owner/operator: 448

CONTACT INFORMATION:

Allen, Mike
Title: Superintendent
Contact Type(s): Emergency Contact
Address: 3104 East Greene Street, Carlsbad, NEW MEXICO 88220 USA
Phones: Work: 575-689-3337 24-hour: 918-421-9056
Email: michael.allen@exxonmobil.com

Green, Garrett
Title: Environmental Coordinator
Contact Type(s): Emergency Contact
Address:
Phones: 24-hour: 575-200-0729 Mobile - Cell: 575-200-0729
Email: garrett.green@exxonmobil.com

Guiberteau, Frank
Title: Superintendent
Contact Type(s): Emergency Contact
Address: 932 Buck Jackson Road, Malaga, NEW MEXICO 88263 USA

Facility: XTO ENERGY INC - COWBOY CDP (continued)

Phones: 24-hour: 832-625-7741 24-hour: 346-280-5552
Email: frank.guiberteau@exxonmobil.com

Inskeep, Pam
Title: Consultant, Sport Environmental/A Terracon Co
Contact Type(s): Tier II Information Contact
Address: 502 N Big Spring St, Midland, TEXAS 79701 USA
Phones: Work: 432-683-1100
Email: pam@sportenv.com

Pennington, Shelby
Title: Safety Health and Environmental Supervisor
Contact Type(s): Emergency Contact
Address: 6401 Holiday Hill Rd, Midland, TEXAS 79707 USA
Phones: 24-hour: 281-723-9353 Work: 432-571-8276
Email: shelby.pennington@exxonmobil.com

XTO ENERGY INC.,
Title: OWNER
Contact Type(s): Owner / Operator
Address: 500 W Illinois Suite 100, MIDLAND, TEXAS 79701 USA
Phones: Work: 432-571-8276
Email: jennifer.rampone@exxonmobil.com

CHEMICAL INVENTORY INFORMATION:

Chemical Name: AMINE
CAS #:
Chemical Category: ☑ Pure ☐ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☑ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:
☐ Explosive
☐ Flammable (gases, aerosols, liquids, or solids)
☐ Oxidizer (liquid, solid, or gas)
☐ Self-reactive
☐ Pyrophoric (liquid or solid)
☐ Pyrophoric gas
☐ Self-heating
☐ Organic peroxide
☐ Corrosive to metal
☐ Gas under pressure (compressed gas)
☐ In contact with water emits flammable gas
☐ Combustible dust

HEALTH HAZARDS:
☐ Acute toxicity (any route of exposure)
☐ Skin corrosion or irritation
☑ Serious eye damage or eye irritation
☐ Respiratory or skin sensitization
☐ Germ cell mutagenicity
☐ Carcinogenicity
☐ Reproductive toxicity
☑ Specific target organ toxicity (single or repeated exposure)
☐ Aspiration hazard
☐ Simple asphyxiant

☐ Hazard not otherwise classified

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 294,525 pounds Maximum Amount code: 10 (100,000-499,999 pounds)

Facility: XTO ENERGY INC - COWBOY CDP (continued)

Average Daily Amount: 294,525 pounds Average Daily Amount code: 10 (100,000-499,999 pounds)
Max amount in largest container: 294,525 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Location Description: 1-750 bbl tank
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Chemical Name: CONDENSATE
CAS #: 64741-47-5
Chemical Category: ☑ Pure ☐ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☑ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:
☐ Explosive
☑ Flammable (gases, aerosols, liquids, or solids)
☐ Oxidizer (liquid, solid, or gas)
☐ Self-reactive
☐ Pyrophoric (liquid or solid)
☐ Pyrophoric gas
☐ Self-heating
☐ Organic peroxide
☐ Corrosive to metal
☐ Gas under pressure (compressed gas)
☐ In contact with water emits flammable gas
☐ Combustible dust

HEALTH HAZARDS:
☐ Acute toxicity (any route of exposure)
☑ Skin corrosion or irritation
☐ Serious eye damage or eye irritation
☐ Respiratory or skin sensitization
☑ Germ cell mutagenicity
☑ Carcinogenicity
☑ Reproductive toxicity
☑ Specific target organ toxicity (single or repeated exposure)
☑ Aspiration hazard
☐ Simple asphyxiant

☐ Hazard not otherwise classified

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 3,661,430 pounds Maximum Amount code: 12 (1,000,000-9,999,999 pounds)
Average Daily Amount: 3,661,430 pounds Average Daily Amount code: 12 (1,000,000-9,999,999 pounds)
Max amount in largest container: 2,521,260 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Location Description: 1-9,000 bbl slug catcher
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Location Description: 2-2,035 bbl surge tanks
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature

Facility: XTO ENERGY INC - COWBOY CDP (continued)

Amount:

Mixture or Product Name: CRUDE OIL+PRODUCED WATER
CAS #:
Chemical Category: ☐ Pure ☑ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☑ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:
- ☑ Explosive
- ☑ Flammable (gases, aerosols, liquids, or solids)
- ☐ Oxidizer (liquid, solid, or gas)
- ☐ Self-reactive
- ☐ Pyrophoric (liquid or solid)
- ☐ Pyrophoric gas
- ☐ Self-heating
- ☐ Organic peroxide
- ☐ Corrosive to metal
- ☑ Gas under pressure (compressed gas)
- ☐ In contact with water emits flammable gas
- ☐ Combustible dust

HEALTH HAZARDS:
- ☑ Acute toxicity (any route of exposure)
- ☐ Skin corrosion or irritation
- ☑ Serious eye damage or eye irritation
- ☑ Respiratory or skin sensitization
- ☐ Germ cell mutagenicity
- ☑ Carcinogenicity
- ☐ Reproductive toxicity
- ☑ Specific target organ toxicity (single or repeated exposure)
- ☑ Aspiration hazard
- ☐ Simple asphyxiant

☐ Hazard not otherwise classified

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 350,280 pounds Maximum Amount code: 10 (100,000-499,999 pounds)
Average Daily Amount: 350,280 pounds Average Daily Amount code: 10 (100,000-499,999 pounds)
Max amount in largest container: 350,280 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Location Description: 1-1,000 bbl gun barrel tank
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Chemical Name: CRUDE OIL, PETROLEUM, [COMBUSTIBLE LIQUID LABEL]
CAS #: 8002-05-9
Chemical Category: ☑ Pure ☐ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☑ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:

HEALTH HAZARDS:

Facility: XTO ENERGY INC - COWBOY CDP (continued)

- ☑ Explosive
- ☑ Flammable (gases, aerosols, liquids, or solids)
- ☐ Oxidizer (liquid, solid, or gas)
- ☐ Self-reactive
- ☐ Pyrophoric (liquid or solid)
- ☐ Pyrophoric gas
- ☐ Self-heating
- ☐ Organic peroxide
- ☐ Corrosive to metal
- ☑ Gas under pressure (compressed gas)
- ☐ In contact with water emits flammable gas
- ☐ Combustible dust

- ☑ Acute toxicity (any route of exposure)
- ☐ Skin corrosion or irritation
- ☑ Serious eye damage or eye irritation
- ☐ Respiratory or skin sensitization
- ☐ Germ cell mutagenicity
- ☑ Carcinogenicity
- ☐ Reproductive toxicity
- ☑ Specific target organ toxicity (single or repeated exposure)
- ☑ Aspiration hazard
- ☐ Simple asphyxiant

☐ Hazard not otherwise classified

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 58,128,000 pounds Maximum Amount code: 13 (10 million+ pounds)
Average Daily Amount: 58,128,000 pounds Average Daily Amount code: 13 (10 million+ pounds)
Max amount in largest container: 14,532,000 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Location Description: 4-50,000 bbl tanks
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Mixture or Product Name: LUBE OIL
CAS #: 70514-12-4
Chemical Category: ☐ Pure ☑ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☐ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:
- ☐ Explosive
- ☐ Flammable (gases, aerosols, liquids, or solids)
- ☐ Oxidizer (liquid, solid, or gas)
- ☐ Self-reactive
- ☐ Pyrophoric (liquid or solid)
- ☐ Pyrophoric gas
- ☐ Self-heating
- ☐ Organic peroxide
- ☐ Corrosive to metal
- ☐ Gas under pressure (compressed gas)
- ☐ In contact with water emits flammable gas
- ☐ Combustible dust

HEALTH HAZARDS:
- ☐ Acute toxicity (any route of exposure)
- ☑ Skin corrosion or irritation
- ☑ Serious eye damage or eye irritation
- ☑ Respiratory or skin sensitization
- ☑ Germ cell mutagenicity
- ☑ Carcinogenicity
- ☑ Reproductive toxicity
- ☑ Specific target organ toxicity (single or repeated exposure)
- ☑ Aspiration hazard
- ☐ Simple asphyxiant

☐ Hazard not otherwise classified

Facility: XTO ENERGY INC - COWBOY CDP (continued)

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 167,662 pounds Maximum Amount code: 10 (100,000-499,999 pounds)
Average Daily Amount: 167,662 pounds Average Daily Amount code: 10 (100,000-499,999 pounds)
Max amount in largest container: 93,492 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Location Description: 1-300 bbl tank
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Location Description: 2-100 bbl tanks
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Location Description: 2-13 bbl tanks
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Location Description: 4-3 bbl tanks
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Mixture or Product Name: PRODUCED WATER
CAS #:
Chemical Category: ☐ Pure ☑ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☐ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:
☐ Explosive
☑ Flammable (gases, aerosols, liquids, or solids)
☐ Oxidizer (liquid, solid, or gas)
☐ Self-reactive
☐ Pyrophoric (liquid or solid)
☐ Pyrophoric gas
☐ Self-heating
☐ Organic peroxide
☐ Corrosive to metal
☐ Gas under pressure (compressed gas)
☐ In contact with water emits flammable gas
☐ Combustible dust

HEALTH HAZARDS:
☐ Acute toxicity (any route of exposure)
☐ Skin corrosion or irritation
☑ Serious eye damage or eye irritation
☑ Respiratory or skin sensitization
☐ Germ cell mutagenicity
☑ Carcinogenicity
☐ Reproductive toxicity
☑ Specific target organ toxicity (single or repeated exposure)
☐ Aspiration hazard
☐ Simple asphyxiant

☐ Hazard not otherwise classified

Facility: XTO ENERGY INC - COWBOY CDP (continued)

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 525,420 pounds Maximum Amount code: 11 (500,000-999,999 pounds)
Average Daily Amount: 525,420 pounds Average Daily Amount code: 11 (500,000-999,999 pounds)
Max amount in largest container: 262,710 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Location Description: 2-750 bbl tanks
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Mixture or Product Name: SLOP OIL
CAS #:
Chemical Category: ☐ Pure ☑ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☑ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:
☑ Explosive
☑ Flammable (gases, aerosols, liquids, or solids)
☐ Oxidizer (liquid, solid, or gas)
☐ Self-reactive
☐ Pyrophoric (liquid or solid)
☐ Pyrophoric gas
☐ Self-heating
☐ Organic peroxide
☐ Corrosive to metal
☑ Gas under pressure (compressed gas)
☐ In contact with water emits flammable gas
☐ Combustible dust

HEALTH HAZARDS:
☑ Acute toxicity (any route of exposure)
☑ Skin corrosion or irritation
☑ Serious eye damage or eye irritation
☐ Respiratory or skin sensitization
☑ Germ cell mutagenicity
☑ Carcinogenicity
☑ Reproductive toxicity
☑ Specific target organ toxicity (single or repeated exposure)
☑ Aspiration hazard
☐ Simple asphyxiant

☐ Hazard not otherwise classified

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 150,780 pounds Maximum Amount code: 10 (100,000-499,999 pounds)
Average Daily Amount: 150,780 pounds Average Daily Amount code: 10 (100,000-499,999 pounds)
Max amount in largest container: 150,780 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Location Description: 1-500 bbl tank
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

Facility: XTO ENERGY INC - COWBOY CDP (continued)

Chemical Name: TRANSFORMER OIL
CAS #: 64742-55-8
Chemical Category: ☑ Pure ☐ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☐ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:
- ☐ Explosive
- ☐ Flammable (gases, aerosols, liquids, or solids)
- ☐ Oxidizer (liquid, solid, or gas)
- ☐ Self-reactive
- ☐ Pyrophoric (liquid or solid)
- ☐ Pyrophoric gas
- ☐ Self-heating
- ☐ Organic peroxide
- ☐ Corrosive to metal
- ☐ Gas under pressure (compressed gas)
- ☐ In contact with water emits flammable gas
- ☐ Combustible dust

HEALTH HAZARDS:
- ☐ Acute toxicity (any route of exposure)
- ☑ Skin corrosion or irritation
- ☑ Serious eye damage or eye irritation
- ☐ Respiratory or skin sensitization
- ☐ Germ cell mutagenicity
- ☐ Carcinogenicity
- ☐ Reproductive toxicity
- ☐ Specific target organ toxicity (single or repeated exposure)
- ☑ Aspiration hazard
- ☐ Simple asphyxiant

☐ Hazard not otherwise classified

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 175,726 pounds Maximum Amount code: 10 (100,000-499,999 pounds)
Average Daily Amount: 175,726 pounds Average Daily Amount code: 10 (100,000-499,999 pounds)
Max amount in largest container: 32,230 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Location Description: Various transformers ranging in size from 7.6 bbl to 103.7 bbl
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

State/local fees: None

☐ I have attached a site plan
☐ I have attached a list of site coordinate abbreviations
☐ I have attached a description of dikes and other safeguard measures

Facility: XTO ENERGY INC - COWBOY CDP (continued)

Certification (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information in pages 465 through 473, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted informaton is true, accurate, and complete.

Signature

02/29/2024
Date signed

Pam Inskeep, Consultant, Sport Environmental/A Terracon Company
Name and official title of owner/operator OR owner/operator's authorized representative

Facility: XTO ENERGY INC - COWBOY SUBSTATION

FACILITY NAME AND LOCATION:
XTO ENERGY INC - COWBOY SUBSTATION
Dept:
Rural - See Lat/Long
Carlsbad, New Mexico 88220 USA
County: Eddy
Fire District:
Latitude: 32.164125
Longitude: -103.840578
MAILING ADDRESS: 6401 Holiday Hill Rd
Midland, Texas 79701 USA

☐ All facility information (not including chemical information) is identical to last year's submission

IDENTIFICATION NUMBERS:
Dun & Bradstreet: 80-471-2347
NAICS: 211120 (Crude Petroleum Extraction)
SIC: 1311 (CRUDE PETROLEUM & NATURAL GAS)

Is the facility manned? ☐ Manned ☑ Unmanned
Maximum No. of Occupants: 0

REGULATORY INFORMATION:
Subject to Emergency Planning under Section 302 of EPCRA (40 CFR part 355)? ☐ Yes ☑ No
Subject to Chem. Accident Prevention under Section 112(r) of CAA (40 CFR part 68, Risk Mgmt. Pgm.)? ☐ Yes ☑ No

STATE-SPECIFIC FACILITY DATA FIELDS FOR NEW MEXICO:
Facility is on Tribal Land: No
If Yes - Name of Nation:
Owner/Operator Name: XTO Energy, Inc.
Number of facilities for this owner/operator: 448

CONTACT INFORMATION:

Allen, Mike
Title: Superintendent
Contact Type(s): Emergency Contact
Address: 3104 East Greene Street, Carlsbad, NEW MEXICO 88220 USA
Phones: Work: 575-689-3337 24-hour: 918-421-9056
Email: michael.allen@exxonmobil.com

Green, Garrett
Title: Environmental Coordinator
Contact Type(s): Emergency Contact
Address:
Phones: 24-hour: 575-200-0729 Mobile - Cell: 575-200-0729
Email: garrett.green@exxonmobil.com

Inskeep, Pam
Title: Consultant, Sport Environmental/A Terracon Co
Contact Type(s): Tier II Information Contact
Address: 502 N Big Spring St, Midland, TEXAS 79701 USA

Facility: XTO ENERGY INC - COWBOY SUBSTATION (continued)

Phones: Work: 432-683-1100
Email: pam@sportenv.com

Pennington, Shelby
Title: Safety Health and Environmental Supervisor
Contact Type(s): Emergency Contact
Address: 6401 Holiday Hill Rd, Midland, TEXAS 79707 USA
Phones: 24-hour: 281-723-9353 Work: 432-571-8276
Email: shelby.pennington@exxonmobil.com

XTO ENERGY INC.,
Title: OWNER
Contact Type(s): Owner / Operator
Address: 500 W Illinois Suite 100, MIDLAND, TEXAS 79701 USA
Phones: Work: 432-571-8276
Email: jennifer.rampone@exxonmobil.com

CHEMICAL INVENTORY INFORMATION:

Chemical Name: TRANSFORMER OIL
CAS #: 64742-55-8
Chemical Category: ☑ Pure ☐ Mixture
EHS: ☐ Yes ☑ No
Physical State: ☐ Solid ☑ Liquid ☐ Gas
☐ Identical to previous year
☐ Trade secret

PHYSICAL HAZARDS:
- ☐ Explosive
- ☐ Flammable (gases, aerosols, liquids, or solids)
- ☐ Oxidizer (liquid, solid, or gas)
- ☐ Self-reactive
- ☐ Pyrophoric (liquid or solid)
- ☐ Pyrophoric gas
- ☐ Self-heating
- ☐ Organic peroxide
- ☐ Corrosive to metal
- ☐ Gas under pressure (compressed gas)
- ☐ In contact with water emits flammable gas
- ☐ Combustible dust

HEALTH HAZARDS:
- ☐ Acute toxicity (any route of exposure)
- ☑ Skin corrosion or irritation
- ☑ Serious eye damage or eye irritation
- ☐ Respiratory or skin sensitization
- ☐ Germ cell mutagenicity
- ☐ Carcinogenicity
- ☐ Reproductive toxicity
- ☐ Specific target organ toxicity (single or repeated exposure)
- ☑ Aspiration hazard
- ☐ Simple asphyxiant

☐ Hazard not otherwise classified

AMOUNTS:
☐ Below Reporting Thresholds
Maximum Amount: 96,681 pounds Maximum Amount code: 09 (75,000-99,999 pounds)
Average Daily Amount: 96,681 pounds Average Daily Amount code: 09 (75,000-99,999 pounds)
Max amount in largest container: 32,227 pounds
Days on site: 365

STORAGE LOCATIONS:
☐ Confidential

Facility: XTO ENERGY INC - COWBOY SUBSTATION (continued)

Location Description: Various transformers ranging in size from 7.6 bbl to 103.7 bbl
Container Type: Above ground tank Pressure: Ambient pressure Temperature: Ambient temperature
Amount:

State/local fees: None

☐ I have attached a site plan
☐ I have attached a list of site coordinate abbreviations
☐ I have attached a description of dikes and other safeguard measures

Certification (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information in pages 474 through 476, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted informaton is true, accurate, and complete.

Signature

02/29/2024
Date signed

Pam Inskeep, Consultant, Sport Environmental/A Terracon Company
Name and official title of owner/operator OR owner/operator's authorized representative

ENSOLUM

APPENDIX C

SAFETY DATA SHEETS

Received by OCD: 4/14/2025 11:49:46 AM

SAFETY DATA SHEET
Premium Lubricating Sealant

Revision: 01/25/2016
Supersedes Revision: 06/23/2015

1. Product and Company Identification

Product Code: 404EU
Product Name: Premium Lubricating Sealant
Company Name: Balmar, LLC
616 W. Pont Des Mouton Rd.
Lafayette, LA 70507-4002
Phone Number: (337)232-2496
Email address: Info@oilcenter.com
Emergency Contact: 01-703-527-3887

2. Hazards Identification

GHS Signal Word: None
GHS Hazard Phrases: H320 - Causes eye irritation.
GHS Precaution Phrases: P264 - Wash hands thoroughly after handling.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P270 - Do not eat, drink or smoke when using this product.
GHS Response Phrases: P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313 - If eye irritation persists, get medical advice/attention.
P314 - Get medical attention/advice if you feel unwell.
GHS Storage and Disposal Phrases: P501 - Dispose of contents/container to in accordance to federal regulations.
Potential Health Effects (Acute and Chronic):
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Skin Contact: May be harmful if absorbed through the skin. May cause skin irritation.
Eye Contact: May cause eye irritation.
Ingestion: May be harmful if swallowed.

3. Composition/Information on Ingredients

CAS #	Components (Chemical Name)	Concentration	
NA	Coloring agent	<2.00 %	
NA	Petroleum Oil	60.0 - 70.0 %	
NA	Thickener	10.0 - 20.0 %	

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

4. First Aid Measures

Emergency and First Aid Procedures:

In Case of Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In Case of Skin Contact: Wash off with soap and plenty of water.

In Case of Eye Contact: Flush eyes with water as a precaution.

In Case of Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Signs and Symptoms Of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Note to Physician: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

5. Fire Fighting Measures

Flash Pt: >= 450 F Method Used: Estimate

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: NA

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Fire Fighting Instructions: Wear self contained breathing apparatus for fire fighting if necessary.

Flammable Properties and Hazards: No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:
Personal precautions.
Use personal protective equipment. Avoid breathing vapors, mist or gas.
Environmental precautions.
Do not let product enter drains.
Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Precautions To Be Taken in Handling: Provide appropriate exhaust ventilation at places where dust is formed.

Precautions To Be Taken in Storing: Keep container tightly closed in a dry and well-ventilated place.
Keep in a dry place.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
NA	Coloring agent	PEL: 15 (dust) mg/m3	TLV: 10 mg/m3	No data.
NA	Petroleum Oil	No data.	No data.	No data.
NA	Thickener	No data.	No data.	No data.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Respiratory Equipment (Specify Type):	is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Eye Protection:	Safety glasses with side-shields conforming to EN166.
Protective Gloves:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Other Protective Clothing:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Engineering Controls (Ventilation etc.):	No data available.
Work/Hygienic/Maintenance Practices:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [X] Solid
Appearance and Odor:	Lumpy. Petroleum-like. Appearance: green. Paste.
Melting Point:	No data.
Boiling Point:	NA
Autoignition Pt:	NA
Flash Pt:	>= 450 F Method Used: Estimate
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	1.018 at 77.0 F
Density:	8.50 LB/GA at 77.0 F
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	No data.

10. Stability and Reactivity

Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	Strong acids.
Hazardous Decomposition Or Byproducts:	formed under fire conditions. Nature of decomposition products unknown.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SAFETY DATA SHEET
Premium Lubricating Sealant

Revision: 01/25/2016
Supersedes Revision: 06/23/2015

11. Toxicological Information

Toxicological Information: No data available.

Irritation or Corrosion: Skin - Human - Mild skin irritation - -3 d.
Serious eye damage/eye irritation:
Eyes - rabbit - No eye irritation.

Carcinogenicity/Other Information: Carcinogenicity - rat - Inhalation.
Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.
Carcinogenicity - rat - Intramuscular.
Tumorigenic: Neoplastic by RTECS criteria. Blood: Lymphomas including Hodgkin's disease. Tumorigenic:Tumors at site of application.
IARC Group 2B: Proven animal carcinogenic substance of potential relevance to humans.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CAS #	Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
NA	Coloring agent	n.a.	2B	A4	n.a.
NA	Petroleum Oil	n.a.	n.a.	n.a.	n.a.
NA	Thickener	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

13. Disposal Considerations

Waste Disposal Method: Product.
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated packaging.
Dispose of as unused product.

14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not regulated as a hazardous material()
DOT Hazard Class:
UN/NA Number:

LAND TRANSPORT (Canadian TDG):

TDG Shipping Name: No information available.
UN Number:
Hazard Class:
TDG Classification:

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: No information available.

UN Number:

Hazard Class:

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not regulated as a hazardous material

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not regulated as a hazardous material

15. Regulatory Information

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [ ] No Acute (immediate) Health Hazard
[X] Yes [ ] No Chronic (delayed) Health Hazard
[ ] Yes [X] No Fire Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard
[ ] Yes [X] No Reactive Hazard

CAS #	Components (Chemical Name)	Other US EPA or State Lists
NA	Coloring agent	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: Yes; MA Oil/HazMat: No; NJ EHS: Yes; NY Part 597: No; PA HSL: Yes - 1
NA	Petroleum Oil	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; MA Oil/HazMat: No; NJ EHS: No; NY Part 597: No; PA HSL: No
NA	Thickener	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; MA Oil/HazMat: No; NJ EHS: No; NY Part 597: No; PA HSL: No

CAS #	Components (Chemical Name)	International Regulatory Lists
NA	Coloring agent	Canadian DSL: Yes; REACH: Yes - (R), (P)
NA	Petroleum Oil	Canadian DSL: Yes; REACH: Yes - (R), (P), C2
NA	Thickener	Canadian DSL: Yes; REACH: Yes - (P)

16. Other Information

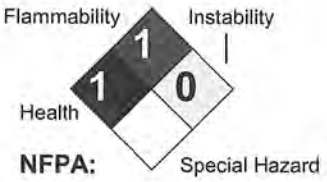
Revision Date: 01/25/2016

Hazard Rating System:

HMIS:

HEALTH	1
FLAMMABILITY	1
PHYSICAL	0
PPE	B

NFPA:



Additional Information About This Product: No data available.

Company Policy or Disclaimer: The information contained here is based upon data available to us and reflects our best professional judgment. Since it is impossible to anticipate the conditions under which our products may be used, we cannot guarantee that the recommendations will be adequate for all individuals and situations. Each user of this product should determine the suitability

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SAFETY DATA SHEET
Premium Lubricating Sealant

Revision: 01/25/2016
Supersedes Revision: 06/23/2015

of the product with zero or minimum hazards. Our products are improved daily as up-to-date information and research data is recieved from our suppliers in our quest to use products with less or no hazards. Please feel free to contact us for current information.

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

ACPC26495B

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	ACPC26495B
Other means of identification	:	Not applicable.
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	ChampionX LLC 11177 S. Stadium Drive Sugar Land, Texas 77478 USA TEL: (281) 632-6500
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	06/12/2020

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 4
Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Carcinogenicity	:	Category 2
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Combustible liquid
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
Suspected of causing cancer.

Precautionary Statements : **Prevention:**
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wash skin thoroughly after handling. Wear protective gloves/ eye protection/ face protection. Use personal protective equipment as required.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

Store in a well-ventilated place. Keep cool. Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Heavy Aromatic Naphtha	64742-94-5	60 - 100
Naphthalene	91-20-3	5 - 10
1,2,4-Trimethylbenzene	95-63-6	5 - 10
Oxyalkylated alcohol	Proprietary	5 - 10

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Get medical attention if irritation develops and persists.

If swallowed : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed - can enter lungs and cause damage. Get medical attention immediately.

If inhaled : Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing : High volume water jet

media

Specific hazards during firefighting	:	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance.
Hazardous combustion products	:	Carbon oxides
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Remove all sources of ignition. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Do not flush into surface water or sanitary sewer system.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from fire, sparks and heated surfaces. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep away from heat and sources of ignition. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible	Basis

			concentration	
Heavy Aromatic Naphtha	64742-94-5	TWA	500 ppm 2,000 mg/m3	OSHA Z1
		TWA	200 mg/m3 (as total hydrocarbon vapor)	ACGIH
Naphthalene	91-20-3	TWA	10 ppm	ACGIH
		TWA	10 ppm 50 mg/m3	NIOSH REL
		STEL	15 ppm 75 mg/m3	NIOSH REL
		TWA	10 ppm 50 mg/m3	OSHA Z1
1,2,4-Trimethylbenzene	95-63-6	TWA	25 ppm 125 mg/m3	NIOSH REL
		TWA	25 ppm	ACGIH

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection : Wear impervious chemical-resistant gloves when handling this product.
The following glove types are recommended based on our review of glove manufacturer information and/or other available sources.
Nitrile rubber
Viton® gloves
Other glove types may be used for short term, incidental contact if determined by testing to provide adequate worker protection.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Wear suitable protective clothing.

Respiratory protection : Use local exhaust ventilation or other engineering controls as necessary to control airborne vapour and mist.
Where concentrations in air may exceed the limits given in this section or when significant vapours are generated, use an approved air purifying respirator fitted with a gas and vapour cartridge.
Use a particulate pre-filter where operations generate significant mists or aerosols.
Recommended gas and vapour cartridge:
Organic vapour type
In event of emergency or planned entry into unknown concentrations, a positive pressure, full-facepiece SCBA or supplied-air respirator should be used.
If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Colour	:	light orange
Odour	:	hydrocarbon-like
Flash point	:	62.0 °C
pH	:	no data available
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	0.91, (16.0 °C),
Density	:	7.6 lb/gal
Water solubility	:	immiscible
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available
Molecular weight	:	no data available
VOC	:	91.0 %, Calculation method

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.

Conditions to avoid	:	Heat, flames and sparks. Extremes of temperature
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	:	Causes serious eye irritation.
Skin	:	Causes skin irritation.
Ingestion	:	May be fatal if swallowed and enters airways. Produces methemoglobin.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Suspected of causing cancer.

Experience with human exposure

Eye contact	:	Redness, Pain, Irritation
Skin contact	:	Redness, Irritation
Ingestion	:	Vomiting
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available

Carcinogenicity

IARC	**Group 2B: Possibly carcinogenic to humans** Naphthalene 91-20-3 **Group 2B: Possibly carcinogenic to humans**
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens. No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	**Reasonably anticipated to be a human carcinogen** Naphthalene 91-20-3 **Reasonably anticipated to be a human carcinogen**

Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : Toxic to aquatic life with long lasting effects.

Components

Toxicity to fish : Heavy Aromatic Naphtha
LC50 Oncorhynchus mykiss (rainbow trout): 3.5 mg/l
Exposure time: 96 h

Persistence and degradability

The organic portion of this preparation is expected to be inherently biodegradable.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air	:	<5%
Water	:	10 - 30%

Soil : 70 - 90%

The portion in water is expected to float on the surface.

Bioaccumulative potential

Component substances have a potential to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

The information presented only applies to the material as supplied. The classification or waste code may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated at the time of disposal to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

For packages less than or equal to 119 Gallons:

Proper shipping name : PRODUCT IS NOT REGULATED DURING TRANSPORTATION

For packages greater than 119 Gallons:

Proper shipping name : COMBUSTIBLE LIQUID, N.O.S.
Technical name(s) : Heavy Aromatic Naphtha, 1,2,4-Trimethylbenzene
UN/ID No. : NA 1993
Transport hazard class(es) : CBL
Packing group : III
Reportable Quantity (per package) : 1,098 lbs
RQ Component : Naphthalene

Air transport (IATA)

Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name(s)	:	Naphthalene, 1,2,4-Trimethylbenzene
UN/ID No.	:	UN 3082
Transport hazard class(es)	:	9
Packing group	:	III
Reportable Quantity (per package)	:	1,098 lbs
RQ Component	:	Naphthalene

Sea transport (IMDG/IMO)

Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name(s)	:	Naphthalene, 1,2,4-Trimethylbenzene
UN/ID No.	:	UN 3082
Transport hazard class(es)	:	9
Packing group	:	III
*Marine pollutant	:	NAPHTHALENE

* Note: This product is regulated as a Marine Pollutant when shipped by Rail or Highway (in bulk quantities), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

TSCA list : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Naphthalene	91-20-3	100	1098

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Serious eye damage or eye irritation
Carcinogenicity
Aspiration hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Naphthalene	91-20-3	9.1076 %
1,2,4-Trimethylbenzene	95-63-6	5.8289 %

California Prop. 65

⚠ **WARNING:** Cancer - www.P65Warnings.ca.gov

SAFETY DATA SHEET

ACPC26495B

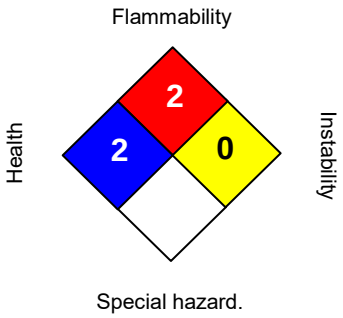
Naphthalene	91-20-3

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
On or in compliance with the active portion of the TSCA inventory

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	2
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	06/12/2020
Version Number	:	1.2
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Page 112 of 1315

KANO LABORATORIES,
INC. SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: AEROKROIL
Product Use: Penetrant/Lubricant for Industrial Use

Manufacturer: Kano Laboratories, Inc.
1000 E. Thompson Lane
Nashville, TN 37211
Emergency Phone Number: Chemtrec 1 (800) 424-9300
Manufacturer Phone Number: 615-833-4101
Website: www.kanolabs.com
SDS Date of Preparation: November 20, 2019

SECTION 2: HAZARDS IDENTIFICATION

GHS / HAZCOM 2012 Classification:

Health	Physical
Skin Irritation Category 2 Eye Irritation Category 2A Specific Target Organ Toxicity – Single Exposure Category 3 CNS) Aspiration Hazard Category 1 Skin Sensitization Category 1	Flammable Aerosol Category 2 Gas Under Pressure: Compressed Gas

Label Elements

Danger!

Flammable aerosol.
Contains gas under pressure; may explode if heated. Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container. Do not pierce or burn, even after use.
Avoid breathing mist, vapors or spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated clothing must not be allowed out of the workplace.
Wear protective gloves and eye protection.
IF SWALLOWED: Immediately call a POISON CENTER. Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 113 of 1315

Continue rinsing. If eye irritation persists: Get medical attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER if you feel unwell.

In case of fire: Use carbon dioxide, dry chemical or foam to extinguish.

Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Store in a well-ventilated place.

Store locked up.

Dispose of contents and container in accordance with local and national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	%
LVP Aliphatic Hydrocarbon	64742-47-8	30-60
Severely Hydrotreated Heavy Petroleum Distillates	64742-52-5 64742-53-6	30-60
Diisobutyl Ketone	108-83-8	7-13
Proprietary Additive	Proprietary	5-10
Aliphatic Alcohol #1	123-42-2	1-<3
Aliphatic Alcohol #2	78-83-1	1-<3
Carbon Dioxide Propellant	124-38-9	1-5

The exact percentage has been withheld as a trade secret or is a variation in formula.

SECTION 4: FIRST AID MEASURES

Eye: Rinse thoroughly with water for several holding the eye lids open to be sure the material is washed out. Get medical attention if irritation develops or persists.

Skin: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before re-use.

Inhalation: Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get medical attention if symptoms develop.

Ingestion: DO NOT induce vomiting. Keep the victim calm and warm. Never give anything by mouth to an unconscious or drowsy person. Get immediate medical attention.

Most important symptoms and effects, acute and delayed: May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects such as headache, dizziness, nausea and vomiting. Harmful or fatal if swallowed. Aspiration into the lungs during ingestion or vomiting may cause lung damage. May cause an allergic skin reaction.

Indication of immediate medical attention and special treatment, if needed: If swallowed, get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Use carbon dioxide, dry chemical or foam. Water may be ineffective but can be used to cool containers and structures.

Specific Hazards Arising from the Chemical: Contents under pressure. Keep away from heat and open flames. Container may rupture or explode in the heat of a fire. Prolonged exposure to temperatures above 120°F may cause cans to burst. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 114 of 1315

Never use welding or cutting torch on or near containers (even empty) because product can ignite explosively. Combustion products may be hazardous: Oxides of carbon, organic compounds, smoke and fumes.

Special Protective Equipment and Precautions for Fire-fighters: Wear NIOSH approved positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water. Protect against bursting cans.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, Protective equipment, and Emergency procedures: Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed. Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Ventilate the area with explosion-proof equipment.

Environmental precautions: Avoid release to the environment. Report spills and releases as required to appropriate authorities.

Methods and Materials for Containment and Cleaning up: Place leaking can in a pail or pan in a well-ventilated area until the pressure has be released. Cover liquid with an inert absorbent material and collect into an appropriate container for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wash exposed skin thoroughly with soap and water after use. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Do not cut, braze, solder, grind or weld on or near containers. Contents under pressure. Do not puncture or incinerate container.

Conditions for Safe Storage, Including any Incompatibilities: Store in a cool, well ventilated area at temperatures below 120°F. Do not store in direct sunlight. Store as a Level 3 aerosol.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Exposure Limits
LVP Aliphatic Hydrocarbon	200 ppm TWA ACGIH TLV (as total hydrocarbon vapor)
Severely Hydrotreated Heavy Petroleum Distillates (as mineral oil)	5 mg/m3 TWA OSHA PEL 5 mg/m3 TWA ACGIH TLV (inhalable fraction)
Diisobutyl Ketone	50 ppm TWA OSHA PEL 25 ppm TWA ACGIH TLV
Proprietary Additive	None Established
Aliphatic Alcohol #1	50 ppm OSHA TWA PEL- 50 ppm TWA ACGIH TLV
Aliphatic Alcohol #2	100 ppm TWA OSHA PEL 50 ppm TWA ACGIH TLV
Carbon Dioxide Propellant	5000 ppm TWA OSHA PEL 5000 ppm TWA ACGIH TLV 30000 ppm STEL ACGIH TLV

Appropriate Engineering Controls: Use with adequate general or local exhaust ventilation to maintain concentrations below the occupational exposure limits. Use explosion proof electrical equipment and wiring where required.

Personal Protective Equipment:
Respiratory Protection: If the exposure limits listed above are exceeded, a NIOSH approved respirator with

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 115 of 1315

organic vapor cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Hand protection: Impervious gloves are recommended when needed to avoid skin contact.

Eye Protection: Chemical safety goggles recommended

Skin Protection: Impervious clothing as required to prevent skin contact and contamination of personal clothing.

Hygiene measures: Suitable eye wash and washing facilities should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Slightly reddish liquid packaged as an aerosol	**Odor:**	Solvent
Odor Threshold:	Not available	**pH:**	Not available
Melting/Freezing Point:	Not available	**Boiling Point/Range:**	Not available
Flash Point:	132°F (55.5°C) TOC	**Evaporation Rate:**	Not available
Flammability: (Solid, Gas)	Not applicable	**Flammability Limits:**	10.9% (aliphatic alcohol #2) LEL: 0.7% (light petroleum distillates)
Vapor Pressure:	Not available	**Vapor Density:**	Not available
Relative Density:	0.8596	**Solubilities:**	Negligible in Water
Partition Coefficient: (N-Octanol/Water)	Not available	**Autoignition Temperature:**	Not available
Decomposition Temperature:	Not available	**Viscosity:**	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: None known.
Chemical Stability: Stable under normal conditions of storage or use.
Possibility of Hazardous Reactions: None known.
Conditions to avoid: Avoid heat, sparks, flames and all other sources of ignition.
Incompatible Materials: Avoid strong oxidizing agents, reducing agents, acids and bases.
Hazardous decomposition products: Combustion will produce oxides of carbon, acetone, acrid fumes and smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eye: May cause eye irritation with redness, tearing and stinging.

Skin: May cause irritation with redness, rash, swelling. Prolonged or repeated contact may result in defatting and dermatitis. Repeated skin contact may cause sensitization (allergic skin reaction) in some individuals.

Inhalation: Inhalation of vapors or mists may cause mucous membrane and upper respiratory tract irritation and central nervous system depression. Symptoms may include coughing, wheezing, shortness of breath, headache, dizziness, drowsiness, nausea, fatigue and unconsciousness.

Ingestion: Ingestion is an unlikely route of exposure for aerosol products. Swallowing may cause gastrointestinal irritation with abdominal pain, nausea, vomiting and diarrhea and central nervous system depression with symptoms

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 116 of 1315

including headache, dizziness, intoxication, weakness, nausea, and vomiting. Aspiration into the lungs during ingestion or vomiting may cause lung damage.

Chronic Hazards: None known.

Carcinogen Status: None of the components of this product at greater than 0.1% are listed as carcinogens by OSHA. IARC or NTP.

Acute toxicity: Toxicological testing has not been performed on this product as a mixture.
LVP Aliphatic Hydrocarbon: Oral rat LD50 > 5000 mg/kg; Dermal rat LD50 > 5000 mg/kg Inhalation rat LC50 > 2.18 mg/L/4 hr.
Severely Hydrotreated Petroleum Distillates: Oral rat LD50 >5000 mg/kg, Inhalation rat LC50 >5.28 mg/L/4 hr, Dermal rabbit LD50 >2000 mg/kg
Proprietary Additive: Oral rat LD50 3200 mg/kg; Dermal rabbit LD50 5000 mg/kg
Diisobutyl Ketone: Oral rat LD50 5233 mg/kg; Dermal rat LD50 > 2000 mg/kg; Inhalation rat LC50 14.5 mg/L/4 hr.
Aliphatic Alcohol #1: Oral rat LD50 3002 mg/kg; Dermal rat LD50 > 1875 mg/kg; Inhalation rat LC50> 7.6 mg/L/4 hr.
Aliphatic Alcohol #2: Oral rat LD50 > 2830 mg/kg; Inhalation rat LC50 24.6 mg/L/4 hr.; Dermal rabbit LD50 > 2000 mg/kg
Carbon Dioxide: Inhalation rat LC50 167857 ppm/4 hr

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: No toxicity data available for the product.
LVP Aliphatic Hydrocarbon: 96 hr. LC50 Pimephales promelas > 100 mg/L; 48 hr. EC50 daphnia magna>1000 mg/L; 72 hr. EC50 Pseudokirchnerella subcapitata > 100 mg/L
Severely Hydrotreated Petroleum Distillates: 96 hr LL50 Oncorhynchus mykiss 2.5 mg/kg, 48 hr EL50 daphnia magna 1.4 mg/L, 72 hr EL50 Pseudokirchnerella subcapitata 1.3 mg/L
Proprietary Ingredient: 48 hr. LC50 daphnia magna 17-28 mg/L
Diisobutyl Ketone: 96 hr. LC50 Oncorhynchus mykiss 30 mg/L; 48 hr. EC50 daphnia magna 37.2 mg/L, 72 hr.
Aliphatic Alcohol #1: 96 hr. LC50 Oryzias latipes >100 mg/L; 48 hr. EC50 daphnia magna >1000 mg/L; 72 hr. EC50 Pseudokirchnerella subcapitata>1000 mg/L
Aliphatic Alcohol #2: 96 hr LC50 Pimephales promelas 1430 mg/L; 48 hr EC50 daphnia pulex 1100 mg/L; 72 hr EC50 Pseudokirchnerella subcapitata 1799 mg/L
Carbon Dioxide: 96 hr LC50 Oncorhynchus mykiss 35 mg/L

Persistence and Degradability: Aliphatic Alcohol #1 and Aliphatic Alcohol #2 are readily biodegradable.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available

Other Adverse Effects: None known

SECTION 13: DISPOSAL INFORMATION

Disposal instructions: Dispose of product in accordance with all local, state/provincial and federal regulations. Do not puncture or incinerate.

Contaminated packaging: Offer empty packaging material to local recycling facilities.

SECTION 14: TRANSPORT INFORMATION

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 117 of 1315

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT / 49 CFR Ground		Limited Quantity			
DOT Air	UN1950	Aerosols, Flammable, Limited Quantity	2.1	None	None
IMDG	UN1950	Aerosols, Limited Quantity	2.1	None	None
IATA	UN1950	Aerosols, Flammable, Limited Quantity	2.1	None	None

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: This product has a Reportable Quantity (RQ) of 166,666 lbs. (based on the RQ for Aliphatic alcohol #2 of 5,000 lbs present at 3%) maximum. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations

STATE REPORTING REGULATIONS:

Massachusetts Right To Know: Diacetone Alcohol 123-42-2, Isbutanol 78-83-1, Diisobutyl Ketone 108-83-8, Carbon Dioxide 124-38-9

New Jersey Right To Know: Isbutanol 78-83-1, Diisobutyl Ketone 108-83-8, Carbon Dioxide 124-38-9, Pine Oil 8002-09-3

Pennsylvania Right To Know: Diacetore Alcohol 123-42-2, Isbutanol 78-83-1, Diisobutyl Ketone 108-83-8, Carbon Dioxide 124-38-9

SARA TITLE III:

Hazard Category for Section 311/312: Refer to Section 2 for the OSHA Hazard Classification

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None.

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

Canadian DSL: All of the components of this product are listed on the Canadian Domestic Substances List

SECTION 16: OTHER INFORMATION

HMIS Ratings: Health - 2 Flammability - 4 Physical Hazard - 0

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 118 of 1315

NFPA Ratings: Health - 1 Flammability - 2 Instability - 0

SDS Revision History: Updated formulation – changes to sections 3, 8, 11, 12, 15.

Date of preparation: November 20, 2019

Date of last revision: July 12, 2019

The information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or the consequences of its use or misuse.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Roto-Inject Fluid N-Durance

Atlas Copco Compressors LCC - Main Office

Chemwatch: **5247-56**
Version No: **16.1**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: **04/10/2019**
Print Date: **12/09/2022**
L.GHS.USA.EN.E

SECTION 1 Identification

Product Identifier

Product name	Roto-Inject Fluid N-Durance
Synonyms	RIF Ndurance
Chemical formula	Not Applicable
Other means of identification	0017530010, 0017530051, 1630091700, 1630091800, 1630091900, 1630114600, 1630144200, LL-90-3-165

Recommended use of the chemical and restrictions on use

Relevant identified uses	Compressor oil

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**Atlas Copco Compressors LCC - Main Office**	**Atlas Copco Airpower NV**
Address	300 Technology Center Drive, Suite 550, Rock Hill SC 29730 United States	Boomsesteenweg 957 Wilrijk B2610 Belgium
Telephone	+ 1 209-985-4400	+32 3 870 2111
Fax	+ 1 803-817-7450	+32 3 870 2903
Website	www.atlascopco.com	http://www.atlascopco.com/sds
Email	info.lubricants.cts@atlascopco.com	info.lubricants.cts@atlascopco.com

Emergency phone number

Association / Organisation	**CHEMWATCH EMERGENCY RESPONSE**
Emergency telephone numbers	**+1 855-237-5573**
Other emergency telephone numbers	**+61 3 9573 3188**

Once connected and if the message is not in your preferred language then please dial 01

Una vez conectado y si el mensaje no está en su idioma preferido, por favor marque 02

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Received by OCD: 4/14/2025 11:49:46 AM

NFPA 704 diamond

Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Not Applicable

Label elements

Hazard pictogram(s)	Not Applicable
Signal word	**Not Applicable**

Hazard statement(s)

Not Applicable

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	0-90	interchangeable low viscosity base oil (<20.5 cSt @40C)
Not Available		(DMSO <3% w/w - IP346)
Not Available		* contains one or more of the following CAS-numbers (REACH registration numbers):
Not Available		64742-53-6 (01-2119480375-34), 64742-54-7 (01-2119484627-25),
Not Available		64742-55-8 (01-2119487077-29), 64742-56-9 (01-2119480132-48),
Not Available		64742-65-0 (01-2119471299-27), 68037-01-4 (01-2119486452-34),
Not Available		72623-86-0 (01-2119474878-16), 72623-87-1 (01-2119474889-13),
Not Available		8042-47-5 (01-2119487078-27), 848301-69-9 (01-0000020163-82)
68411-46-1	1-5	octylated diphenylamines
597-82-0	0.1-0.99	O,O,O-triphenyl phosphorothionate
3115-49-9	<0.099	4-nonylphenoxyactic acid

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally

Released to Imaging: 4/22/2025 3:42:03 PM

	lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ If swallowed do **NOT** induce vomiting. ▸ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▸ Observe the patient carefully. ▸ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▸ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▸ Seek medical advice.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

- Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.
- In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.
- High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

NOTE: Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

SECTION 5 Fire-fighting measures

Extinguishing media

- Foam.
- Dry chemical powder.
- Carbon dioxide.
- Water spray or fog - Large fires only.

Do not use water jets.

Special hazards arising from the substrate or mixture

Fire Incompatibility	▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters

Fire Fighting	▸ Alert Fire Brigade and tell them location and nature of hazard. ▸ Wear full body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage from entering drains or water course. ▸ Use water delivered as a fine spray to control fire and cool adjacent area.
Fire/Explosion Hazard	▸ Combustible. ▸ Slight fire hazard when exposed to heat or flame. ▸ Heating may cause expansion or decomposition leading to violent rupture of containers. ▸ On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include: carbon dioxide (CO_2) other pyrolysis products typical of burning organic material. **CARE**: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	Slippery when spilt. ‣ Remove all ignition sources. ‣ Clean up all spills immediately. ‣ Avoid breathing vapours and contact with skin and eyes. ‣ Control personal contact with the substance, by using protective equipment.
Major Spills	Slippery when spilt. Moderate hazard. ‣ Clear area of personnel and move upwind. ‣ Alert Fire Brigade and tell them location and nature of hazard. ‣ Wear breathing apparatus plus protective gloves.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	‣ Avoid all personal contact, including inhalation. ‣ Wear protective clothing when risk of exposure occurs. ‣ Use in a well-ventilated area. ‣ Prevent concentration in hollows and sumps.
Other information	‣ Store in original containers. ‣ Keep containers securely sealed. ‣ No smoking, naked lights or ignition sources. ‣ Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable container	‣ Metal can or drum ‣ Packaging as recommended by manufacturer. ‣ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	· **CARE**: Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire. · Oil leaks in a pressurized circuit may result in a fine flammable spray (the lower flammability limit for oil mist is reached for a concentration of about 45 g/m3 · Autoignition temperatures may be significantly lower under particular conditions (slow oxidation on finely divided materials.. ‣ Avoid reaction with oxidising agents ‣ Extremely high temperatures. **Do not** store in direct sunlight.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	interchangeable low viscosity base oil (<20.5 cSt @40C)	Oil mist, mineral	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	octylated diphenylamines	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	octylated diphenylamines	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	octylated diphenylamines	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	octylated diphenylamines	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	octylated diphenylamines	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D
US OSHA Permissible Exposure Limits (PELs) Table Z-1	O,O,O-triphenyl phosphorothionate	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	O,O,O-triphenyl phosphorothionate	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	O,O,O-triphenyl phosphorothionate	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	O,O,O-triphenyl phosphorothionate	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	O,O,O-triphenyl phosphorothionate	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
interchangeable low viscosity base oil (<20.5 cSt @40C)	140 mg/m3	1,500 mg/m3	8,900 mg/m3

Ingredient	Original IDLH	Revised IDLH
interchangeable low viscosity base oil (<20.5 cSt @40C)	2,500 mg/m3	Not Available
octylated diphenylamines	Not Available	Not Available
O,O,O-triphenyl phosphorothionate	Not Available	Not Available
4-nonylphenoxyactic acid	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
4-nonylphenoxyactic acid	E	≤ 0.1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

MATERIAL DATA

NOTE L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
Personal protection	
Eye and face protection	‣ Safety glasses with side shields ‣ Chemical goggles. ‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.
Skin protection	See Hand protection below

Hands/feet protection	The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. ‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ P.V.C apron. ‣ Barrier cream. ‣ Skin cleansing cream.

Respiratory protection

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear light brown; Slightly hydrocarbon odour.

Physical state	Liquid	**Relative density (Water = 1)**	0.87
Odour	Not Available	**Partition coefficient n-octanol / water**	>6
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	>320
pH (as supplied)	Not Applicable	**Decomposition temperature (°C)**	Not Available
Melting point / freezing point (°C)	-30 (pour pt)	**Viscosity (cSt)**	55 @ 40C
Initial boiling point and boiling range (°C)	>280	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	240 (COC)	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Applicable	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	10	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	1	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	<0.0005 @ 20C	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (Not Available%)**	Not Available
Vapour density (Air = 1)	>1	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	‣ Unstable in the presence of incompatible materials. ‣ Product is considered stable. ‣ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7

Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Inhalation hazard is increased at higher temperatures. Not normally a hazard due to non-volatile nature of product Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis.
Ingestion	Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.
Skin Contact	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives . Open cuts, abraded or irritated skin should not be exposed to this material The material may accentuate any pre-existing dermatitis condition
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Principal route of exposure is by skin contact; lesser exposures include inhalation of fumes from hot oils, oil mists or droplets. Prolonged contact with mineral oils carries with it the risk of skin conditions such as oil folliculitis, eczematous dermatitis, pigmentation of the face (melanosis) and warts on the sole of the foot (plantar warts). With highly refined mineral oils no appreciable systemic effects appear to result through skin absorption. Exposure to oil mists frequently elicits respiratory conditions, such as asthma; the provoking agent is probably an additive. NOTE L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

Roto-Inject Fluid N-Durance	**TOXICITY**	**IRRITATION**
	Dermal (Rat) LD50: >5000 mg/kg[2]	Not Available
	Oral (Rat) LD50: >5000 mg/kg[2]	
interchangeable low viscosity base oil (<20.5 cSt @40C)	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
octylated diphenylamines	**Toxicity**	**Irritation**
	Dermal (rabbit) LD50: >2000 mg/kg[1]	Eye:Mild[1]
	Oral (Rat) LD50; >2000mg/kg[2]	Skin:Mild[1]
O,O,O-triphenyl phosphorothionate	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >2000 mg/kg[1]	Not Available
	Oral (Rabbit) LD50; >3000 mg/kg[1]	
4-nonylphenoxyactic acid	**TOXICITY**	**IRRITATION**
	Oral (Rat) LD50; 1554 mg/kg[1]	Eye (rabbit) : Corrosive *
		Skin (rabbit): Corrosive *
Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*	

OCTYLATED DIPHENYLAMINES	For substituted diphenylamines: Based upon reviewed data the physicochemical and toxicological properties of the substituted diphenylamines are similar and follow a regular pattern as a result of that structural similarity. Because of their powerful antioxidant properties, Substituted Diphenylamines, along with their common starting material, Diphenylamine, are regulated for use in several food-contact applications by the Food and Drug Administration as Indirect Food Additives under the following sections of the Code of Federal Regulations (CFR): Heating may generate vapors which can irritate the eyes and respiratory passages. Drying of skin and mucous membranes leading to irritation may be possible from prolonged or repeated contact. Overexposure to vapors from heating the product may cause and/or skin irritation and respiratory tract irritation with symptoms such as, but not limited to, dizziness and flu-like

	symptoms **Acute toxicity:** As a group these materials do not produce significant acute toxicity in mammals. All show a slight to very low order of toxicity following oral administration, with LD50 values ranging from >5000 to > 34,000 mg/kg. Potential sensitiser producing contact allergies.
O,O,O-TRIPHENYL PHOSPHOROTHIONATE	No significant acute toxicological data identified in literature search. For dithiophosphate alkyl esters and their (zinc) salts: **Acute toxicity:** Dithiophosphate alkyl esters consist of a phosphorodithioic acid structure with alkyl ester substituent groups. The alkyl groups are saturated hydrocarbon chains that vary in length and extent of branching. While corrosive to tissue the esters demonstrate a low concern for acute systemic toxicity. Data on acute mammalian toxicity of zinc dialkyldithiophosphates in highly refined lubricant base oil also indicate a low concern for acute toxicity. PASS Predicts R63
4-NONYLPHENOXYACTIC ACID	Sensitiser: Guinea pig assay *Ciba SDS for acid mists, aerosols, vapours Data from assays for genotoxic activity in vitro suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airways from direct exposure to inhaled acidic mists, just as mucous plays an important role in protecting the gastric epithelium from its auto-secreted hydrochloric acid. In considering whether pH itself induces genotoxic events in vivo in the respiratory system, comparison should be made with the human stomach, in which gastric juice may be at pH 1-2 under fasting or nocturnal conditions, and with the human urinary bladder, in which the pH of urine can range from <5 to > 7 and normally averages 6.2. Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation. Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence). The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties.
Roto-Inject Fluid N-Durance & INTERCHANGEABLE LOW VISCOSITY BASE OIL (<20.5 CST @40C)	NOTE L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP
OCTYLATED DIPHENYLAMINES & 4-NONYLPHENOXYACTIC ACID	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✗	**Reproductivity**	✗
Serious Eye Damage/Irritation	✗	**STOT - Single Exposure**	✗
Respiratory or Skin sensitisation	✗	**STOT - Repeated Exposure**	✗
Mutagenicity	✗	**Aspiration Hazard**	✗

Legend: ✗ *– Data either not available or does not fill the criteria for classification*
✔ *– Data available to make classification*

Toxicity

Roto-Inject Fluid N-Durance	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	Not Available	Not Available	Not Available	Not Available	Not Available
interchangeable low viscosity base oil (<20.5 cSt @40C)	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	Not Available	Not Available	Not Available	Not Available	Not Available

octylated diphenylamines	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	EC50(ECx)	24h	Crustacea	4.2mg/l	Not Available
	EC50	72h	Algae or other aquatic plants	>100mg/l	2
	EC50	48h	Crustacea	51mg/l	2
	LC50	96h	Fish	5.1mg/l	Not Available
	EC50	96h	Algae or other aquatic plants	870mg/l	2
O,O,O-triphenyl phosphorothionate	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	EC0(ECx)	24h	Crustacea	10mg/l	2
	EC50	72h	Algae or other aquatic plants	>100mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
	LC50	96h	Fish	83mg/l	2
4-nonylphenoxyactic acid	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**	**Source**
	EC50	72h	Algae or other aquatic plants	18.37mg/l	2
	EC50	48h	Crustacea	0.88mg/l	2
	LC50	96h	Fish	9mg/l	Not Available
	EC50(ECx)	24h	Crustacea	7mg/l	Not Available
Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
octylated diphenylamines	HIGH	HIGH
O,O,O-triphenyl phosphorothionate	HIGH	HIGH
4-nonylphenoxyactic acid	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
octylated diphenylamines	LOW (BCF = 5.5)
O,O,O-triphenyl phosphorothionate	HIGH (LogKOW = 6.4658)
4-nonylphenoxyactic acid	HIGH (LogKOW = 5.8043)

Mobility in soil

Ingredient	Mobility
octylated diphenylamines	LOW (KOC = 28640000)
O,O,O-triphenyl phosphorothionate	LOW (KOC = 215700)
4-nonylphenoxyactic acid	LOW (KOC = 2496)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate:

	▸ Reduction ▸ Reuse ▸ Recycling ▸ Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. ▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▸ Where in doubt contact the responsible authority. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Authority for disposal. ▸ Bury or incinerate residue at an approved site. ▸ Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
interchangeable low viscosity base oil (<20.5 cSt @40C)	Not Available
octylated diphenylamines	Not Available
O,O,O-triphenyl phosphorothionate	Not Available
4-nonylphenoxyactic acid	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
interchangeable low viscosity base oil (<20.5 cSt @40C)	Not Available
octylated diphenylamines	Not Available
O,O,O-triphenyl phosphorothionate	Not Available
4-nonylphenoxyactic acid	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

interchangeable low viscosity base oil (<20.5 cSt @40C) is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List	US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs	US DOE Temporary Emergency Exposure Limits (TEELs)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans	US National Toxicology Program (NTP) 15th Report Part A Known to be Human Carcinogens
US - California Proposition 65 - Carcinogens	US OSHA Permissible Exposure Limits (PELs) Table Z-1

octylated diphenylamines is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

O,O,O-triphenyl phosphorothionate is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - Alaska Air Quality Control - Concentrations Triggering an Air Quality Episode for Air Pollutants Other Than PM-2.5
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

4-nonylphenoxyactic acid is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

State Regulations

US. California Proposition 65

⚠ **WARNING:** This product can expose you to chemicals including **interchangeable low viscosity base oil (<20.5 cSt @40C)**, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (octylated diphenylamines; O,O,O-triphenyl phosphorothionate; 4-nonylphenoxyactic acid)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (O,O,O-triphenyl phosphorothionate; 4-nonylphenoxyactic acid)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 Other information

Revision Date	04/10/2019
Initial Date	12/04/2017

SDS Version Summary

Version	Date of Update	Sections Updated
15.1	09/08/2019	Classification, Ingredients
16.1	04/10/2019	Classification, Ingredients

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List

Received by OCD: 4/14/2025 11:49:46 AM

IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

This document is copyright.
Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.
TEL (+61 3) 9572 4700.

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET
US

Barrier Fluid 5

Version	Revision Date:	Date of last issue: -	Print Date:
1.0	06/23/2021	Date of first issue: 06/23/2021	08/19/2021

SECTION 1. IDENTIFICATION

Product name : Barrier Fluid 5

Article-No. : 340011

Manufacturer or supplier's details

Company name of supplier : Klüber Lubrication NA LP
9010 CR 2120
Tyler, Texas 75707
Phone: (903) 534-8021
Fax: (903) 581-4376

32 Industrial Drive
Londonderry, NH 03053
Phone: (603) 647-4104
Fax: (603) 647-4106

E-mail address of person responsible for the SDS : mcm@us.kluber.com
Material Compliance Management

Emergency telephone number : +1-517-545-7070 NCEC

Recommended use of the chemical and restrictions on use

Recommended use : Lubricating oil

Restrictions on use : Restricted to professional users.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Inhalation) : Category 4

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May be fatal if swallowed and enters airways.
Harmful if inhaled.

Precautionary statements :

Prevention:

Use only outdoors or in a well-ventilated area.

Response:

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
Do NOT induce vomiting.

Storage:

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Synthetic hydrocarbon oil

Components

Chemical name	CAS-No.	Concentration (% w/w)
Dec-1-ene, dimers, hydrogenated	68649-11-6	Trade secret (>= 80 - <= 100)

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with soap and plenty of water.
Get medical attention immediately if irritation develops and persists.
Wash clothing before reuse.

Received by OCD: 4/14/2025 11:49:46 AM

Thoroughly clean shoes before reuse.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
Seek medical advice.

If swallowed : Move the victim to fresh air.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
Do NOT induce vomiting.
Obtain medical attention.
Rinse mouth with water.
Never give anything by mouth to an unconscious person.
Aspiration hazard if swallowed - can enter lungs and cause damage.

Most important symptoms and effects, both acute and delayed : Aspiration may cause pulmonary oedema and pneumonitis.
Risk of product entering the lungs on vomiting after ingestion.
Health injuries may be delayed.
May cause an allergic skin reaction.
Inhalation may provoke the following symptoms:
Headache
Nausea
Allergic appearance

Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.
Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

Hazardous combustion products : Carbon oxides

Further information : Standard procedure for chemical fires.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.
Exposure to decomposition products may be a hazard to health.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Do not breathe vapours or spray mist. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Try to prevent the material from entering drains or water courses. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Do not use in areas without adequate ventilation. Do not breathe vapours or spray mist. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. For personal protection see section 8. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Wash hands and face before breaks and immediately after handling the product. Do not get in eyes or mouth or on skin. Do not get on skin or clothing. Do not ingest. Do not repack. Do not re-use empty containers. These safety instructions also apply to empty packaging which may still contain product residues. Keep container closed when not in use.
Conditions for safe storage	:	Store in original container. Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with the particular national regulations. Keep in properly labelled containers.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Personal protective equipment

Respiratory protection : Not required; except in case of aerosol formation.

Filter type : Filter type A-P

Hand protection
Material : Nitrile rubber
Break through time : > 10 min
Protective index : Class 1

Remarks : Wear protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.

Eye protection : Safety glasses with side-shields

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : colourless

Odour : characteristic

Odour Threshold : No data available

pH : substance/mixture is non-soluble (in water)

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	320 °F / 160 °C Method: Cleveland open cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	< 1.3 hPa (68 °F / 20 °C)
Relative vapour density	:	No data available
Relative density	:	0.796 (68 °F / 20 °C) Reference substance: Water The value is calculated
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	5 mm2/s (104 °F / 40 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	No data available
Sublimation point	:	No data available

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No hazards to be specially mentioned.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No conditions to be specially mentioned.
Incompatible materials	:	No materials to be especially mentioned.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: This information is not available.
Acute inhalation toxicity	:	Remarks: Harmful by inhalation. Acute toxicity estimate: 1.18 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Symptoms: Redness, Local irritation

Components:

Dec-1-ene, dimers, hydrogenated:

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 GLP: yes
Acute inhalation toxicity	:	LC50 (Rat): 1.17 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes
Acute dermal toxicity	:	LD50 (Rabbit): > 3,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Skin corrosion/irritation

Product:

Remarks : This information is not available.

Components:

Dec-1-ene, dimers, hydrogenated:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

Product:

Remarks : This information is not available.

Components:

Dec-1-ene, dimers, hydrogenated:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405

Respiratory or skin sensitisation

Product:

Remarks : This information is not available.

Components:

Dec-1-ene, dimers, hydrogenated:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Carcinogenicity

Product:

Remarks : No data available

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Repeated dose toxicity

Product:

Remarks : This information is not available.

Aspiration toxicity

Product:

May be fatal if swallowed and enters airways.

Components:

Dec-1-ene, dimers, hydrogenated:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks : Information given is based on data on the components and the toxicology of similar products.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Components:

Dec-1-ene, dimers, hydrogenated:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Test Type: Immobilization
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Scenedesmus capricornutum (fresh water algae)): > 1,000 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 125 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
GLP: yes

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Components:

Dec-1-ene, dimers, hydrogenated:

Biodegradability : Result: Not rapidly biodegradable

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Components:

Dec-1-ene, dimers, hydrogenated:

Partition coefficient: n-octanol/water : log Pow: > 6.5

Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No information on ecology is available.

Components:

Dec-1-ene, dimers, hydrogenated:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Released to Imaging: 4/22/2025 3:42:03 PM

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of waste product or used containers according to local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Aspiration hazard

Received by OCD: 4/14/2025 11:49:46 AM

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Dec-1-ene, dimers, hydrogenated	68649-11-6

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

New York City Hazardous Substances

Distillates (petroleum), hydrotreated middle	64742-46-7

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Released to Imaging: 4/22/2025 3:42:03 PM

SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 06/23/2021

This safety data sheet applies only to products as originally packed and labelled. The information contained therein may not be reproduced or modified without our express written permission. Any forwarding of this document is only permitted to the extent required by law. Any further, in particular public, dissemination of the safety data sheet (e.g. as a document for download from the Internet) is not permitted without our express written consent. We provide our customers with amended safety data sheets as prescribed by law. The customer is responsible for passing on safety data sheets and any amendments contained therein to its own customers, employees and other users of the product. We provide no guarantee that safety data sheets received by users

Received by OCD: 4/14/2025 11:49:46 AM

from third parties are up-to-date. All information and instructions in this safety data sheet have been compiled to the best of our knowledge and are based on the information available to us on the day of publication. The information provided is intended to describe the product in relation to the required safety measures; it is neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and does not justify any contractual legal relationship. The existence of a safety data sheet for a particular jurisdiction does not necessarily mean that import or use within that jurisdiction is legally permitted. If you have any questions, please contact your responsible sales contact or authorized trading partner.

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET
US

BARRIER FLUID 17

Version	Revision Date:	Date of last issue: -	Print Date:
1.0	12/07/2021	Date of first issue: 12/07/2021	12/07/2021

SECTION 1. IDENTIFICATION

Product name : BARRIER FLUID 17

Article-No. : 340010

Manufacturer or supplier's details

Company name of supplier : Klüber Lubrication NA LP
9010 CR 2120
Tyler, Texas 75707
Phone: (903) 534-8021
Fax: (903) 581-4376

32 Industrial Drive
Londonderry, NH 03053
Phone: (603) 647-4104
Fax: (603) 647-4106

E-mail address of person responsible for the SDS : mcm@us.kluber.com
Material Compliance Management

Emergency telephone number : +1-517-545-7070 NCEC

Recommended use of the chemical and restrictions on use

Recommended use : Lubricating oil

Restrictions on use : Restricted to professional users.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May be fatal if swallowed and enters airways.

Precautionary statements : **Response:**

a brand of FREUDENBERG

Received by OCD: 4/14/2025 11:49:46 AM

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
Do NOT induce vomiting.

Storage:

Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Synthetic hydrocarbon oil

Components

Chemical name	CAS-No.	Concentration (% w/w)
Dec-1-ene, homopolymer, hydrogenated	68037-01-4	Trade secret (>= 80 - <= 100)

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with soap and plenty of water.
Get medical attention immediately if irritation develops and persists.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes.
If eye irritation persists, consult a specialist.

If swallowed : Move the victim to fresh air.
If unconscious, place in recovery position and seek medical

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

advice.
Keep respiratory tract clear.
Do NOT induce vomiting.
Obtain medical attention.
Rinse mouth with water.
Never give anything by mouth to an unconscious person.
Aspiration hazard if swallowed - can enter lungs and cause damage.

Most important symptoms and effects, both acute and delayed	:	Risk of product entering the lungs on vomiting after ingestion. Health injuries may be delayed. Aspiration may cause pulmonary oedema and pneumonitis.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	Carbon oxides
Further information	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Do not breathe vapours or spray mist. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Try to prevent the material from entering drains or water courses. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, ver-

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

miculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not breathe vapours or spray mist.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Wash hands and face before breaks and immediately after handling the product.
Do not get in eyes or mouth or on skin.
Do not get on skin or clothing.
Do not ingest.
Do not repack.
Do not re-use empty containers.
These safety instructions also apply to empty packaging which may still contain product residues.
Keep container closed when not in use.

Conditions for safe storage : Store in original container.
Keep container closed when not in use.
Keep in a dry, cool and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store in accordance with the particular national regulations.
Keep in properly labelled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Engineering measures : none

Personal protective equipment
Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : Protective gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Eye protection	:	Safety glasses with side-shields
Protective measures	:	The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Hygiene measures	:	Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	yellow
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	substance/mixture is non-soluble (in water)
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	>= 392 °F / 200 °C Method: open cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Vapour pressure	:	< 0.001 hPa (68 °F / 20 °C)
Relative vapour density	:	No data available
Relative density	:	0.818 (68 °F / 20 °C) Reference substance: Water The value is calculated
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	16.9 mm2/s (104 °F / 40 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	No data available
Sublimation point	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No hazards to be specially mentioned.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No conditions to be specially mentioned.
Incompatible materials	:	No materials to be especially mentioned.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Remarks: This information is not available.

Acute inhalation toxicity : Remarks: This information is not available.

Acute dermal toxicity : Remarks: This information is not available.

Components:

Dec-1-ene, homopolymer, hydrogenated:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 423
GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

Remarks : This information is not available.

Components:

Dec-1-ene, homopolymer, hydrogenated:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Serious eye damage/eye irritation

Product:

Remarks : This information is not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Components:

Dec-1-ene, homopolymer, hydrogenated:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes

Respiratory or skin sensitisation

Product:

Remarks	:	This information is not available.

Components:

Dec-1-ene, homopolymer, hydrogenated:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Remarks: No data available
Genotoxicity in vivo	:	Remarks: No data available

Components:

Dec-1-ene, homopolymer, hydrogenated:

Genotoxicity in vitro	:	Test Type: Ames test Method: Mutagenicity (Escherichia coli - reverse mutation assay) Result: negative GLP: yes
Germ cell mutagenicity - Assessment	:	Animal testing did not show any mutagenic effects.

Carcinogenicity

Product:

Remarks	:	No data available

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Components:

Dec-1-ene, homopolymer, hydrogenated:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

Dec-1-ene, homopolymer, hydrogenated:

Reproductive toxicity - Assessment : - Fertility -

No toxicity to reproduction
- Teratogenicity -

Did not show teratogenic effects in animal experiments.

Repeated dose toxicity

Product:

Remarks : This information is not available.

Aspiration toxicity

Product:

May be fatal if swallowed and enters airways.

Components:

Dec-1-ene, homopolymer, hydrogenated:

May be fatal if swallowed and enters airways.

Further information

Product:

Released to Imaging: 4/22/2025 3:42:03 PM

Remarks : Information given is based on data on the components and the toxicology of similar products.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish :
Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates :
Remarks: No data available

Toxicity to algae/aquatic plants :
Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Components:

Dec-1-ene, homopolymer, hydrogenated:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Test Type: Immobilization
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : ErC50 (Scenedesmus capricornutum (fresh water algae)): > 1,000 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 125 mg/l
Exposure time: 21 d

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Received by OCD: 4/14/2025 11:49:46 AM

Physico-chemical removability : Remarks: No data available

Components:

Dec-1-ene, homopolymer, hydrogenated:

Biodegradability : Primary biodegradation
Inoculum: activated sludge
Result: Not readily biodegradable.
Method: OECD Test Guideline 301B

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Components:

Dec-1-ene, homopolymer, hydrogenated:

Partition coefficient: n-octanol/water : log Pow: > 6.5 (68 °F / 20 °C)

Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No information on ecology is available.

Components:

Dec-1-ene, homopolymer, hydrogenated:

Results of PBT and vPvB assessment : Non-classified PBT substance Non-classified vPvB substance

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of waste product or used containers according to local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Aspiration hazard

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Dec-1-ene, homopolymer, hydrogenated	68037-01-4

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

New York City Hazardous Substances

Mineral Oil	Proprietary

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 12/07/2021

This safety data sheet applies only to products as originally packed and labelled. The information contained therein may not be reproduced or modified without our express written permission. Any forwarding of this document is only permitted to the extent required by law. Any further, in particular public, dissemination of the safety data sheet (e.g. as a document for download from the Internet) is not permitted without our express written consent. We provide our customers with amended safety data sheets as prescribed by law. The customer is responsible for passing on safety data sheets and any amendments contained therein to its own customers, employees and other users of the product. We provide no guarantee that safety data sheets received by users from third parties are up-to-date. All information and instructions in this safety data sheet have been compiled to the best of our knowledge and are based on the information available to us on

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

the day of publication. The information provided is intended to describe the product in relation to the required safety measures; it is neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and does not justify any contractual legal relationship. The existence of a safety data sheet for a particular jurisdiction does not necessarily mean that import or use within that jurisdiction is legally permitted. If you have any questions, please contact your responsible sales contact or authorized trading partner.

Released to Imaging: 4/22/2025 3:42:03 PM

Material Safety Data Sheet

Section 1 – Product and Company Identification

Product Names: B-12 Chemtool® Injector Cleaner; B-12 Chemtool® Gas Treatment & Carburetor Cleaner
Product Synonym: 3A-5M
Product Numbers: 0112, 1112, 1165
Product Description: Aftermarket gasoline fuel additive

Manufacturer: Berryman Products, Inc.
3800 E Randol Mill Rd
Arlington, TX 76011
(800) 433-1704 within USA
(817) 640-2376 outside USA
www.BerrymanProducts.com

Emergency Contact: Infotrac, Inc., (800) 535-5053

Section 2 – Hazards Identification

Emergency Overview: Flammable. Harmful or fatal if swallowed. Vapor Harmful. Possible carcinogen.

Routes of Exposure: Ingestion, inhalation, eye contact, skin contact

Possible Health Hazards

Eyes: May cause moderate to severe irritation and result in blurred vision and conjunctivitis.

Skin: May cause mild to moderate irritation of the skin. Prolonged or repeated contact may dry the skin and result in severe irritation, dermatitis, and effects similar to those of chronic overexposure by way of inhalation.

Inhalation: Acute overexposure may result in respiratory tract irritation, headache, dizziness, nausea, vomiting, unconsciousness, irregular heartbeat, and death. Chronic overexposure or intentional abuse may adversely affect the liver, kidneys, lungs, blood, central nervous system, vision, and hearing; cause cancer; and result in death. May aggravate asthma, emphysema, and bronchitis.

Ingestion: Accidental ingestion and subsequent aspiration of even small quantities may cause severe lung damage, aspiration pneumonitis, cyanosis, and death. Ingestion of larger amounts may also include gastrointestinal effects, such as abdominal discomfort, pain, nausea, and vomiting.

Supplemental Information: See “Section 11 – Toxicological Information” for additional information.

Section 3 – Composition / Information on Ingredients

Ingredient	CAS Number	Weight
Ethylbenzene	100-41-4	10-15%
Petroleum Distillates	64742-47-8	30-40%
n-Propanol	71-23-8	5-10%
Xylene (mixed isomers)	1330-20-7	40-50%

Section 4 – First Aid Measures

Eye Contact: Immediately flush eyes with water for at least 15 minutes, holding the eyelids apart at regular intervals to ensure complete irrigation. Dispose of contaminated contact lenses.

Skin Contact: Remove contaminated clothing, and wash affected areas of body thoroughly with soap and water. Allow clothing to air dry, and launder before reuse. Seek medical attention if irritation persists.

Inhalation: If breathing difficulties occur, remove source of exposure or move victim to fresh air and administer oxygen, if necessary. If symptoms persist, seek immediate medical attention. If breathing stops, give artificial respiration and seek immediate medical attention.

Ingestion: Do ***not*** induce vomiting unless otherwise directed by a medical professional. Dilute stomach contents by drinking 1-2 cups of milk or water. Seek medical attention immediately.

Section 5 – Firefighting Measures

Flash Point and Method: 70°F by Setaflash closed-cup tester
Flammability Limits (composite): Lower – 1% Upper – 8%

Suitable Extinguishing Media: All, including water fog, foam, dry chemical, and carbon dioxide
Unsuitable Extinguishing Media: Use water spray or fog with caution as product may float to surface and reignite.

Protective Equipment: Employ SBCA and full protective gear, including shield, as product is comprised of flammable, low-boiling solvents and may vent, rupture, or explode violently at elevated temperatures.
Specific Procedures: Product may present explosion hazards at elevated temperatures. Remove product from area if possible without risk of injury. Use water spray to cool containers.

Section 6 – Accidental Release Measures

General Remediation Overview: Flammable! Avoid all sources of ignition and thoroughly ventilate area!

Personal Precautions: Avoid all sources of ignition and unnecessary contact with product.
Environmental Precautions: Prevent further loss of product if safely possible.

Methods for Containment: Use booms or other barriers as necessary to prevent further loss.
Methods for Cleaning Up: For small spills, mop up or absorb with inert material, such as corn cob, cellulose, or vermiculite. For large spills, pump or transfer material into containers for recovery and use absorbent material for collection of unrecoverable product. Ensure thorough ventilation of the local area to prevent the accumulation of dangerous, flammable vapor.

Section 7 – Handling and Storage

Handling: Avoid contact with skin and eyes. Wash hands thoroughly after use.
Storage: Store in cool, dry location.

Section 8 – Exposure Controls / Personal Protection

Ingredient	Exposure Limit	Source
Ethylbenzene	100 ppm	OSHA
Petroleum Distillates	100 ppm	ACGIH
n-Propanol	200 ppm	ACGIH
Xylene (mixed isomers)	100 ppm	ACGIH

Engineering Controls: Use outside with adequate ventilation to minimize exposure.

Respiratory Protection: If necessary, use respiratory protection sufficient to reduce exposure to permissible limits.
Eye Protection: Use of safety glasses with wrap-around lens or goggles is recommended.
Skin Protection: Employment of impermeable gloves is recommended.
Other Protection: For industrial settings, combination safety shower with eye wash station is recommended.

Section 9 – Physical and Chemical Properties

Physical State: Liquid
Appearance: Clear, light yellow
Odor: Mild, aromatic

Freezing Point: <-40°F (approximate)
Boiling Range: 200-400°F (approximate)
Flash Point: 70°F by Setaflash closed-cup tester

Specific Gravity: 0.82-0.84 at 68°F
pH: N/A, as supplied
Solubility in Water: Negligible (<1%)
Volatile Content: 95-100%
Evaporation Rate: faster than water

Vapor Density: Heavier than air
Vapor Pressure: 6 mm Hg at 68°F
VOC Content: N/A—not regulated

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions
Incompatible Materials: Strong acids, oxidizers
Hazardous Decomposition Products: None under normal conditions of use. Thermal decomposition may yield hydrocarbons, oxides of carbon and nitrogen, organic oxygenates, and amines.
Possibility of Hazardous Reactions: Negligible

Section 11 – Toxicological Information

General Information: This formulated product has not been evaluated for toxicological properties. Acute toxicity is anticipated to be low to moderate, depending on exposure route. Chronic toxicity is expected to be moderate, but intentional abuse or repeated overexposure may cause cancer or be fatal.

Acute Toxicity: No specific data available on blend
Chronic Toxicity: No specific data available on blend

Carcinogenicity: Ethylbenzene increases the incidence of tumors in laboratory animals. However, it has not demonstrated tumorgenic responses in human epidemiological studies, so the relevance to humans is unknown.
Teratogenicity: N/A
Mutagenicity: N/A

Supplemental Information: See "Section 2 – Hazards Identification" of this MSDS for additional information.

Section 12 – Ecological Information

Ecotoxicity: This product may be ecologically significant in small amounts.
Persistence and Degradability: Not all ingredients readily biodegradable. May be environmentally persistent.
Bioaccumulation Potential: Minimal

Section 13 – Disposal Considerations

Disposal Instructions: None specific. Dispose of waste in accordance with applicable regulations.

Section 14 – Transportation Information

US Department of Transportation (DOT): When shipped by ground, this product may be eligible for a "Limited Quantity" exception per §49 CFR 173.150. Otherwise, it should bear the following shipping description:

UN1993, Flammable Liquid, N.O.S. (contains Xylenes, Ethylbenzene, and n-Propanol), 3, II

International Air Transportation Association (IATA): When shipped by air, this product may be eligible for a "Limited Quantity" exception. Otherwise, it should bear the following shipping description:

UN1993, Flammable Liquid, N.O.S. (contains Xylenes, Ethylbenzene, and n-Propanol), 3, II

Section 15 – Regulatory Information

FEDERAL CONSIDERATIONS

SARA Title III, Section 302 – Extremely Hazardous Substances: Neither this product nor any of its components appear on the list of extremely hazardous substances (EHS) found in §40 CFR 355 Appendices A and B and, as supplied, are not subject to the emergency planning (EPCRA) requirements of §40 CFR 355.30 or the reportable quantity (RQ) and threshold planning quantity (TPQ) requirements of §40 CFR 355 Appendices A and B.

SARA Title III, Section 304 – Hazardous Substances: This product contains the following components found in the list of hazardous substances of §40 CFR Table 302.4: Ethylbenzene (100-41-4); Xylenes (CAS # 1330-20-7)

SARA Title III, Sections 311/312 – Hazard Classes: This product contains one or more ingredients that are classified into the following hazard categories outlined in §40 CFR 370.40: fire; immediate (acute) health; delayed (chronic) health

SARA Title III, Section 313 – Toxic Chemicals: This product contains the following chemicals listed in the table of §40 CFR 372.65 exceeding the ***de minimis*** concentration reporting requirements of §40 CFR 372.38: Ethylbenzene (100-41-4); Xylenes (CAS # 1330-20-7)

Received by OCD: 4/14/2025 11:49:46 AM

Section 15 – Regulatory Information (continued)

FEDERAL CONSIDERATIONS (continued)

Regulation of Fuels and Fuel Additives (EPA) – This product complies with the requirements of §40 CFR 80 and must be used in a manner consistent with the directions on the product label.

Toxic Substances Control Act (TSCA): All chemicals known to be present in this product are either listed on the TSCA inventory or are not required to be per §15 USC 2601, et seq.

Occupation Safety and Health Administration (OSHA): This material safety data sheet is provided for compliance with the applicable regulations of OSHA's Hazard Communication Standard ("HCS" or "HAZCOM") found in §29 CFR 1910.1200(g). Federal law requires persons receiving this document to study it carefully and become aware of its hazards. Notify all employees, visitors, agents, and contractors of the information on this sheet.

Consumer Product Safety Commission (CPSC): This product is regulated under the Federal Hazardous Substances Act, is subject to the labeling requirements of 16 CFR 1500, and must include the following cautionary statements: DANGER. Flammable. Harmful or fatal if swallowed. Vapor Harmful. Eye and skin irritant. Possible cancer agent. Keep out of the reach of children.

REGIONAL CONSIDERATIONS

Lake Michigan Air Directors Consortium (LADCO): Not regulated as a fuel additive
Ozone Transport Commission (OTC): Not regulated as a fuel additive

STATE CONSIDERATIONS

California: This product is ***not*** subject to the category VOC requirements of §94509 of Subchapter 8.5 Article 2 of the Air Resource Board's "Regulation for Reducing Emissions from Consumer Products."

This product is subject to the labeling requirements of "Proposition 65 – Safe Drinking Water and Toxic Enforcement Act of 1986" ("Prop 65") and must product bear the cautionary statement "WARNING: This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm."

New Jersey: For Right-To-Know ("RTK") labeling requirements, refer to "Section 3 – Composition / Information on Ingredients."

Section 16 – Other Information

Hazardous Materials Identification System (HMIS)

HMIS Hazard Rating	
Health	2
Flammability	3
Reactivity	0
Protective Equipment	X

HMIS Hazard Index	
Least	- 0
Slight	- 1
Moderate	- 2
High	- 3
Extreme	- 4

Index of Abbreviations

ACGIH – American Council of Governmental and Industrial Hygienists
N/A – Not Applicable
NE – Not Established
NIOSH – National Institute for Occupational Safety and Health
PEL – Permissible Exposure Limit (as required by OSHA)
TLV – Threshold Limit Value (as recommended by ACGIH)

Date of Issuance: 9-10-2012
Date of Previous Revision: 12-2-2005
Primary Revision Change(s): Document format updated
Applicability: This document only applies to part number 0112 manufactured on or after July 11, 2007 and part number 1112 manufactured on or after August 26, 2005.

Prepared By: Dan Nowlan

Legal Disclaimer: The information contained in this document is, to the best of Berryman Products, Inc.'s knowledge, complete and accurate but is not warranted. All materials may present unknown hazards and should be used with caution. It is the responsibility of the user to evaluate the information in a prudent manner and to use it in a manner consistent with its intended purpose. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Released to Imaging: 4/22/2025 3:42:03 PM

Safety Data Sheet

Section 1 – Identification of the Mixture and of the Company

Product Identification

Primary Identifier(s) Used on the Label
Berryman *Brake Parts Cleaner*
Product Synonym(s)
blend "5C-4"
Product Number(s)
1420

Relevant Identified Uses and Uses Advised Against

Recommended Uses
brake and brake-related parts cleaning
Uses Advised Against
not for use in some applications or states

Manufacturer/Supplier Details

Berryman Products, Inc.
3800 E Randol Mill Rd
Arlington, TX 76011
(800) 433-1704 (USA/Canada)
(817) 640-2376 (international)
www.BerrymanProducts.com

Emergency 24-Hour Telephone Number(s) – InfoTrac, Inc.

(800) 535-5053 (USA/Canada)
(352) 323-3500 (international)

Section 2 – Hazards Identification

Classification of the Substance or Mixture (29 CFR 1910.1200)

Physical Hazards
Compressed Gas
Health Hazards
Acute Oral – Category 4
Skin Irritant – Category 2
Eye Irritant – Category 2A
Carcinogen – Category 1B
Developmental – Category 2
Specific Target Organ Toxicity - Single Exposure – Category 3 (respiratory tract irritant and narcotic effects)
Specific Target Organ Toxicity - Repeated Exposure – Category 2 (blood/blood system, central nervous system, liver)
Aspiration Hazard – Category 1
Environmental Hazard - Chronic – Category 3

Allocation of Label Elements

Chemical Identity
Berryman *Brake Parts Cleaner*
Pictograms

Signal Word
DANGER
Hazard Statements
H280 – Contains gas under pressure; may explode if heated.
H302 – Harmful if swallowed.
H304 – May be fatal if swallowed and enters airways.
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.
H321 – Specific treatment (see supplemental first aid instructions this label/document).
H335 – May cause respiratory irritation.
H336 – May cause drowsiness or dizziness.
H350 – May cause cancer.
H361d – Suspected of damaging the unborn child.
H373 – May cause damage to blood/blood system, central nervous system, or liver through prolonged or repeated exposure.
H412 – Harmful to aquatic life with long-lasting effects.
Prevention Precautionary Statements
P101 – Keep out of reach of children.
P102 – Read label before use.
P201 – Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P251 – Do not pierce or burn, even after use.
P260 – Do not breathe fumes, gas, mist, vapor, or spray.
P264 – Wash thoroughly after handling.
P270 – Do not eat, drink or smoke when using this product.
P271 – Use only outdoors or in a well-ventilated area.
P273 – Avoid release to the environment.
P280 – Wear protective gloves, protective clothing, and eye or face protection.
Response Precautionary Statements
P312 – Call POISON CONTROL CENTER, hospital emergency room, or doctor if you feel unwell.
P314 – Get medical advice/attention if you feel unwell.
P321 – Specific treatment available in this document in “Section 4 – First Aid Measures.”
P330 – Rinse mouth.
P331 – Do NOT induce vomiting.
P391 – Collect spillage.
P301/P310 – IF SWALLOWED: Immediately call POISON CONTROL CENTER, hospital emergency room, or doctor.
P302/P352 – IF ON SKIN: Wash with plenty of or shower.
P304/P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305/P351/P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308/P313 – If exposed or concerned, get medical advice/attention.
P332/P313 – If skin irritation occurs, get medical advice/attention.
P337/P313 – If eye irritation persists, get medical advice/attention.
P362/364 – Take off contaminated clothing and launder before reuse.
Storage Precautionary Statements
P405 – Store locked-up.
P410/P412 – Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C).
Disposal Precautionary Statements
P501 – Dispose of contents/container in accordance with local, regional, national, and international regulations, as applicable.

Hazards Not Otherwise Classified
none known

Ingredients of unknown acute toxicity
none

Section 3 – Composition/Information on Ingredients

Component	CAS RN	Weight
Methylene Chloride	75-09-2	60-70%
Toluene	108-88-3	15-25%
Perchloroethylene	127-18-4	10-15%
Carbon Dioxide	124-38-9	2-5%

Section 4 – First Aid Measures

Description of First Aid Measures

Ingestion
Immediately call poison control center, hospital emergency room, or doctor. Do NOT induce vomiting. Rinse mouth. Drink 1-2 glasses of milk or water.

Eye Contact
Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin Contact
Wash with plenty of soap and water or shower.

Inhalation
Remove person to fresh air and keep comfortable. If experiencing respiratory symptoms or if breathing is difficult, administer oxygen and call poison control center, hospital emergency room, or doctor.

Most Important Symptoms and Effects

Acute/Immediate
respiratory tract irritation; headache and lightheadedness; narcotic effects, including dizziness, drowsiness, and loss of coordination; nausea and vomiting

Delayed
drying, cracking, or defatting of the skin

Indications of Need for Immediate Medical Attention and Specific Treatment Required

Indications of Need for Immediate Medical Attention
In the event of shortness of breath, difficulty breathing, spontaneous vomiting, or loss of consciousness, seek immediate medical attention.

Specific Treatment and Notes to Physician
Avoid administration of sympathomimetic drugs, such as epinephrine. If performing lavage, endotracheal and/or esophageal control is recommended. If spontaneous vomiting occurs, keep head below hips to avoid aspiration.

Section 5 – Firefighting Measures

Fire Extinguishing Media

Support for Combustion
Product does not support combustion.

Suitable Extinguishing Media
water fog, dry chemical, alcohol-resistant foam, or carbon dioxide

Unsuitable Extinguishing Media
water jet/spray (may cause fire to spread)

Special Hazards/Considerations

Combustion Products
Combustion in the presence of air may yield hydrocarbons; chlorinated hydrocarbons; organic oxygenates; oxides of carbon and chlorine; phosgene; and hydrochloric acid/hydrogen chloride gas.

Special Protective Equipment and Precautions for Firefighters

Special Protective Equipment
Firefighters should employ SCBA and full protective gear, including shield, as product is comprised of low-boiling solvents and may vent, rupture, or explode violently at elevated temperatures.

Precautions and Procedures
Pressurized container—may burst if heated. Vapors heavier than air. Remove product from area if safe to do so. Use water spray to cool nearby containers.

Section 6 – Accidental Release Measures

Personal and Environmental Precautions

Personal Precautions
Do not handle until all safety precautions have been read and understood. Do not breathe fumes, gas, mist, vapor, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, and eye or face protection.

Environmental Precautions
Avoid release to the environment. Prevent contamination of ground water.

Materials and Methods for Containment

Small Spills

Use socks/absorbent mini-booms or other inert barrier if necessary to contain small spills.

Large Spills

Use large socks/absorbent booms or other inert barrier to form dam/dike in order to contain large spills and prevent further loss.

Materials and Methods for Cleanup

Small Spills

Remove source from area if safe to do so. Use granular sorbent, gel sorbent, vermiculite, cat litter, dirt/earth, pads/rolls, or pillows to absorb spilled material. Remediate affected area as necessary.

Large Spills

Keep upwind from spill. Remove source from area if safe to do so. Use mechanical transfer equipment to recover spilled material. Use granular sorbent, gel sorbent, vermiculite, cat litter, dirt/earth, pads/rolls, or pillows to absorb residual material. Remediate affected area as necessary.

Section 7 – Handling and Storage

Precautions for Safe Handling

Personal Precautions

Do not handle until all safety precautions have been read and understood. Do not breathe fumes, gas, mist, vapor, or spray. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, and eye or face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Environmental Precautions

Do not pierce or burn, even after use. Avoid release to the environment.

Conditions and Considerations for Safe Storage

Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C). Store locked-up. Store according to NFPA Aerosol Level 1 recommendations.

Section 8 – Exposure Controls/Personal Protection

Component	CAS RN	OSHA PEL	ACGIH TLV
Methylene Chloride	75-09-2	25 ppm	50 ppm
Toluene	108-88-3	200 ppm	20 ppm
Perchloroethylene	127-18-4	100 ppm	25 ppm
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm

Exposure Controls

Appropriate Engineering Controls

This product contains methylene chloride and must be used in accordance with §29 CFR 1910.1052. If practical, use outside with positive cross-ventilation in order to reduce accumulation of vapor and minimize exposure.

PPE Overview

Hand Protection

Use of chemical-resistant gloves (butyl rubber, EVAL, neoprene, nitrile/Buna-N, PVA, or Viton) is recommended.

Eye Protection

Use of safety glasses with wrap-around lens or goggles is recommended.

Respiratory Protection

If necessary, use respiratory protection sufficient to reduce exposure to permissible limits.

Additional Protection

For industrial settings, access to a chemical safety shower with eye wash station is strongly recommended.

Section 9 – Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical State

liquid

Appearance

clear, colorless

Odor

mild, solvent

Odor Threshold

1.6 ppm

pH

not relevant

Freezing Point
< -8°F
Boiling Range
104 - 250°F
Flash Point and Method
none by closed-cup tester
Explosion Limits in Air
8.2 - 16.2% by volume (composite)
Evaporation Rate
5.2 (n-Butyl Acetate=1.0)
Vapor Pressure, as supplied
80-120 PSI (typical)
Vapor Density
>1.0
Specific Gravity
1.212 at 68°F
Density
10.10 lb/gal at 68°F
Water Solubility
not soluble
n-Octanol/Water Partition Coefficient (log P_{ow})
1.8 (composite)
Viscosity
0.5 cSt at 68°F
Volatility
100% by weight
Auto-ignition temperature
880°F (composite)
Decomposition temperature
unknown

Other Information

VOC Content
21% by weight (EPA Method 24)
21% by weight (consumer products)
VOC Composite Partial Pressure, PPC
4.7 mm of Hg at 68°F

Section 10 – Stability and Reactivity

Chemical Stability under Normal Conditions of Use

Chemical Stability
Stable under normal conditions of use. May contain the following stabilizer(s): 2-methyl-2-butene (“amylene”) and/or butylene oxide
Conditions Affording Instability
none known

Reactivity

not expected

Possibility of Hazardous Reactions

none known

Conditions to Avoid

Avoid direct sunlight and excessive temperatures. Do not puncture, incinerate, or crush. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. If practical, avoid temperatures exceeding flash point.

Incompatible Materials

strong acids; oxidizers; reducing agents; amines; vinyl compounds; and powered zinc, aluminum, magnesium, potassium, and sodium

Hazardous Decomposition Products

hydrochloric acid/hydrogen chloride gas and phosgene

Section 11 – Toxicological Information

Likely Routes of Exposure

ingestion, skin contact, eye contact, inhalation

Symptoms Related to Physical, Chemical, and Toxicological Characteristics

Ingestion

Large Quantity

gastrointestinal disturbances, including upset stomach, cramping, nausea, vomiting, and diarrhea

Small Quantity/Incidental Contact

gastrointestinal disturbances, including upset stomach, cramping, nausea, and vomiting

Skin Contact

moderate irritation

Eye Contact

blurred vision, moderate eye irritation

Inhalation

respiratory tract irritation; headache, lightheadedness; narcotic effects, including dizziness, drowsiness, and loss of coordination; nausea and vomiting

Immediate, Delayed, and Chronic Effects

Short-Term Exposure

Potential Immediate Effects

Ingestion

gastrointestinal disturbances, nausea and vomiting

Skin Contact

drying of the skin

Eye Contact

blurred vision, temporary corneal damage

Inhalation

shortness of breath or difficulty breathing, headache, dizziness, nausea and vomiting, drowsiness, fatigue, loss of consciousness, death

Potential Delayed Effects

Ingestion

aspiration pneumonitis, cyanosis, coma, death

Skin Contact

defatting of the skin, drying and cracking of the skin, aggravation of pre-existing skin conditions

Eye Contact

temporary corneal damage

Inhalation

nausea and vomiting, fatigue

Long-Term Exposure

Potential Immediate Effects

none known

Potential Delayed Effects

brain/central nervous system (CNS) effects, liver damage

Potential Chronic Health Effects

Carcinogenicity

International Agency for Research on Cancer (IARC) Monographs

Group 2A – Probable Human Carcinogen (Perchloroethylene)

Group 2B – Possible Human Carcinogen (Methylene Chloride)

National Toxicology Program (NTP) Report on Carcinogens

Reasonably Anticipated to Be a Human Carcinogen (Methylene Chloride, Perchloroethylene)

Mutagenicity / Genetic Toxicity

not suspected of being a human mutagen / genetic toxicant

Teratogenicity

not suspected of being a human teratogen

Developmental Effects

possible developmental toxicant (Toluene)

Fertility Effects

not suspected of being a reproductive/fertility toxicant

Effects on Lactation

not suspected of affecting lactation

SPECIFIC TARGET ORGAN TOXICITY (STOT)

Single Exposure
central nervous system (narcotic effects); respiratory tract (irritation)
Repeated Exposure
blood/blood system, brain/central nervous system, and liver effects

Numerical Measures of Acute Toxicity

Oral (Rat)
LD_{50}: 1310 mg/kg (derived)
Dermal (Rabbit)
LD_{50}: 2670 mg/kg (derived)
Inhalation (Rat)
LC_{50}: 42 mg/L (derived)

Additional Toxicological Information

Skin Irritation/Corrosion (Rabbit)
skin irritant
Serious Eye Damage/Irritation (Rabbit)
eye irritant
Respiratory Sensitization
unknown frequency of respiratory sensitization
Skin Sensitization
unknown frequency of skin sensitization
Aspiration Hazard
known aspiration hazard

Section 12 – Ecological Information

General Ecological Assessment/Overview

Harmful to animal life. Harmful to aquatic life with long-lasting effects. Very mobile in soils which may lead to contamination of groundwater.

Aquatic Toxicity

Vertebrates (Fish)
Acute Toxicity
LC_{50}: 29 mg/L (derived)
Chronic Toxicity
NOEC: 6.1 mg/L (derived)
Invertebrates (Water Flea)
Acute Toxicity
LC_{50}: 12 mg/L (derived)
Chronic Toxicity
NOEC: 0.7 mg/L (derived)
Aquatic Plants (Freshwater Algae)
Acute Toxicity
EC_{50}: 7.7 mg/L (derived)
Chronic Toxicity
NOEC: 550 mg/L (derived)

Terrestrial Toxicity

Invertebrate (Earthworm)
LC_{50}: not available

Persistence and Degradability

Persistence
very persistent (Perchloroethylene)
Degradability
non-rapidly degradable

Bioaccumulative Potential

Bioaccumulation Potential Assessment
does not bioaccumulate
Bioaccumulation Factor
90 (Toluene)

Mobility in Soils

Mobility in Soils Assessment
very mobile in soils—may contaminate groundwater
Soil Organic Carbon/Water Partition Coefficient (log K_{OC})
1.8 (composite)

Results of PBT and vPvB Assessment

not a persistent, bioaccumulative, toxic chemical (PBT); not very persistent and very bioaccumulative (vPvB)

Other Adverse Effects

none known

Section 13 – Disposal Considerations

General Assessment/Overview

Dispose of waste in accordance with all applicable regulations. Harmful to animal life—do not pour on ground. Marine Pollutant. Toxic to aquatic life with long-lasting effects—do not pour into waterways. Contains aggressive solvents, which may dissolve PVC pipes and fittings—do not pour down drain.

RCRA Hazardous Waste Code(s) (40 CFR 261.20-33)

Based on this material as-supplied, used or unwanted product may be subject to RCRA regulations and classified as F001 – spent halogenated solvent used in degreasing

Section 14 – Transportation Information

Transportation by Ground – US Department of Transportation

Shipping Description
UN1950, Aerosols, 2.2 (6.1)
Exemption Eligibility
When shipped by ground, this product may be eligible for a "Limited Quantity" exception per §49 CFR 173.306.

Transportation by Air – ICAO/IATA

Shipping Description
UN1950, Aerosols, 2.2 (6.1)
Exemption Eligibility
When shipped by air, this product may be eligible for a "Limited Quantity" exception.

Transportation by Water – IMO/IMDG

Shipping Description
UN1950, Aerosols, 2.2 (6.1), Marine Pollutant (Tetrachloroethylene)
Exemption Eligibility
When shipped by water, this product may be eligible for a "Limited Quantity" exception.

Section 15 – Regulatory Information

Safety, Health, and Environmental Regulations/Legislation

UNITED STATES – SELECT FEDERAL REGULATIONS

Environmental Protection Agency (EPA)
Toxic Substances Control Act (TSCA) (15 USC 2601, et seq.)
All chemicals known to be present in this product are either listed on the TSCA inventory or are not required to be.
SARA Title III (42 USC 9601, et seq.)
Section 302 – Extremely Hazardous Substances (40 CFR 355)
none
Section 304 – Emergency Release Notification (40 CFR 302.4)
Methylene Chloride, Toluene, Perchloroethylene
Section 311/312 – Hazard Categorization (40 CFR 370.40)
acute toxicity, chronic toxicity, fire hazard, sudden release of pressure
Section 313 – Toxic Chemicals (40 CFR 372.65)
Methylene Chloride, Toluene, Perchloroethylene
Clean Air Act (42 USC ch. 85 § 7401 et seq.)
Section 112 – Hazardous Air Pollutants
Methylene Chloride, Toluene, Perchloroethylene
Section 183(e) – Commercial and Consumer Products – VOC Limit and Category (40 CFR 59 subpart C)
not regulated as a "Brake Cleaner"

Occupational Safety & Health Administration (OSHA)

Hazard Communication Standard

This safety data sheet (SDS) is provided for compliance with applicable regulations of the Hazard Communication Standard of 2012 (HCS/HAZCOM 2012) found in §29 CFR 1910.1200. Federal law requires persons receiving this document to study it carefully, become aware of the hazards of this product, and notify all employees, visitors, agents, and contractors of the information contained herein.

Specifically Regulated Substances

This product contains methylene chloride and must be used in accordance with §29 CFR 1910.1052.

Consumer Product Safety Commission

Federal Hazardous Substances Act

This product is regulated under the Federal Hazardous Substances Act, is subject to the labeling requirements of 16 CFR 1500, and must include at minimum the following cautionary statements: DANGER: Harmful or fatal if swallowed. Vapor harmful. Eye and skin irritant. Contents under pressure. Keep out of the reach of children.

UNITED STATES – SELECT REGIONAL CONSIDERATIONS

Ozone Transport Commission (OTC) – Model Rule VOC Limit and Category

10% as "Brake Cleaner" (does not comply)

Lake Michigan Air Directors Consortium (LADCO) – Model Rule VOC Limit and Category

45% as "Brake Cleaner" (complies)

UNITED STATES – SELECT STATE REGULATIONS

California

Air Resources Board (ARB/CARB)

Regulation for Reducing Emissions from Consumer Products – VOC Limit and Category

10% as "Brake Cleaner" (does not comply)

Massachusetts

"Right-to-Know" Legislation – Substance List (105 CMR 670.000)

Dichloromethane, Toluene, Perchloroethylene, Carbon Dioxide

New Jersey

"Right-to-Know" Legislation – Hazardous Substance List (34:5A-1 et seq.)

Methylene Chloride, Toluene, Perchloroethylene, Carbon Dioxide

Pennsylvania

"Right-to-Know" Legislation – Hazardous Substance List (Chapter 323)

Dichloromethane, Methylbenzene, Tetrachloroethene, Carbon Dioxide

INTERNATIONAL – SELECT REGULATIONS

Canada

Environment Canada – Domestic Substances List (DSL)

All chemicals known to be present in this product are listed on the DSL.

China

Ministry of Environmental Protection – Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)

All chemicals known to be present in this product are listed on the IECSC.

European Union

European Chemical Agency – European Inventory of Existing Chemical Substances (EINECS)

All chemicals known to be present in this product are listed on the EINECS.

Chemical Safety Assessment

has not been conducted on product, as-supplied

Section 16 – Other Information

Hazardous Materials Information System (HMIS)

Health	* 2
Flammability	0
Reactivity	0
Protective Equipment	X

Hazard Index

Least - 0
Slight - 1
Moderate - 2
High - 3
Extreme - 4

Index of Abbreviations

ACGIH – American Council of Governmental and Industrial Hygienists
CAS RN – Chemical Abstracts Service Registry Number
EC_{50} – Median Effective Concentration
IATA – International Air Transport Association
ICAO – International Civil Aviation Organization
IMDG – International Maritime Dangerous Goods
IMO – International Maritime Organization
LC_{50} – Median Lethal Concentration
LD_{50} – Median Lethal Dose
N/A – Not Applicable
NE – Not Established
NOEC – No Observable Exposure Concentration
PEL – Permissible Exposure Limit (as required by OSHA)
TLV – Threshold Limit Value (as recommended by ACGIH)
VOC – Volatile Organic Compound

Relevant Dates and Applicability

Date of Issuance
May 28, 2015
Date of Previous Revision
not applicable—initial Safety Data Sheet
Primary Revision Change(s)
not applicable
Document Applicability
This safety data sheet only applies to part number 1420 manufactured on or after January 1, 2015.

Document Author

Dan Nowlan

Legal Disclaimer

The information contained in this document is, to the best of Berryman Products, Inc.'s knowledge, complete and accurate but is not warranted. All materials may present unknown hazards and should be used with caution. It is the responsibility of the user to evaluate the information in a prudent manner and to use it in a manner consistent with its intended purpose. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

SAFETY DATA SHEET

BIOC16975A

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	BIOC16975A
Other means of identification	:	Not applicable.
Recommended use	:	BIOCIDE
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	ChampionX LLC 11177 S. Stadium Drive Sugar Land, Texas 77478 USA TEL: (281) 632-6500
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	06/22/2020

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 3
Acute toxicity (Oral)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Skin irritation	:	Category 2
Serious eye damage	:	Category 1
Reproductive toxicity	:	Category 2

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Flammable liquid and vapour.
Harmful if swallowed or in contact with skin.
Causes serious eye damage.
Causes skin irritation.
Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. IF IN

EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
Storage:
Store in a well-ventilated place.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Quaternary ammonium compounds	Proprietary	10 - 30
Fatty acid-amine condensate	Proprietary	5 - 10
Tetrakis(hydroxymethyl) phosphonium sulfate	55566-30-8	5 - 10
Isopropanol	67-63-0	1 - 5
Methanol	67-56-1	1 - 5

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

If swallowed : Rinse mouth. If victim is fully conscious, give a cupful of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Foam
Carbon dioxide
Dry powder

		Other extinguishing agent suitable for Class B fires For large fires, use water spray or fog, thoroughly drenching the burning material.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus Hydrogen chloride
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Do not ingest. Keep away from fire, sparks and heated surfaces. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	Keep in properly labelled containers.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Tetrakis(hydroxymethyl) phosphonium sulfate	55566-30-8	TWA	2 mg/m3	ACGIH
Isopropanol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		STEL	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z1
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		STEL	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z1

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear impervious chemical-resistant gloves when handling this product.
The following glove types are recommended based on our review of glove manufacturer information and/or other available sources.
Nitrile-rubber, Butyl-Rubber and Neoprene gloves.
Other glove types may be used for short term, incidental contact if determined by testing to provide adequate worker protection.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Wear suitable protective clothing.

Respiratory protection : Use local exhaust ventilation or other engineering controls as necessary to control airborne vapour and mist.
When significant vapours are generated, an approved air purifying respirator is recommended to supplement other control measures for short term exposure.
Use a particulate pre-filter where operations generate significant mists or aerosols.
Recommended gas and vapour cartridge:
Multi-purpose combination filter
Methanol Warning! Protection provided by air purifying respirators is limited due

to methanol's ability to break through filter media and its poor warning properties. For prolonged exposures, entry into unknown environments or where methanol is suspected to exceed exposure limits, use a positive pressure, full-facepiece SCBA or supplied-air respirator.
If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear yellow
Odour	:	aromatic
Flash point	:	54.4 °C, Method: Pensky-Martens closed cup
pH	:	4.8, (20 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	-1.1 °C, ASTM D-97
Initial boiling point and boiling range	:	89.4 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	188.9 hPa, (37.8 °C),
Relative vapour density	:	no data available
Relative density	:	1.018, (20 °C),
Density	:	no data available
Water solubility	:	Miscible
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	13.67 mPa.s (40 °C), Method: ASTM D-445
Viscosity, kinematic	:	no data available

Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus Hydrogen chloride

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	Harmful in contact with skin. Causes skin irritation. May cause allergic skin reaction.
Ingestion	:	May cause blindness if swallowed. Harmful if swallowed.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Suspected of damaging fertility or the unborn child.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Irritation, Allergic reactions
Ingestion	:	No information available.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: 1,775 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 6.08 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Skin corrosion/irritation	:	Test substance: Similar Product
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Components

Toxicity to fish	:	Isopropanol LC50 Pimephales promelas (fathead minnow): 9,640 mg/l Exposure time: 96 h Methanol LC50: 15,400 mg/l Exposure time: 96 h

Components

Toxicity to daphnia and other aquatic invertebrates	:	Quaternary ammonium compounds EC50 : 0.47 mg/l Tetrakis(hydroxymethyl) phosphonium sulfate LC50 : 0.16 mg/l Exposure time: 48 h Isopropanol LC50 Daphnia magna (Water flea): > 10,000 mg/l Methanol EC50 : > 10,000 mg/l

Exposure time: 48 h

Components

Toxicity to algae : Quaternary ammonium compounds
NOEC : 0.009 mg/l

Tetrakis(hydroxymethyl) phosphonium sulfate
EC50 Pseudokirchneriella subcapitata (algae): 0.2 mg/l
Exposure time: 96 h

Methanol
EC50 : 22,000 mg/l
Exposure time: 72 h

Components

Toxicity to bacteria : Isopropanol
1,050 mg/l

Methanol
> 1,000 mg/l

Components

Toxicity to fish (Chronic toxicity) : Fatty acid-amine condensate
LC50: 71 mg/l
Exposure time: 96 d

Methanol
NOEC: 7,900 mg/l
Exposure time: 8.3 d

Components

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Fatty acid-amine condensate
EC50: 105 mg/l
Exposure time: 48 d

Persistence and degradability

no data available

Mobility

no data available

Bioaccumulative potential

no data available

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

The information presented only applies to the material as supplied. The classification or waste code may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated at the time of disposal to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Disposal methods	:	The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical name(s)	:	Quaternary ammonium compound, Isopropanol
UN/ID No.	:	UN 2920
Transport hazard class(es)	:	8, 3
Packing group	:	II

Air transport (IATA)

Proper shipping name	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical name(s)	:	Quaternary ammonium compound, Isopropanol
UN/ID No.	:	UN 2920
Transport hazard class(es)	:	8, 3
Packing group	:	II

Sea transport (IMDG/IMO)

Proper shipping name	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical name(s)	:	Quaternary ammonium compound, Isopropanol
UN/ID No.	:	UN 2920
Transport hazard class(es)	:	8, 3
Packing group	:	II
*Marine pollutant	:	Quaternary ammonium compound, Quaternary phosphorus compound

* Note: This product is regulated as a Marine Pollutant when shipped by Rail or Highway (in bulk quantities), and when shipped by water in all quantities.

Section: 15. REGULATORY INFORMATION

TSCA list	:	No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.

SAFETY DATA SHEET

BIOC16975A

EPA Reg. No. : 90924-2

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This product does not contain a RQ substance, or this product contains a substance with a RQ, however the calculated RQ exceeds the reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Reproductive toxicity

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Methanol	67-56-1	1 - 5 %

California Prop. 65

⚠ **WARNING:** Reproductive Harm - www.P65Warnings.ca.gov

Methanol	67-56-1

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory

On the inventory, or in compliance with the inventory. This product is regulated under the United States Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

Australia. Industrial Chemical (Notification and Assessment) Act

On the inventory, or in compliance with the inventory.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

On the inventory, or in compliance with the inventory.

China Inventory of Existing Chemical Substances

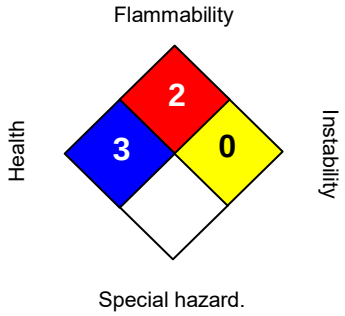
On the inventory, or in compliance with the inventory.

Section: 16. OTHER INFORMATION

SAFETY DATA SHEET

BIOC16975A

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	2
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	06/22/2020
Version Number	:	1.3
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Safety Data Sheet

Issue Date: 27-Dec-2011 **Revision Date:** 22-Dec-2017 **Version** 2

1. IDENTIFICATION

Product Identifier
Product Name Buckeye Coliseum Odorless, Virgin Mineral Spirits/Waterless Cleaner

Other means of identification
SDS # BE-5188

Product Code 5188

Recommended use of the chemical and restrictions on use
Recommended Use Waterless Cleaner.

Details of the supplier of the safety data sheet
Supplier Address
Buckeye International, Inc.
2700 Wagner Place
Maryland Heights, MO 63043 USA

Emergency Telephone Number
Company Phone Number 1-314-291-1900

Emergency Telephone (24 hr) Transportation - INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)
Medical - (International) 1-651-632-8956 (North America) 1-800-303-0441

2. HAZARDS IDENTIFICATION

Appearance Water white clear liquid **Physical State** Liquid **Odor** Hydrocarbon

Classification

Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Aspiration toxicity	Category 1
Flammable Liquids	Category 3

Signal Word
Danger

Hazard Statements
Harmful in contact with skin
Harmful if inhaled
May be fatal if swallowed and enters airways
Flammable liquid and vapor

Precautionary Statements - Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof equipment
Use only non-sparking tools
Take precautionary measures against static discharge

Precautionary Statements - Response
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a poison center or doctor/physician if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do not induce vomiting
IN CASE OF FIRE: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Hazards
Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Naphtha (petroleum), heavy alkylate	64741-65-7	100

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Received by OCD: 4/14/2025 11:49:46 AM

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops or persists.

Skin Contact Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if irritation develops or persists.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a poison center or doctor/physician if you feel unwell.

Ingestion Immediately call a poison center or doctor/physician. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Symptoms May be irritating to skin and eyes. Prolonged or repeated skin contact may dry the skin and cause cracking. Vapors may cause respiratory tract irritation, wheezing, and difficulty breathing. Prolonged exposure may affect the central nervous system and cardiovascular system. May be harmful or fatal if swallowed and enters airway.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Causes CNS depression and potential for chemical pneumonitis. Consider gastric lavage with protected airway and administration of activated charcoal.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Carbon dioxide (CO2). Foam. Dry chemical.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
Flammable liquid and vapor. Vapors are heavier than air and may travel along ground to ignition sources and flash back.

Hazardous Combustion Products Carbon oxides. Hydrocarbons.

Sensitivity to Static Discharge Take precautionary measures against static discharge.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protection recommended in Section 8.

Environmental Precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Released to Imaging: 4/22/2025 3:42:03 PM

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Pick up with absorbent material, or pump or vacuum spilled product to clean containers for recovery. Allow residue to evaporate. Allow floor to dry before allowing traffic.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion proof equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not cut, weld, or puncture container.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed and store in a cool, dry and well-ventilated place. Store at room temperature. Do not store at temperatures above 120°F. Store away from heat, sparks, flame. Store locked up.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Naphtha (petroleum), heavy alkylate 64741-65-7	100 ppm	500 ppm 2900 mg/m^3	-

Appropriate engineering controls

Engineering Controls Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Risk of contact: Wear approved safety goggles.

Skin and Body Protection Wear chemical-resistant gloves, impervious clothing, and boots.

Respiratory Protection No protection is ordinarily required under normal conditions of use and with adequate ventilation.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid		
Appearance	Water white clear liquid	**Odor**	Hydrocarbon
Color	Water white	**Odor Threshold**	Not determined

Received by OCD: 4/14/2025 11:49:46 AM

Property	Values	Remarks • Method
pH	Not applicable	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	175 - 195 °C / 347 - 383 °F	
Flash Point	51 °C / 124 °F	Tag Closed Cup
Evaporation Rate	0.11	(butyl acetate = 1)
Flammability (Solid, Gas)	Liquid-Not applicable	
Upper Flammability Limits	7.0%	
Lower Flammability Limit	0.6%	
Vapor Pressure	0.52mmHg	@ 20°C (68°F)
Vapor Density	Not determined	
Specific Gravity	0.758	
Water Solubility	Insoluble in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Avoid heat, open flame, oxidizing agents, corrosives, and static discharge. Keep out of reach of children.

Incompatible Materials
Strong oxidizing agents.

Hazardous Decomposition Products
Carbon oxides. Hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Harmful in contact with skin.

Inhalation Harmful if inhaled.

Ingestion May be fatal if swallowed and enters airways.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Naphtha (petroleum), heavy alkylate 64741-65-7	> 7000 mg/kg (Rat)	> 3000 mg/kg (Rat) > 2000 mg/kg (Rabbit)	> 5.04 mg/L (Rat) 4 h

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Aspiration hazard May be fatal if swallowed and enters airways.

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Naphtha (petroleum), heavy alkylate 64741-65-7	30000: 72 h Pseudokirchneriella subcapitata mg/L EC50			2: 48 h Mysidopsis bahia mg/L LC50

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility
Not determined

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

14. TRANSPORT INFORMATION

Note

According to 49 CFR §173.150(f)(1), this material should be reclassified as "NA1993, Combustible Liquid, N.O.S." if it is shipped in bulk.

DOT

Not regulated

IATA

UN/ID No	UN1268
Proper Shipping Name	Petroleum distillates, n.o.s.
Hazard Class	3
Packing Group	III

IMDG

UN/ID No	UN1268
Proper Shipping Name	Petroleum distillates, n.o.s.
Hazard Class	3
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Naphtha (petroleum), heavy alkylate	Present	X		Present		Present	X	Present	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

Released to Imaging: 4/22/2025 3:42:03 PM

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	1	2	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	Not determined	Not determined	Not determined	Not determined

Issue Date: 27-Dec-2011
Revision Date: 22-Dec-2017
Revision Note: Telephone number update

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

1. Identification

Product number	1000000940
Product identifier	**C-005 JET FORCE WASP & HORNET KILLER**
Revision date	03-01-2018
Company information	Claire Manufacturing Co. 1000 Integram Dr Pacific, MO 63069 United States
Company phone	General Assistance 1-630-543-7600
Emergency telephone US	1-866-836-8855
Emergency telephone outside US	1-952-852-4646
Version #	03
Supersedes date	02-20-2018
Recommended use	PESTICIDE
Recommended restrictions	None known.

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
Health hazards	Aspiration hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Extremely flammable aerosol. May be fatal if swallowed and enters airways.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.
Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If exposed or concerned: Get medical advice/attention.
Storage	Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), Hydrotreated Light		64742-47-8	80 - 90
Carbon Dioxide		124-38-9	2.5 - 10

Released to Imaging: 4/22/2025 3:42:03 PM

Common name and synonyms	CAS number	%
Isopropyl Alcohol	67-63-0	2.5 - 10
d-Phenothrin	26002-80-2	0.1 - 1
Tetramethrin	7696-12-0	0.1 - 1
Other components below reportable levels		1 - 2.5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation If symptoms develop move victim to fresh air. Get medical attention if symptoms persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Aspiration may cause pulmonary edema and pneumonitis.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Alcohol resistant foam. Powder. Dry chemicals. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.

General fire hazards Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Released to Imaging: 4/22/2025 3:42:03 PM

Precautions for safe handling	Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. WARNING: Product is not required to be labeled as flammable as described in 16 CFR 1500.3 and 1500.45.
Conditions for safe storage, including any incompatibilities	Level 3 Aerosol. Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store away from incompatible materials (see Section 10 of the SDS). Level 3 Aerosol.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	PEL	9000 mg/m3 5000 ppm
Isopropyl Alcohol (CAS 67-63-0)	PEL	980 mg/m3 400 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	STEL	54000 mg/m3 30000 ppm
	TWA	9000 mg/m3 5000 ppm
Isopropyl Alcohol (CAS 67-63-0)	STEL	1225 mg/m3 500 ppm
	TWA	980 mg/m3 400 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropyl Alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Face shield is recommended. Wear safety glasses with side shields (or goggles).

Released to Imaging: 4/22/2025 3:42:03 PM

Skin protection

Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear suitable protective clothing.
Respiratory protection	If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Gas.
Form	Aerosol. Compressed gas.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	210.9 °F (99.4 °C) estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.7 % estimated
Flammability limit - upper (%)	12 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	90 - 110 psig @70F estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	0.829 estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.

Released to Imaging: 4/22/2025 3:42:03 PM

Incompatible materials	Acids. Strong oxidizing agents. Isocyanates. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Product	Species	Test Results
C-005 JET FORCE WASP & HORNET KILLER		
Acute		
Dermal		
LD50	Rat	2237 mg/kg
Inhalation		
LC50	Rat	6 mg/l/4h
Oral		
LD50	Rat	

Components	Species	Test Results
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
		> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rat	> 7.5 mg/l, 6 Hours
		> 4.6 mg/l, 4 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Isopropyl Alcohol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	16.4 ml/kg, 24 Hours
Inhalation		
LC50	Rat	> 10000 ppm, 6 Hours
Oral		
LD50	Rat	5.84 g/kg
Tetramethrin (CAS 7696-12-0)		
Acute		
Oral		
LD50	Rat	4640 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Released to Imaging: 4/22/2025 3:42:03 PM

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Risk of cancer cannot be excluded with prolonged exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Product		Species	Test Results
C-005 JET FORCE WASP & HORNET KILLER			
Aquatic			
Algae	IC50	Algae	11769 mg/L, 72 Hours
Crustacea	EC50	Daphnia	629 mg/L, 48 Hours
Fish	LC50	Fish	48.7193 mg/L, 96 Hours
Components		**Species**	**Test Results**
Distillates (petroleum), Hydrotreated Light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours
Isopropyl Alcohol (CAS 67-63-0)			
Aquatic			
Algae	IC50	Algae	1000.0001 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Tetramethrin (CAS 7696-12-0)			
Aquatic			
Fish	LC50	Carp (Cyprinus carpio)	0.095 - 0.16 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Isopropyl Alcohol	0.05
Tetramethrin	4.73

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Released to Imaging: 4/22/2025 3:42:03 PM

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, (each not exceeding 1 L capacity)
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.
Packaging Exceptions	LTD QTY

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	None
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.

Released to Imaging: 4/22/2025 3:42:03 PM

EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
Packaging Exceptions	LTD QTY
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

DOT

IATA; IMDG

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
d-Phenothrin	26002-80-2	0.1 - 1
Tetramethrin	7696-12-0	0.1 - 1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Released to Imaging: 4/22/2025 3:42:03 PM

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FIFRA Information This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Isopropyl Alcohol (CAS 67-63-0)

US. Massachusetts RTK - Substance List

Carbon Dioxide (CAS 124-38-9)
Isopropyl Alcohol (CAS 67-63-0)

US. New Jersey Worker and Community Right-to-Know Act

Carbon Dioxide (CAS 124-38-9)
d-Phenothrin (CAS 26002-80-2)
Isopropyl Alcohol (CAS 67-63-0)
Tetramethrin (CAS 7696-12-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon Dioxide (CAS 124-38-9)
Isopropyl Alcohol (CAS 67-63-0)

US. Rhode Island RTK

d-Phenothrin (CAS 26002-80-2)
Isopropyl Alcohol (CAS 67-63-0)
Tetramethrin (CAS 7696-12-0)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cumene (CAS 98-82-8) Listed: April 6, 2010

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-19-2018
Revision date 03-01-2018
Version # 03

Released to Imaging: 4/22/2025 3:42:03 PM

Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	Product and Company Identification: Alternate Trade Names

Released to Imaging: 4/22/2025 3:42:03 PM

carboline
Coatings - Linings - Fireproofing

Safety Data Sheet

Prepared in Accordance with HCS 29 C.F.R. 1910.1200

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 0576S1NL

Product Name: THINNER 76

Revision Date: 12/18/2018

Supercedes Date: 11/30/2015

1.2 Relevant identified uses of the substance or mixture and uses advised against Thinner for industrial coatings - Industrial use

1.3 Details of the supplier of the safety data sheet

Manufacturer:
Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146

Regulatory / Technical Information:
Contact Carboline Technical Services at
1-800-848-4645

Datasheet Produced by: Schlereth, Ken - ehs@stoncor.com

1.4 Emergency telephone number:
CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Eye Irritation, category 2
Flammable Liquid, category 2
STOT, single exposure, category 3, NE

2.2 Label elements

Symbol(s) of Product

Signal Word

Danger

Named Chemicals on Label

METHYL ETHYL KETONE

HAZARD STATEMENTS

Flammable Liquid, category 2	H225	Highly flammable liquid and vapour.
Eye Irritation, category 2	H319	Causes serious eye irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.

PRECAUTION PHRASES

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P235	Keep cool.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.1 Substances

Hazardous Ingredients

CAS-No.	Chemical Name	%
78-93-3	METHYL ETHYL KETONE	75 - 100

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
78-93-3	GHS02-GHS07	H225-319-336	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.
AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.
AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Irritating to eyes. Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.
When symptoms persist or in all cases of doubt seek medical advice.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Provide adequate ventilation. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Electrical installations / working materials must comply with the technological safety standards. Wear shoes with conductive soles.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Cool containers / tanks with water spray. Flammable.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment. For personal protection see section 8.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Wash thoroughly after handling.
PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.
STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	CAS-No.	ACGIH TWA	ACGIH STEL	ACGIH Ceiling
METHYL ETHYL KETONE	78-93-3	200 PPM	300 PPM	N/E

Name	CAS-No.	OSHA PEL	OSHA STEL
METHYL ETHYL KETONE	78-93-3	590 MGM3, 200 PPM	885 MGM3, 300 PPM

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Ensure that eyewash stations and safety showers are close to the workstation location. Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier. Lightweight protective clothing

OTHER PROTECTIVE EQUIPMENT: No Information

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Clear Liquid
Physical State	Liquid
Odor	Ketone
Odor threshold	N/D
pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range	172 F (77 C) - 178 F (81 C)
Flash Point	21F (-6C)
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	1.8 - 10.1
Vapour Pressure, mmHg	70.0 mmHg @ 20 C

Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	N/D
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	804
Specific Gravity (g/cm3)	0.81

10. Stability and Reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Strong oxidizing agents.

10.6 Hazardous decomposition products
Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: N/D

Inhalation LC50: N/D

Irritation: Eye irritation: category 2

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: STOT: Single Exposure: category 3

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50	Gas LC50	Dust/Mist LC50
78-93-3	METHYL ETHYL KETONE	2194 mg/kg rat, oral	Not Available	34.5 mg/L/ 4 hour rat, inhalation	0.000	0.000

Additional Information:

No Information

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): Unknown

IC50 72hr (Algae): Unknown

LC50 96hr (fish): Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
78-93-3	METHYL ETHYL KETONE	308 mg/l (Daphnia magna)	No information	2993 mg/l (Pimephales promelas)

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1	UN number	UN 1263
14.2	UN proper shipping name	Paint Related Material
	Technical name	N/A
14.3	Transport hazard class(es)	3
	Subsidiary shipping hazard	N/A
14.4	Packing group	II
14.5	Environmental hazards	Unknown
14.6	Special precautions for user	Unknown
	EmS-No.:	F-E, S-E
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Unknown

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Flammable (gases, aerosols, liquids, or solids), Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure)

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

No NJ Right-To-Know components exist in this product.

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

No PA Right-To-Know components exist in this product.

CALIFORNIA PROPOSITION 65

WARNING: Cancer and Reproductive Harm -- www.P65Warnings.ca.gov

International Regulations: As follows -

* Canadian DSL:

All chemical ingredients included on inventory (DSL)

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Reasons for revision

No Information

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: CARBON DIOXIDE
Product Description: Gas

Intended Use: Miscellaneous industrial applications

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
810 Houston St.
Fort Worth, TX 76102 USA
24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Gas under pressure: Compressed gas.
Simple Asphyxiant

LABEL:
Pictogram:

Signal Word: Warning

Hazard Statements:
H280: Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements:
P410 + P403: Protect from sunlight. Store in a well-ventilated place.

Contains: CARBON DIOXIDE

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels.

HEALTH HAZARDS

Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	1	Flammability:	0	Reactivity:	0
HMIS Hazard ID:	Health:	1	Flammability:	0	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
CARBON DIOXIDE	124-38-9	> 97 %	H280
HYDROGEN SULFIDE	7783-06-4	< 0.004%	H220, H280, H330(2), H400(M factor 1)
METHANE	74-82-8	0.1 - < 1%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-

mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: N/A

Inappropriate Extinguishing Media: N/A

FIRE FIGHTING

Fire Fighting Instructions: Use standard firefighting procedures and consider the hazards of other involved materials. Material will not burn.

Unusual Fire Hazards: Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: None.

FLAMMABILITY PROPERTIES

Flash Point [Method]: N/A
Flammable Limits (Approximate volume % in air): LEL: N/A UEL: N/A
Autoignition Temperature: N/A

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for

personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Allow liquid to evaporate from the surface. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Ventilate the area.

Water Spill: Do not confine in area of spill. Allow liquid to evaporate from the surface. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid breathing mists or vapors. Contents under pressure. Do not puncture. Do not enter storage areas or confined spaces unless adequately ventilated. Harmful amounts of H2S may be present. The toxic and olfactory (sense of smell) fatigue properties of hydrogen sulfide require that air monitoring alarms and respiratory protection be used where the concentration might be expected to reach a harmful level, such as in an enclosed space, heated transport vessel, or in a spill or leak situation.
Material can accumulate static charges which may cause an electrical spark (ignition source).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Outside or detached storage preferred.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
CARBON DIOXIDE		TWA	9000 mg/m3	5000 ppm	N/A	OSHA Z1
CARBON DIOXIDE		STEL	30000 ppm		N/A	ACGIH
CARBON DIOXIDE		TWA	5000 ppm		N/A	ACGIH
HYDROGEN SULFIDE		Ceiling	20 ppm		N/A	OSHA Z2

HYDROGEN SULFIDE		Maximum concentration	50 ppm		N/A	OSHA Z2
HYDROGEN SULFIDE		STEL	14 mg/m3	10 ppm	N/A	ExxonMobil
HYDROGEN SULFIDE		TWA	7 mg/m3	5 ppm	N/A	ExxonMobil
HYDROGEN SULFIDE		STEL	5 ppm		N/A	ACGIH
HYDROGEN SULFIDE		TWA	1 ppm		N/A	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Positive-pressure, air-supplied respirator in areas where H2S vapors may accumulate is recommended.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Face shield is recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Gas
Form: Compressed or Liquified
Color: Colorless
Odor: Odorless
Odor Threshold: N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 20 °C): 0.11
Flammability (Solid, Gas): N/A
Flash Point [Method]: N/A
Flammable Limits (Approximate volume % in air): LEL: N/A UEL: N/A
Autoignition Temperature: N/A
Boiling Point / Range: -78°C (-108°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): 1.5 at 101 kPa
Vapor Pressure: N/A
Evaporation Rate (n-butyl acetate = 1): N/A
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Slight
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: -78°C (-108°F)
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: High Temperatures.

MATERIALS TO AVOID: Active Metals, Alkalies

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: No end point data for material.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
HYDROGEN SULFIDE	Inhalation Lethality: 4 hour(s) LC50 444 ppm (Gas) (Rat)

OTHER INFORMATION

For the product itself:

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

Contains:

HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Contents under pressure. Do not puncture. Unused material should be returned for material reclaiming.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: CARBON DIOXIDE
Hazard Class & Division: 2.2
ID Number: 1013
Packing Group: (N/A)
ERG Number: 120
Label(s): 2.2
Transport Document Name: UN1013, CARBON DIOXIDE, 2.2

SEA (IMDG)

Proper Shipping Name: CARBON DIOXIDE
Hazard Class & Division: 2.2
EMS Number: F-C, S-V
UN Number: 1013
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.2
Transport Document Name: UN1013, CARBON DIOXIDE, 2.2

AIR (IATA)

Proper Shipping Name: CARBON DIOXIDE
Hazard Class & Division: 2.2
UN Number: 1013
Packing Group: (N/A)
Label(s) / Mark(s): 2.2
Transport Document Name: UN1013, CARBON DIOXIDE, 2.2

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Gas under Pressure, Simple Asphyxiant

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
CARBON DIOXIDE	124-38-9	1, 4, 13, 16, 17, 18
HYDROGEN SULFIDE	7783-06-4	1, 4
METHANE	74-82-8	13, 16, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H330(2): Fatal if inhaled; Acute Tox Inh, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
Section 01: Company Mailing Address information was modified.
Section 01: Product Intended Use information was modified.
Section 02: GHS Contains for LABEL_GHS codes information was modified.
Section 07: Handling and Storage - Storage Phrases information was modified.
Section 11: Aspiration Test Data information was modified.
Section 11: Eye Irritation Test Guideline information was deleted.
Section 11: Inhalation Lethality Test Guideline information was deleted.
Section 11: Mutagen Test Data information was modified.
Section 11: Mutagen Test Guideline information was deleted.
Section 11: Reproductive Test Data information was modified.
Section 11: Reproductive Test Guideline information was deleted.
Section 11: Skin Irritation Test Guideline information was deleted.
Section 11: Target Organ Toxicity - Repeat Test Data information was modified.
Section 11: Target Organ Toxicity - Repeat Test Guideline information was deleted.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0, 0, 0, 0 PPEC: D

DGN: 7132897VUS (1017269)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Cat NGEC Natural Gas Engine Coolant

Product Use: Antifreeze/Coolant
Product Number(s): 227813
Company Identification
Chevron Products Company
Global Lubricants
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
email : lubemsds@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Target organ toxicant (repeated exposure): Category 2.

Signal Word: Warning

Target Organs: May cause damage to organs (Kidney) through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS:
Prevention: Do not breathe dust/fume/gas/mist/vapours/spray.
Response: Get medical advice/attention if you feel unwell.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	34 - < 80 %weight

SECTION 4 FIRST AID MEASURES

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Toxic; may be harmful or fatal if swallowed.
Inhalation: Not expected to be harmful if inhaled. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:
Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit:Kidney See Section 11 for additional information. Risk depends on duration and level of exposure.

Indication of any immediate medical attention and special treatment needed Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry Chemical, CO2, Aqueous Film Forming Foam (AFFF) or alcohol resistant foam.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent

further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.
Precautionary Measures: Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: Do not store in open or unlabeled containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits. Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).
Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH	25 ppm (weight)	50 ppm (weight)	--	Skin

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Purple
Physical State: Liquid
Odor: Faint or Mild
Odor Threshold: No data available
pH: 10 - 11
Vapor Pressure: No data available
Vapor Density (Air = 1): 2.10 (Typical)
Initial Boiling Point: 109°C (228.2°F) (Estimated)
Solubility: Soluble in water.
Freezing Point: -36.7°C (-34.1°F)
Melting Point: Not Applicable
Specific Gravity: 1.0650 - 1.0830 @ 15.6°C (60°F)
Density: 1.0283 kg/l @ 15°C (59°F)
Viscosity: No data available
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): No Data Available

Flashpoint: Not Applicable
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the

criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PROPRIETARY ANTIFREEZE PREPARATION IN NON-BULK PACKAGING; NOT REGULATED FOR TRANSPORT UNDER 49 CFR
Additional Information: Bulk shipments containing a reportable quantity (RQ, 5000 pounds or more) of ethylene glycol in a single packaging are transported as hazardous material. The shipping description is: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHYLENE GLYCOL CONTAINS BITTERANT), 9, III, RQ (ETHYLENE GLYCOL)

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER ICAO TI OR IATA DGR

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: YES
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Ethylene Glycol	04, 07

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

NEW JERSEY RTK CLASSIFICATION:
Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be

identified as follows: Refer to components listed in Section 3.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 1 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *-Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: SECTION 01 - Product Identifier information was modified.
SECTION 03 - Composition information was modified.
SECTION 05 - Extinguishing Media information was modified.
SECTION 07 - Precautionary Measures information was modified.
SECTION 08 - Occupational Exposure Limit Table information was modified.
SECTION 08 - Respiratory Protection information was modified.
SECTION 09 - Physical/Chemical Properties information was added.
SECTION 09 - Physical/Chemical Properties information was deleted.
SECTION 09 - Physical/Chemical Properties information was modified.
SECTION 14 - DOT Classification information was added.
SECTION 14 - DOT Classification information was deleted.
SECTION 14 - ICAO Classification information was added.
SECTION 14 - ICAO Classification information was deleted.
SECTION 14 - IMO Classification information was added.
SECTION 14 - IMO Classification information was deleted.
SECTION 15 - Regulatory Information information was modified.
SECTION 16 - HMIS Rating information was modified.
SECTION 16 - NFPA Rating information was modified.

Revision Date: August 01, 2018

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the

Released to Imaging: 4/22/2025 3:42:03 PM

information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

Issue date 10-May-2019 **Version** 2

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Identifier

Product name CHAMPION SPRAYON SPRAY DISINFECTANT FORMULA 3
Chemical name 7-9761-1

Other means of identification

Product code FG 438-5157-5
Synonyms Disinfectant Spray
Registration number(s) 498-179

Recommended use of the chemical and restrictions on use

Recommended Use For disinfection of hard, non-porous, inanimate surfaces.
Uses advised against Do not spray on varnished, painted or plastic surfaces.

Details of the supplier of the safety data sheet

Supplier Address
Chase Products Co.
2727 Gardner Road
Broadview, IL 60155
708-865-1000

Manufacturer Address
Chase Products Co.
2727 Gardner Road
Broadview, IL 60155
708-865-1000

Emergency Telephone Number

Company Phone Number 708-865-1000
24 Hour Emergency Phone Number 1-800-255-3924
Emergency telephone ChemTel 1-800-255-3924

2. Hazards Identification

Classification

Serious eye damage/eye irritation	Category 2A
FLAMMABLE AEROSOLS	Category 2
Gases Under Pressure	liquefied gas

Label Elements

EMERGENCY OVERVIEW

Warning

hazard statements
Causes serious eye irritation
Flammable Aerosol
Contains gas under pressure; may explode if heated

Appearance Hazy, yellow liquid **Physical State** Aerosol **Odor** Perfumed.

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves, protective clothing, eye protection and face protection.
Keep away from heat, sparks, open flames and hot surfaces. — No smoking
Pressurized container: Do not pierce or burn, even after use
Do not spray on an open flame or other ignition source

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Precautionary Statements - Storage
Protect from sunlight. Store in a well-ventilated place
Do not expose to temperatures exceeding 122 °F (50 °C)

Hazards not otherwise classified (HNOC)
Other Information
• Toxic to aquatic life with long lasting effects
0.69% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/information on Ingredients

Synonyms Disinfectant Spray.
Chemical Family MIXTURES.
Formula 7-9761-1
Chemical nature Aqueous solution of alcohol and other active ingredients.

Chemical name	CAS No	weight-%	Trade secret
Water	7732-18-5	45-50	*
Ethyl alcohol	64-17-5	30-35	*
N-Butane	106-97-8	10-15	*
Propane	74-98-6	1-5	*

Chemical Additions **See label for active ingredients information.**

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye Contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact Wash with soap and water. If irritation develops, consult a physician .

Inhalation If overcome by vapor, move person to fresh air.

Ingestion Ingestion from an aerosol product is unlikely to occur.

Most important symptoms and effects, both acute and delayed

Symptoms Acute, Deliberate inhalation of concentrated vapor or mist may cause headaches. Prolonged and repeated contact with the eyes may cause mild irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians None needed.

5. Fire-fighting measures

Suitable extinguishing media
Dry chemical, CO2 or water spray.

Unsuitable extinguishing media Use water spray or fog; do not use straight streams.

Specific hazards arising from the chemical
Containers are under pressure. Temperatures above 130 °F may cause cans to burst.

Hazardous combustion products Thermal decomposition may yield gases like carbon monoxide and carbon dioxide.

Explosion data
Sensitivity to Mechanical Impact Contents under pressure, keep away from heat and open flame.
Sensitivity to Static Discharge Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Protective equipment and precautions for firefighters
Use personal protective equipment as required.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions CONTENTS UNDER PRESSURE. Do not puncture or incinerate cans.

Other Information Keep out of reach of children.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Provide adequate ventilation to area being treated. Soak up spills with chemically inert, absorbent material.

Methods for cleaning up Clean contaminated surface thoroughly.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling Avoid getting spray into eyes. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a cool, dry place away from heat and open flame. Avoid storing at below-freezing temperatures. **AEROSOL STORAGE LEVEL I (NFPA-30B) .**

Incompatible Materials Avoid heat, open flame and contact with strong oxidizers.

8. Exposure Controls/Personal Protection

Control parameters

Exposure guidelines See occupational exposure limits listed below.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl alcohol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m³	IDLH: 3300 ppm TWA: 1000 ppm

		(vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m³	TWA: 1900 mg/m³
N-Butane 106-97-8	STEL: 1000 ppm explosion hazard	(vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m³	IDLH: 1600 ppm TWA: 800 ppm TWA: 1900 mg/m³
Propane 74-98-6	: See Appendix F: Minimal Oxygen Content, explosion hazard	TWA: 1000 ppm TWA: 1800 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1800 mg/m³	IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m³

Appropriate engineering controls

Engineering controls Use with adequate general or local exhaust ventilation.

Individual protection measures, such as personal protective equipment

Eye/face Protection Conventional eyeglasses to guard against splashing.

Skin and Body Protection Household type gloves, if desired.

Respiratory protection None required if used in a well-ventilated area .

General hygiene considerations None required.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State	Aerosol		
Appearance	Hazy, yellow liquid	**Odor**	Perfumed.
Color	clear	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	10.5 +/- 0.5	No information available
Melting point/freezing point	NA	No information available
Boiling point/boiling range	212 °F/100 °C	No information available
Flash Point	Not avaliable. This is an aerosol product for which Flame Projection is 6-8 inches without flashback. Temperatures above 120 °F may cause cans to burst.	No information available
Evaporation Rate	Faster than butyl acetate	No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		No information available
Upper flammability limits	Not available	
Lower Flammability Limit	Not available	
Vapor pressure	Not available	No information available
Vapor Density		No information available
Relative Density	0.92 concentrate	No information available
Water solubility	completely soluble	No information available
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition Temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available

VOC content (%)	51.32%
Density	No information available
Bulk Density	8.33 Lb/gal

10. Stability and Reactivity

Reactivity
Not applicable No data available

Chemical stability
Stable.

Possibility of hazardous reactions
Temperatures above 130 °F may cause cans to burst with force.

hazardous polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Temperatures above 122 °F (50 °C).

Incompatible Materials
Avoid heat, open flame and contact with strong oxidizers.

Hazardous decomposition products
Thermal decomposition may yield gases like carbon monoxide and carbon dioxide.

11. Toxicological Information

Information on likely routes of exposure

Product Information Acute: Prolonged inhalation of concentrated vapor or mist may cause headaches, dizziness and nausea. Prolonged and repeated contact with skin may cause irritation and reddening. Contact with eyes causes irritation.

Inhalation See data below.

Eye Contact No data available.

Skin contact No data available.

Ingestion This is an aerosol product, ingestion is unlikely to occur. MAY BE HARMFUL IF SWALLOWED.

Chemical name	Oral LD50	dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
Ethyl alcohol 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h
N-Butane 106-97-8	-	-	= 658 g/m³ (Rat) 4 h
Propane 74-98-6	-	-	> 800000 ppm (Rat) 15 min

Information on toxicological effects

Symptoms See information above.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	Not known chronic effects based on available information.

Chemical name	ACGIH	IARC	NTP	OSHA
Ethyl alcohol 64-17-5	A3	Group 1	Known	X

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

Unknown acute toxicity 0.69% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (inhalation-gas) 10000000
ATEmix (inhalation-vapor) 16447.4 mg/l

12. Ecological Information

ecotoxicity

6.1 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Ethyl alcohol 64-17-5		100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static	EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min	2: 48 h Daphnia magna mg/L EC50 Static 9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
See information below.

Chemical name	Partition coefficient
Ethyl alcohol 64-17-5	-0.32
N-Butane 106-97-8	2.89
Propane 74-98-6	2.3

Other adverse effects No information available

13. Disposal Considerations

Waste treatment methods

Disposal of wastes Do not puncture or incinerate container. If empty: Place in trash or offer for recycling if available. If partly filled: Call your local solid waste agency for disposal instructions.

Contaminated packaging Pressurized container: Do not pierce or burn, even after use.

Chemical name	California Hazardous Waste Status
Ethyl alcohol 64-17-5	Toxic Ignitable

14. Transport Information

DOT

UN/ID no	Limited Quantity
Proper Shipping Name	Consumer Commodity
Hazard Class	ORM-D

IATA

UN/ID no	UN1950
Proper Shipping Name	Aerosols, flammable
Hazard Class	2.1

IMDG

UN/ID no	UN1950
Proper Shipping Name	Aerosols, flammable
Hazard Class	2.1
Marine pollutant	This product does not contain marine pollutants.

15. Regulatory information

International Inventories

TSCA	All ingredients of this product are listed or are excluded from listing under the U.S. Toxic Subtances Control Act (TSCA) Chemical Substance Inventory.
DSL	All ingredients are listed or are excluded from listing on the DSL.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

This product does not contain toxic chemicals (above the de minimis level) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	yes
Chronic Health Hazard	No
Fire Hazard	yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5			X
Ethyl alcohol 64-17-5	X	X	X
N-Butane 106-97-8	X	X	X
Propane 74-98-6	X	X	X

U.S. EPA Label information
EPA Pesticide registration number 498-179
EPA Statement
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label: CAUTION: May cause eye irritation. Avoid contact with the eyes and skin. Avoid breathing of spray mist. Avoid contamination of foodstuff.

16. Other information

NFPA	**Health Hazards** 1	**Flammability** 1	**Instability** 1	**Physical and chemical properties** Not applicable
HMIS	**Health Hazards** 1	**Flammability** 2	**Physical hazards** 1	**Personal Protection** A - Eyes protection

Prepared by Regulatory Department
Issue date 10-May-2019
Revision note
This SDS supersedes a previous SDS dated June 09, 2015.
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

BRENNTAG

SAFETY DATA SHEET

1. Identification

Product identifier **CHEMTHERM® 550**

Other means of identification None.

Recommended use ALL PROPER AND LEGAL PURPOSES

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Brenntag / Coastal Chemical Co., LLC

Address 3520 Veterans Memorial Drive
Abbeville, LA 70510

Telephone 337-893-3862

E-mail Not available.

Emergency phone number 800-424-9300 CHEMTREC

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Carcinogenicity Category 1B

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May cause cancer.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

Response If exposed or concerned: Get medical advice/attention.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), hydrotreated heavy naphthenic		64742-52-5	100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Released to Imaging: 4/22/2025 3:42:03 PM

Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide adequate ventilation. Wear appropriate personal protective equipment. Should be handled in closed systems, if possible. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

The following are recommendations for Personnel Protective Equipment (PPE). The employer/user of this product must perform a Hazard Assessment of the workplace according to OSHA regulations 29 CFR 1910.132 to determine the appropriate PPE for use while performing any task involving potential exposure to this product.

Eye/face protection	Chemical respirator with organic vapor cartridge and full facepiece.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other	Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapor cartridge and full facepiece.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	CLEAR COLORLESS TO PALE STRAW
Odor	Mild petroleum
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-40 °F (-40 °C)
Initial boiling point and boiling range	Not available.
Flash point	320.0 °F (160.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	7.52 lbs/gal
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Specific gravity	0.9

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.

Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

DOT information on packaging may be different from that listed.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 08-31-2016

Version # 01

HMIS® ratings Health: 0*
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 0
Flammability: 1
Instability: 0

Disclaimer While Brenntag believes the information contained herein to be accurate, Brenntag makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The Buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Brenntag's terms and conditions of sale.

Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Delo 400 LE SAE 15W-40

Product Use: Heavy Duty Motor Oil
Product Number(s): 219719, 222220, 278058
Synonyms: Delo 400 LE SAE 15W-40 ISOCLEAN Certified
Company Identification
Chevron Products Company
a division of Chevron U.S.A. Inc.
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevronlubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
Chevron Emergency & Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

Environmental Hazards: Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Prevention: Avoid release to the environment.
Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight
Zinc alkyl dithiophosphate	68649-42-3	1 - < 2.5 %weight

SECTION 4 FIRST AID MEASURES

Released to Imaging: 4/22/2025 3:42:03 PM

Description of first aid measures
Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs. If exposure to hydrogen sulfide (H2S) gas is possible during an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Most important symptoms and effects, both acute and delayed
IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure and at high levels, H2S may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation of the eyes, nose, and throat. Moderate levels can cause headache, dizziness, nausea, and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma, and death. After a serious exposure, symptoms usually begin immediately.

The U.S. National Institute for Occupational Safety and Health (NIOSH) considers air concentrations of hydrogen sulfide gas greater than 100 ppm to be Immediately Dangerous to Life and Health (IDLH).

DELAYED OR OTHER HEALTH EFFECTS: Not classified

Indication of any immediate medical attention and special treatment needed
Note to Physicians: Administration of 100% oxygen and supportive care is the preferred treatment for poisoning by hydrogen sulfide gas. For additional information on H2S, see Chevron MSDS No. 301.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Phosphorus, Zinc, Sulfur.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Precautionary Measures: Do not breathe gas. Wash thoroughly after handling. Keep out of the reach of children.
Unusual Handling Hazards: Toxic quantities of hydrogen sulfide (H2S) may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these compartments should first determine if H2S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H2S without wearing approved supplied-air or self-contained breathing equipment. If there is a potential for exceeding one-half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H2S, the concentration should be measured by the use of fixed or portable devices.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.
Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.
Respiratory Protection: No respiratory protection is normally required.

If material is heated and emits hydrogen sulfide, determine if airborne concentrations are below the occupational exposure limit for hydrogen sulfide. If not, wear an approved positive pressure air-supplying respirator. For more information on hydrogen sulfide, see Chevron MSDS No. 301. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.
Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	Form	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	--	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	--	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Light to Brown
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: No data available
Vapor Density (Air = 1): No data available
Initial Boiling Point: No data available
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: No data available
Density: 0.877 kg/l @ 15°C (59°F) (Typical)
Viscosity: 14.60 mm2/s @ 100°C (212°F) (Minimum)
Evaporation Rate: No data available
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:
Flammability (solid, gas): Not Applicable

Flashpoint: (Cleveland Open Cup) 204 °C (399 °F) (Minimum)
Autoignition: No data available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: Not applicable
Hazardous Decomposition Products: Alkyl Mercaptans (Elevated temperatures), Hydrogen Sulfide (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects
Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for product components.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for product components.
Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:
During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
The product has not been tested. The statement has been derived from the properties of the individual components.

MOBILITY
No data available.

PERSISTENCE AND DEGRADABILITY
This material is not expected to be readily biodegradable. The biodegradability of this material is based on an

evaluation of data for the components or a similar material.
The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE
Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: NOT REGULATED AS HAZARDOUS MATERIAL UNDER 49 CFR

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:
Not applicable

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES: Not applicable

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Zinc alkyl dithiophosphate	06, 07

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: EINECS (European Union), ENCS (Japan), IECSC (China), TCSI (Taiwan).

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Motor oil)

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 0 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *-Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: SECTION 02 - Environmental Classification information was added.
SECTION 02 - Hazard Statements information was added.
SECTION 02 - Hazards Otherwise Not Classified information was modified.
SECTION 02 - Precautionary Statements information was added.
SECTION 03 - Composition information was modified.
SECTION 08 - General Considerations information was modified.
SECTION 09 - Physical/Chemical Properties information was deleted.
SECTION 09 - Physical/Chemical Properties information was modified.
SECTION 12 - Ecological Information information was modified.
SECTION 15 - Chemical Inventories information was modified.
SECTION 15 - New Jersey Right To Know information was modified.
SECTION 15 - Regulatory Information information was added.

Revision Date: January 20, 2020

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

BRENNTAG

SAFETY DATA SHEET

1. Identification

Product identifier **COASTALGUARD® EG 50**

Other means of identification None.

Recommended use ALL PROPER AND LEGAL PURPOSES

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Brenntag / Coastal Chemical Co., LLC

Address 3520 Veterans Memorial Drive
Abbeville, LA 70510

Telephone 337-893-3862

E-mail Not available.

Emergency phone number 800-424-9300 CHEMTREC

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Reproductive toxicity	Category 2
Specific target organ toxicity, repeated exposure	Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Causes skin irritation. Causes eye irritation. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Released to Imaging: 4/22/2025 3:42:03 PM

Chemical name	Common name and synonyms	CAS number	%
1,2-ETHANEDIOL		107-21-1	46.2993
NITROUS ACID, SODIUM SALT (1:1)		7632-00-0	1.44
ETHANOL, 2,2'-OXYBIS-		111-46-6	1.1398
POTASSIUM HYDROXIDE (K(OH))		1310-58-3	0.72
PHOSPHORIC ACID		7664-38-2	0.0513
BORAX (B4NA2O7.10H2O)		1303-96-4	0.0012
Other components below reportable levels			50.3484

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Alcohol resistant foam. Powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Use water spray to reduce vapors or divert vapor cloud drift.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Provide adequate ventilation. Avoid prolonged exposure. Wear appropriate personal protective equipment. Should be handled in closed systems, if possible. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
PHOSPHORIC ACID (CAS 7664-38-2)	PEL	1 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2-ETHANEDIOL (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.
BORAX (B4NA2O7.10H2O) (CAS 1303-96-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
PHOSPHORIC ACID (CAS 7664-38-2)	STEL	3 mg/m3	
	TWA	1 mg/m3	
POTASSIUM HYDROXIDE (K(OH)) (CAS 1310-58-3)	Ceiling	2 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
BORAX (B4NA2O7.10H2O) (CAS 1303-96-4)	TWA	5 mg/m3
PHOSPHORIC ACID (CAS 7664-38-2)	STEL	3 mg/m3
	TWA	1 mg/m3
POTASSIUM HYDROXIDE (K(OH)) (CAS 1310-58-3)	TWA	2 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
ETHANOL, 2,2'-OXYBIS- (CAS 111-46-6)	TWA	10 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

The following are recommendations for Personnel Protective Equipment (PPE). The employer/user of this product must perform a Hazard Assessment of the workplace according to OSHA regulations 29 CFR 1910.132 to determine the appropriate PPE for use while performing any task involving potential exposure to this product.

Eye/face protection

Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Light green
Odor	SLIGHT
Odor threshold	Not available.
pH	8 - 10
Melting point/freezing point	-29 °F (-33.89 °C)
Initial boiling point and boiling range	313.68 °F (156.49 °C) estimated
Flash point	200.0 °F (93.3 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	8.83 lbs/gal
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	97.67 % estimated
Specific gravity	1.06
VOC	47.44 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
1,2-ETHANEDIOL (CAS 107-21-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	8050 mg/l, 96 hours
ETHANOL, 2,2'-OXYBIS- (CAS 111-46-6)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	> 32000 mg/l, 96 hours
NITROUS ACID, SODIUM SALT (1:1) (CAS 7632-00-0)			
Aquatic			
Crustacea	EC50	Greasyback shrimp (Metapenaeus ensis)	16.14 - 26.61 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.15 - 0.25 mg/l, 96 hours

Released to Imaging: 4/22/2025 3:42:03 PM

Components	Species	Test Results
POTASSIUM HYDROXIDE (K(OH)) (CAS 1310-58-3)		
Aquatic		
Fish	LC50	Western mosquitofish (Gambusia affinis) 80 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

1,2-ETHANEDIOL	-1.36

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number UN3082

UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ETHYLENE GLYCOL)

Transport hazard class(es)

Class 9

Subsidiary risk -

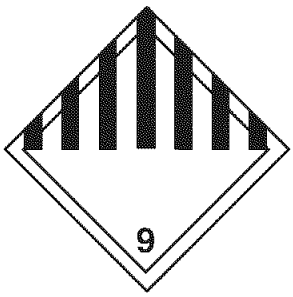
Packing group III

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ERG number 171

DOT information on packaging may be different from that listed.

DOT



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

NITROUS ACID, SODIUM SALT (1:1) (CAS 7632-00-0)	1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,2-ETHANEDIOL (CAS 107-21-1)	Listed.
NITROUS ACID, SODIUM SALT (1:1) (CAS 7632-00-0)	Listed.
PHOSPHORIC ACID (CAS 7664-38-2)	Listed.
POTASSIUM HYDROXIDE (K(OH)) (CAS 1310-58-3)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,2-ETHANEDIOL	107-21-1	46.2993
NITROUS ACID, SODIUM SALT (1:1)	7632-00-0	1.44

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

1,2-ETHANEDIOL (CAS 107-21-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

PHOSPHORIC ACID (CAS 7664-38-2) High priority

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2-ETHANEDIOL (CAS 107-21-1)
BORAX (B4NA2O7.10H2O) (CAS 1303-96-4)
PHOSPHORIC ACID (CAS 7664-38-2)

US. Massachusetts RTK - Substance List

1,2-ETHANEDIOL (CAS 107-21-1)
BORAX (B4NA2O7.10H2O) (CAS 1303-96-4)
NITROUS ACID, SODIUM SALT (1:1) (CAS 7632-00-0)
PHOSPHORIC ACID (CAS 7664-38-2)
POTASSIUM HYDROXIDE (K(OH)) (CAS 1310-58-3)

US. New Jersey Worker and Community Right-to-Know Act

1,2-ETHANEDIOL (CAS 107-21-1)
NITROUS ACID, SODIUM SALT (1:1) (CAS 7632-00-0)
PHOSPHORIC ACID (CAS 7664-38-2)
POTASSIUM HYDROXIDE (K(OH)) (CAS 1310-58-3)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2-ETHANEDIOL (CAS 107-21-1)
BORAX (B4NA2O7.10H2O) (CAS 1303-96-4)
ETHANOL, 2,2'-OXYBIS- (CAS 111-46-6)
NITROUS ACID, SODIUM SALT (1:1) (CAS 7632-00-0)
PHOSPHORIC ACID (CAS 7664-38-2)
POTASSIUM HYDROXIDE (K(OH)) (CAS 1310-58-3)

US. Rhode Island RTK

1,2-ETHANEDIOL (CAS 107-21-1)
NITROUS ACID, SODIUM SALT (1:1) (CAS 7632-00-0)
PHOSPHORIC ACID (CAS 7664-38-2)
POTASSIUM HYDROXIDE (K(OH)) (CAS 1310-58-3)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

1,2-ETHANEDIOL (CAS 107-21-1) Listed: June 19, 2015

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-16-2017

Revision date 02-20-2017

Version # 03

HMIS® ratings Health: 3*
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 2
Flammability: 1
Instability: 0

Disclaimer While Brenntag believes the information contained herein to be accurate, Brenntag makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The Buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Brenntag's terms and conditions of sale.

Revision information Physical & Chemical Properties: Multiple Properties

COASTALSORB 4MM

Safety Data Sheet

Issued: 04/20/2015
Supersedes: 12/30/2011
Version: 1.0

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product identifier

Product name : COASTALSORB 4MM
Product form : Substance
CAS No : 7440-44-0
Product code : 12583
Synonyms : Activated Carbon

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Adsorbent

1.3. Details of the supplier of the safety data sheet

Calgon Carbon Corporation
P.O. Box 717
Pittsburgh, PA 15230
412-787-6700

1.4. Emergency telephone number

Emergency number : CHEMTREC (24 HRS): 1-800-424-9300

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

GHS-US classification

Combustible Dust

Not classified as a simple asphyxiant. Product does not displace oxygen in the ambient atmosphere, but slowly adsorbs oxygen from a confined space when wet. Under conditions of anticipated and recommended use, product does not pose an asphyxiation hazard.

2.2. Label elements

GHS-US labeling

Signal word (GHS-US) : **Warning**

Hazard statements (GHS-US) : May form combustible dust concentrations in air

2.3. Other hazards

Other hazards not contributing to the classification : Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/Information on Ingredients

3.1. Substance

Name	Product identifier	%
Activated Carbon	(CAS No) 7440-44-0	< 100

3.2. Mixture

Not applicable

SECTION 4: First Aid Measures

4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use. However, dust may cause irritation and redness of the eyes, irritation of the skin and respiratory system. The effects of long-term, low-level exposures to this product have not been determined.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting Measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Carbon dioxide. Dry chemical. Foam. Sand.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Dust may be combustible under specific conditions. May be ignited by heat, sparks or flames.

Explosion hazard : Dust may form explosive mixture in air.

Reactivity : No dangerous reactions known under normal conditions of use. Carbon oxides may be emitted upon combustion of material.

5.3. Advice for firefighters

Firefighting instructions : Wear NIOSH-approved self-contained breathing apparatus suitable for the surrounding fire. Use water spray or fog for cooling exposed containers. Evacuate area.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Product is not soluble, but can cause particulate emission of discharged into waterways. Dike all entrances to sewers and drains to avoid introducing material to waterways. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Sweep or shovel spills into appropriate container for disposal. Minimize generation of dust.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Minimize generation of dust. Dispose of material in compliance with local, state, and federal regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid dust formation. Avoid contact with skin, eyes and clothing. Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed in a cool, dry, and well-ventilated place. Keep away from ignition sources.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Activated Carbon (7440-44-0)*	
OSHA PEL (TWA) (mg/m³)	≤ 5 (Respirable Fraction) ≤ 15 (Total Dust)

*Exposure limits are for inert or nuisance dust. No specific exposure limits have been established for this activated carbon product by OSHA or ACGIH.

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas. Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

Personal protective equipment : Gloves. Safety glasses. Insufficient ventilation: wear respiratory protection.

Hand protection : Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection : Use eye protection suitable to the environment. Avoid direct contact with eyes.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granular, powder, or pelletized substance
Color	: Black
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: Not applicable
Melting point	: Not applicable
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: No data available
Auto-ignition temperature	: > 220 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: > 220 °C
Vapor pressure	: Not applicable
Relative vapor density at 20 °C	: Not applicable
Apparent density	: 0.4 - 0.7 g/cc
Solubility	: Insoluble.
Log Pow	: Not applicable
Log Kow	: Not applicable
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and Reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Avoid dust formation. Heat. Ignition sources. Exposure to high concentrations of organic compounds may cause bed temperature to rise.

10.5. Incompatible materials

Alkali metals. Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO_2).

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Activated Carbon (7440-44-0)	
LD50 oral rat	> 2000 mg/kg

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Silica: Crystalline, quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans
The International Agency for Research on Cancer (IARC) has classified "silica dust, crystalline, in the form of quartz or cristobalite" as carcinogenic to humans (group 1). However these warnings refer to crystalline silica dusts and do not apply to solid activated carbon containing crystalline silica as a naturally occuring, bound impurity. As such, we have not classified this product as a carcinogen in accordance with the US OSHA Hazard Communication Standard (29 CFR §1910.1200) but recommmend that users avoid inhalation of product in a dust form.	

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use. However, dust may cause irritation and redness of the eyes, irritation of the skin and respiratory system. The effects of long-term, low-level exposures to this product have not been determined.

SECTION 12: Ecological Information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Waste treatment and disposal methods : Vacuum or shovel material into a closed container. Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment. Subject to Calgon Carbon technical approval, non-powdered activated carbons may be reactivated to allow recycle and reuse.

Additional information : Activated carbon is an adsorbent media; hazard classification is generally determined by the adsorbate. Consult U.S. EPA guidelines listed in 40 CFR 261.3 for more information on hazardous waste disposal.

SECTION 14: Transport Information

14.1. In accordance with DOT

Not classified as hazardous for domestic land transport

UN-No.(DOT)	: None on finished product
DOT NA no.	: None on finished product
Proper Shipping Name (DOT)	: Not regulated
Department of Transportation (DOT) Hazard Classes	: None on finished product
Hazard labels (DOT)	: None on finished product
Packing group (DOT)	: None on finished product
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: None on finished product

14.2. Transport by sea

Not classified as hazardous for water transport

IMO / IMDG

UN/NA Identification Number	: None on finished product
UN- Proper Shipping Name	: Not regulated
Transport Hazard Class	: None on finished product

14.3. Air transport

Not classified as hazardous for air transport

ICAO / IATA

UN/NA No	: None on finished product
UN- Proper Shipping Name	: Not regulated
Transport Hazard Class	: None on finished product
Packing Group	: None on finished product
Marine Pollutant	: None on finished product

14.4. Additional information

Other information : Under the UN classification for activated carbon, all activated carbons have been identified as a class 4.2 product. However, this product type or an equivalent has been tested according to the *United Nations Transport of Dangerous Goods* test protocol for a "self-heating substance" (*United Nations Transportation of Dangerous Goods, Manual of Tests and Criteria, Part III, Section 33.3.1.6 - Test N.4 - Test Method for Self Heating Substances)* and it has been specifically determined that this product type or an equivalent does not meet the definition of a self-heating substance (class 4.2) or any other hazard class, and therefore should not be listed as a DOT hazardous material.

SECTION 15: Regulatory Information

15.1. US Federal regulations

COASTALSORB 4MM
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt

Cobalt (7440-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65

WARNING: This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, birth defects, or other reproductive harm.

Silica: Crystalline, quartz (14808-60-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	NA
Cobalt (7440-48-4)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	NA
Titanium dioxide (13463-67-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	NA

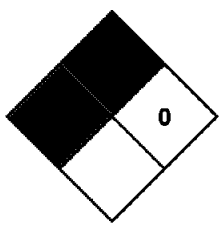
Aluminum oxide (1344-28-1)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right to Know List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Calcium sulfate (7778-18-9)
U.S. - Massachusetts - Right to Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
Silica: Crystalline, quartz (14808-60-7)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right to Know List

SECTION 16: Other Information

Indication of changes	:	Revision 1.0: New SDS Created.
Revision Date	:	04/20/2015
Other information	:	Author: CJS.
For internal use only	:	PR #1

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA health hazard	:	0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard	:	1 - Must be preheated before ignition can occur.
NFPA reactivity	:	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



COASTALSORB 4MM

Product Code: 12583

Safety Data Sheet

HMIS III Rating

Health	: 0
Flammability	: 1
Physical	: 0
Personal Protection	:

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. The information is this document applies to this specific material as supplied. It may not be valid if product is used in combination with other materials. It is the user's responsibility to determine the suitability and completeness of this information for their particular use. While the information and recommendations set forth herein are believed to be accurate as of the date hereof, Calgon Carbon Corporation makes no warranty with respect to the same, and disclaims all liability for reliance thereon.

SAFETY DATA SHEET

Nitrogen

Section 1. Identification

GHS product identifier : Nitrogen

Chemical name : nitrogen

Other means of identification : nitrogen (dot); nitrogen gas; Nitrogen NF, Nitrogen FG

Product type : Gas.

Product use : Synthetic/Analytical chemistry.

Synonym : nitrogen (dot); nitrogen gas; Nitrogen NF, Nitrogen FG

SDS # : 001040

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : GASES UNDER PRESSURE - Compressed gas
SIMPLE ASPHYXIANTS

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

May displace oxygen and cause rapid suffocation.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction.

Prevention : Not applicable.

Response : Not applicable.

Storage : Protect from sunlight. Store in a well-ventilated place.

Disposal : Not applicable.

Supplemental label elements : Keep container tightly closed. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated.

Hazards not otherwise classified : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : nitrogen

Other means of identification : nitrogen (dot); nitrogen gas; Nitrogen NF, Nitrogen FG

Product code : 001040

CAS number/other identifiers

CAS number : 7727-37-9

Ingredient name	%	CAS number
Nitrogen	100	7727-37-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Released to Imaging: 4/22/2025 3:42:03 PM

Section 4. First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Nitrogen	**ACGIH TLV (United States, 3/2019). Oxygen Depletion [Asphyxiant].**

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 8. Exposure controls/personal protection

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : The gas can cause asphyxiation without warning by replacing the oxygen in the air. Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. If operating conditions cause high gas concentrations to be produced or any recommended or statutory exposure limit is exceeded, use an air-fed respirator or self-contained breathing apparatus. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas. [Compressed gas.]

Color : Colorless.

Odor : Odorless.

Odor threshold : Not available.

pH : Not available.

Melting point : -210.01°C (-346°F)

Boiling point : -196°C (-320.8°F)

Critical temperature : -146.95°C (-232.5°F)

Flash point : [Product does not sustain combustion.]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : 0.967 (Air = 1) Liquid Density@BP: 50.46 lb/ft3 (808.3 kg/m3)

Specific Volume (ft ^{3}/lb) : 13.8889

Gas Density (lb/ft ^{3}) : 0.072

Relative density : Not applicable.

Solubility : Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : 0.67

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not applicable.

Flow time (ISO 2431) : Not available.

Molecular weight : 28.02 g/mole

Released to Imaging: 4/22/2025 3:42:03 PM

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Do not allow gas to accumulate in low or confined areas.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 11. Toxicological information

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Nitrogen	0.67	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1066	UN1066	UN1066	UN1066	UN1066
UN proper shipping name	NITROGEN, COMPRESSED	NITROGEN, COMPRESSED	NITROGEN, COMPRESSED	NITROGEN, COMPRESSED	NITROGEN, COMPRESSED
Transport hazard class(es)	2.2	2.2	2.2	2.2	2.2
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Additional information

DOT Classification : **Limited quantity** Yes.
Quantity limitation Passenger aircraft/rail: 75 kg. Cargo aircraft: 150 kg.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
Explosive Limit and Limited Quantity Index 0.125
Passenger Carrying Road or Rail Index 75

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 75 kg. Cargo Aircraft Only: 150 kg.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Europe : This material is listed or exempted.

Japan : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 15. Regulatory information

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

Thailand : Not determined.

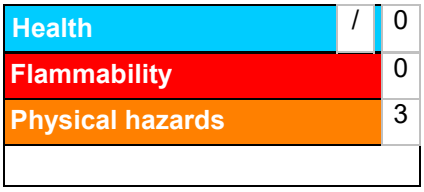
Turkey : Not determined.

United States : This material is active or exempted.

Viet Nam : This material is listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
GASES UNDER PRESSURE - Compressed gas SIMPLE ASPHYXIANTS	Expert judgment Expert judgment

History

Date of printing : 8/31/2021

Date of issue/Date of revision : 8/31/2021

Date of previous issue : 4/30/2019

Version : 1.04

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient

Released to Imaging: 4/22/2025 3:42:03 PM

Section 16. Other information

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Released to Imaging: 4/22/2025 3:42:03 PM

Page 279 of 1315

OIL-DRI CORPORATION OF AMERICA

SAFETY DATA SHEET
Granular **Absorbent - IL - MS**

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Granular Absorbent - IL - MS

SDS Number: 1003000

Manufacturer:	Oil-Dri Corporation of America 410 North Michigan Avenue Chicago, IL 60611 +1-312-321-1515
TRANSPORTATION EMERGENCY INFORMATION:	Chemtrec +1-800-424-9300 (US and Canada) +1-703-527-3887 (International - Call Collect)

Product Use: Absorbent

Restrictions On Use: Not to be used with turpentine, hydrofluoric acid, vegetable oil, and other unsaturated organic compounds (such as fish oil), as this may generate heat and/or fire.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 280 of 1315

2. HAZARDS IDENTIFICATION

GHS Classification:

Health: Carcinogen Category 1A

Specific Target Organ Toxicity - Repeat Exposure Category 1

Environmental: Not Hazardous

Physical: Not Hazardous

GHS Labeling:

Pictogram:

Health Hazard

DANGER!

H350 May cause cancer by inhalation.

H372 Causes damage to lungs through prolonged or repeated exposure by inhalation.

Prevention: P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust.

P264 - Wash thoroughly after handling

P280 Wear protective gloves and clothing.

P270 Do not eat, drink or smoke when using this product.

Response: P308 + P313 IF exposed or concerned: Get medical advice/attention.

Storage: Store in a dry area.

Disposal: P501 Dispose of contents/container in accordance with all local and national regulations.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 281 of 1315

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No./ EINECS-No	%
Bentonite	1302-78-9	90-100%
Quartz (crystalline silica) (Respirable <1%)	14808-60-7	0-10%

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If irritation or other symptoms occurs, get medical attention.

Skin contact: No first aid should be needed.

Eye contact: Immediately flush eyes with cool running water, lifting upper and lower lids. If irritation persists or for foreign body in the eye, get medical attention.

Ingestion: If used material is ingested, get medical attention due to possibility of chemical contamination. If large amount of unused material is swallowed, get immediate medical attention.

Most Important symptoms and effects, both acute and delayed: Eye contact may cause mechanical irritation and possible eye injury. May cause mechanical skin and respiratory irritation. This product contains <1% respirable crystalline silica. May cause cancer if respirable dust is inhaled over prolonged periods. This product contains crystalline silica. Inhalation of respirable crystalline silica may cause lung disease, silicosis with symptoms of shortness of breath and cough.

Indication of any immediate medical attention and special treatment needed: No immediate medical attention is required.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 282 of 1315

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use media that is appropriate for surrounding fire; unused product is not combustible.

Specific Hazards Arising from the Chemical: None for unused product.

Special Protective Equipment and Precautions for Fire-fighters: Firefighters should always wear self-contained breathing apparatus and full protective clothing for fires involving chemicals or in confined spaces.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: No special equipment is generally required for spill clean-up. For dusty conditions, an approved respirator may be needed. Refer to Section 8 for additional information.

Environmental Hazards: Report releases as required by local and federal regulations.

Methods and Materials for Containment and Cleaning Up: Sweep up and collect unused material for re-use or disposal. For dusty conditions, an approved respirator may be needed. Refer to Section 8 for additional information.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Wash thoroughly with soap and water after use. If clothing becomes dusty, launder before re-use. Use only with adequate ventilation. Minimize the generation and accumulation of dust. Follow good housekeeping practices to keep surfaces, including areas overhead such as piping, drop ceilings, ductwork, etc. free from settled dust. Dry powders can build static electricity charges when subjected to friction of transfer and in mixing operations.

Conditions for Safe Storage, including any Incompatibilities: Store in a dry area. Keep away from turpentine, hydrofluoric acid, vegetable oil, and other unsaturated organic compounds (such as fish oil), as this may generate heat and/or fire.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 283 of 1315

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit(s)

Chemical Name	Exposure limit(s)
Bentonite	15 mg/m3 PEL-TWA (total dust), 5 mg/m3 PEL-TWA (respirable dust)
Quartz (crystalline silica) (Respirable <1%)	30 mg/m³ / %Si02+2 (total dust) TWA OSHA PEL 10 mg/m³ / %Si02+2 (respirable dust) TWA OHA PEL 0.025 mg/m³ (respirable dust) TWA ACGIH TLV

Appropriate Engineering Controls: General ventilation is adequate for normal use. If handling produces airborne dust, local exhaust ventilation may be needed.

Individual Protection Measures, such as Personal Protective Equipment:

Eye Protection: Safety glasses or goggles if needed to prevent eye contact.

Skin Protection: None required for normal use.

Respiratory Protection: None required for normal use. For operations where the dust concentration may be excessive, a dust respirator may be used. Follow OSHA regulations in the selection and use of respiratory protection.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 284 of 1315

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance:	Gray to Tan to Red Granular Solid
Odor Threshold:	**Not applicable.**
Boiling point/range	Not applicable.
Melting point/range	**Not available**
Relative density	2.2
Vapor pressure	**Not applicable.**
Vapor density (air=1)	Not applicable.
Solubility	**Insoluble**
pH	Not applicable.
Partition coefficient (n-octanol/water):	**Not available**
Evaporation Rate (Butyl acetate=1)	Not applicable.
Viscosity:	**Not applicable.**
Volatile Organic Carbon Compounds (VOC) (g/L)	Not available
Flashpoint:	**Not applicable.**
Flammable Limits in Air % by Volume:	LEL (Lower):Not applicable. UEL (Upper): Not applicable.
Autoignition temperature:	**Not available**
Decomposition temperature:	Not available
Flammability (solid, gas):	**Not flammable**

10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive.

Chemical Stability: Stable

Possibility of Hazardous Reactions: Spontaneous combustion can occur when this product is used to absorb high concentrations of chemicals having a high heat of absorption such as olefins, hydrochloric acid, etc.

Conditions to Avoid: None.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 285 of 1315

Incompatible Materials: Turpentine, hydrofluoric acid, vegetable oil, fish oil, unsaturated organic compounds.

Hazardous Decomposition Products: None.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

Acute Hazards:

Inhalation: Inhalation of dust may cause irritation to the eyes, nose, throat and respiratory tract.

Skin contact: No known hazard.

Eye contact: Contact may cause mechanical, abrasive irritation with possible injury.

Ingestion: No known hazard.

Chronic Effects: Inhalation of excessive concentrations of any dust, including this material, may lead to lung injury. This product contains crystalline silica, in the form of quartz. Excessive inhalation of respirable crystalline silica may cause silicosis, a progressive, disabling and sometimes fatal disease of the lung. Symptoms may include cough, shortness of breath, wheezing and reduced pulmonary function.

Carcinogenicity Listing: The International Agency for Research on Cancer (IARC), in Monograph 100C has concluded that crystalline silica inhaled in the form of quartz is carcinogenic to humans (Group 1). Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs. The National Toxicology Program (NTP) classifies crystalline silica as a known carcinogen. Applications and exposure data indicate that exposure to respirable quartz in this product with normal use is well below the OSHA Permissible Exposure Limit (PEL) and ACGIH Threshold Limit Value (TLV). The manufacturer is not aware of any scientific or medical data available indicating that exposure to respirable crystalline silica from this product under conditions of normal use will cause silicosis or cancer. Adverse effects would not be expected from normal use of this product.

Acute Toxicity Values: Silica: LD50 oral rat 22,500 mg/kg, LC50 carp >10,000mg/L/72 hr.

12. ECOLOGICAL INFORMATION

Ecotoxicity: No data available for the product. No adverse effects on the environment are expected.

Persistence and Degradability: Bentonite and silica are non-degradable.

Bioaccumulative Potential: Not bioaccumulative.

Mobility in Soil: No data available

Other Adverse Effects: None currently known.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 286 of 1315

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state and federal environmental Regulations. Unused material is suitable for disposal in sanitary landfill. Used material may be subject to regulation, depending on the nature of the material absorbed. Check with appropriate regulatory authority for used material containing hazardous waste.

14. TRANSPORT INFORMATION

US DOT Shipping Description: Not regulated

IATA Shipping Description (Air): Not regulated

Proper Shipping Name: Not regulated

UN Number: Not applicable.

Packing Group: Not applicable.

Labels Required: None.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 287 of 1315

15. REGULATORY INFORMATION

US Regulations

SARA 311/312 Hazard Categories: Chronic Health

SARA 313 This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under the SARA Section 313 (40 CFR 372): None.

SARA 302 Listed Chemicals: None.

CERCLA: This product is not subject to CERCLA release reporting. Many states have more stringent reporting requirements. Report releases as required by local and state regulations.

California Proposition 65: This product contains respirable crystalline silica which is known to the State of California to cause cancer.

EPA Toxic Substances Control Act (TSCA): All of the components of this product are listed on the TSCA Inventory or exempted from TSCA.

International Regulations:

EU REACH: Contact Oil Dri for information on REACH status.

Japan MITI: No data available

AICS: No data available

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 288 of 1315

16. OTHER INFORMATION

Date Prepared: 7/7/2015

Revision Summary: May 29, 2015 - Conversion to Hazcom 2012 classification and labeling and format.

July 7, 2015 - Section 16 Products List

HMIS Rating: Health 0* Fire 0 Reactivity 0

0 = Minimal Hazard, 1 = Slight Hazard, 2 = Moderate Hazard, 3 = Serious Hazard, 4 = Severe Hazard

List of Associated Products:

Absorbs It	Oil-Dri Quick Sorb	Oil-Dri Premium Absorbent
Leak & Spill	Private Label Absorbents	

The information contained herein is true and correct to the best of Oil-Dri Corporation of America's knowledge. However, no warranty, expressed or implied, is made. Nothing herein should be interpreted as a recommendation to infringe existing patents or violate any laws or regulations. Final determination of the suitability of the material is the sole responsibility of the user.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

CORR11385A

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	CORR11385A
Other means of identification	:	Not applicable.
Recommended use	:	CORROSION INHIBITOR
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	ChampionX LLC 11177 S. Stadium Drive Sugar Land, Texas 77478 USA TEL: (281) 632-6500
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	06/19/2020

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 3
Eye irritation	:	Category 2A

GHS Label element

Hazard pictograms :

Signal Word	:	Warning
Hazard Statements	:	Flammable liquid and vapour. Causes serious eye irritation.
Precautionary Statements	:	**Prevention:** Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wear protective gloves/ eye protection/ face protection. **Response:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **Storage:** Store in a well-ventilated place. **Disposal:** Dispose of contents/ container to an approved waste disposal plant.
Other hazards	:	None known.

SAFETY DATA SHEET

CORR11385A

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Ammonium Bisulfite	10192-30-0	10 - 30
Isopropanol	67-63-0	5 - 10
Triethanolamine Tri(Phosphate Ester), Sodium Salt	68171-29-9	1 - 5
Trimethylamine Hydrochloride	593-81-7	1 - 5
Sodium Phosphate, Tribasic	7601-54-9	1 - 5

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

In case of skin contact : Wash off with soap and plenty of water. Get medical attention if symptoms occur.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

If inhaled : Get medical attention if symptoms occur.

Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

Notes to physician : Treat symptomatically.

Most important symptoms and effects, both acute and delayed : See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : None known.

Specific hazards during firefighting : Fire Hazard
Keep away from heat and sources of ignition.
Flash back possible over considerable distance.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Hazardous combustion products : Carbon oxides nitrogen oxides (NOx) Sulphur oxides Hydrogen chloride metal oxides Oxides of phosphorus

Special protective equipment for firefighters : Use personal protective equipment.

Specific extinguishing methods	:	Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Remove all sources of ignition. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Flush away traces with water.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Open drum carefully as content may be under pressure. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from fire, sparks and heated surfaces. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.
Suitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: PVC, Alfax, Stainless Steel 304, Stainless Steel 316L, Hastelloy C-276, Nitrile, PTFE, FEP (encapsulated), Plexiglass, Polypropylene
Unsuitable material	:	The following compatibility data is suggested based on similar product data and/or industry experience: Copper, Neoprene, Aluminum, Ethylene propylene, Mild steel, EPDM, Brass, Nylon, Buna-N, HDPE (high density polyethylene), Rubber, Polyurethane, Chlorosulfonated polyethylene rubber, Perfluoroelastomer, Polyethylene tubing, Fluoroelastomer

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Isopropanol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL

		STEL	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z1
Sodium Phosphate, Tribasic	7601-54-9	STEL	5 mg/m3	AIHA WEEL

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles

Hand protection : Wear impervious chemical-resistant gloves when handling this product.
The following glove types are recommended based on our review of glove manufacturer information and/or other available sources.
Nitrile-rubber, Butyl-Rubber and Neoprene gloves.
Other glove types may be used for short term, incidental contact if determined by testing to provide adequate worker protection.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Wear suitable protective clothing.

Respiratory protection : Use local exhaust ventilation or other engineering controls as necessary to control airborne mist and vapor.
Where concentrations in air may exceed the limits given in this section or when significant mists, vapors, aerosols are generated, an approved air purifying respirator equipped with suitable filter cartridges is recommended.
Multi-purpose combination filter:
Combined particulates, inorganic and acidic gas/vapour, ammonia/amines and organic vapour type

In event of emergency or planned entry into unknown concentrations, a positive pressure, full-facepiece SCBA or supplied-air respirator should be used.
If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid

Colour : red

Odour : Pungent

Flash point : 23 °C, Method: ASTM D 93, Pensky-Martens closed cup

pH	:	4.5 - 5.2,(100 %), Method: ASTM E 70
Odour Threshold	:	no data available
Melting point/freezing point	:	POUR POINT: < -26 °C, ASTM D-97
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	Not applicable.
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	89 mm Hg, (38 °C),
Relative vapour density	:	no data available
Relative density	:	1.15 - 1.18, (16 °C),
Density	:	9.6 - 9.8 lb/gal
Water solubility	:	completely soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, dynamic	:	29 mPa.s (16 °C), Method: ASTM D 445
Viscosity, kinematic	:	26 mm2/s (16 °C), Method: ASTM D 445
Molecular weight	:	no data available
VOC	:	8 %

Section: 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Evolves sulfur dioxide (SO2) when open to atmosphere. The rate of SO2 evolution increases with temperature and/or transfer of product. Sulfur dioxide may react with vapors from neutralizing amines and may form a visible cloud of

amine salt particles.

Hazardous decomposition products	:	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Hydrogen chloride metal oxides Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	:	Causes serious eye irritation.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	:	Redness, Pain, Irritation
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 127.33 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available

Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute dermal toxicity : Isopropanol
LD50 rabbit: 12,870 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects : Harmful to aquatic life.

Components

Toxicity to fish : Isopropanol
LC50 Pimephales promelas (fathead minnow): 9,640 mg/l
Exposure time: 96 h

Sodium Phosphate, Tribasic
LC50 Oncorhynchus mykiss (rainbow trout): > 100 mg/l
Exposure time: 96 h
Test substance: Information given is based on data obtained from similar substances.

Components

Toxicity to daphnia and other aquatic invertebrates : Ammonium Bisulfite
EC50 : 89 mg/l
Exposure time: 48 h

Isopropanol
LC50 Daphnia magna (Water flea): > 10,000 mg/l

Sodium Phosphate, Tribasic
EC50 Daphnia magna (Water flea): > 100 mg/l
Exposure time: 48 h
Test substance: Information given is based on data obtained from similar substances.

Components

Toxicity to algae : Triethanolamine Tri(Phosphate Ester), Sodium Salt
EC50 : 550 mg/l
Exposure time: 72 h

Sodium Phosphate, Tribasic
EC50 Desmodesmus subspicatus (green algae): > 100 mg/l
Exposure time: 72 h

Test substance: Information given is based on data obtained from similar substances.

Components

Toxicity to bacteria : Isopropanol
1,050 mg/l

Persistence and degradability

The organic portion of this preparation is expected to be readily biodegradable.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air : <5%
Water : 30 - 50%
Soil : 50 - 70%

The portion in water is expected to float on the surface.

Bioaccumulative potential

This preparation or material is not expected to bioaccumulate.

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

The information presented only applies to the material as supplied. The classification or waste code may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated at the time of disposal to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Disposal methods : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Land transport (DOT)

Proper shipping name	:	FLAMMABLE LIQUID, N.O.S.
Technical name(s)	:	Isopropanol
UN/ID No.	:	UN 1993
Transport hazard class(es)	:	3
Packing group	:	III
Reportable Quantity (per package)	:	18,559 lbs
RQ Component	:	AMMONIUM BISULFITE

Air transport (IATA)

Proper shipping name	:	FLAMMABLE LIQUID, N.O.S.
Technical name(s)	:	Isopropanol
UN/ID No.	:	UN 1993
Transport hazard class(es)	:	3
Packing group	:	III
Reportable Quantity (per package)	:	18,559 lbs
RQ Component	:	AMMONIUM BISULFITE

Sea transport (IMDG/IMO)

Proper shipping name	:	FLAMMABLE LIQUID, N.O.S.
Technical name(s)	:	Isopropanol
UN/ID No.	:	UN 1993
Transport hazard class(es)	:	3
Packing group	:	III

Section: 15. REGULATORY INFORMATION

TSCA list : No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Ammonium Bisulfite	10192-30-0	5000	18559

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65

WARNING: Cancer - www.P65Warnings.ca.gov

C.I. Basic Violet 10 (Rhodamine B or D&C Red No 19)	81-88-9

WARNING: Reproductive Harm - www.P65Warnings.ca.gov

Ethylene Glycol	107-21-1

INTERNATIONAL CHEMICAL CONTROL LAWS :

United States TSCA Inventory
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Canadian Non-Domestic Substances List (NDSL)
This product contains substance(s) which are found on the Non-Domestic Substances List (NDSL).

Taiwan Chemical Substance Inventory
All substances in this product comply with the Taiwan Existing Chemical Substances Inventory (ECSI).

Australia. Industrial Chemical (Notification and Assessment) Act
not determined

Japan. ENCS - Existing and New Chemical Substances Inventory
not determined

Korea. Korean Existing Chemicals Inventory (KECI)
not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
not determined

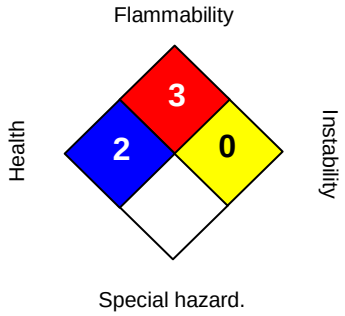
China Inventory of Existing Chemical Substances
not determined

Section: 16. OTHER INFORMATION

SAFETY DATA SHEET

CORR11385A

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	06/19/2020
Version Number	:	1.4
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Page 300 of 1315

SAFETY DATA SHEET

1. Identification

Product identifier **Gasket Remover**

Other means of identification

Product Code No. 03017 (Item# 1003266)

Recommended use Gasket remover

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)
703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Liquefied gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2 (central nervous system, kidney, liver)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs (central nervous system, kidney, liver) through prolonged or repeated exposure. Harmful to aquatic life.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 301 of 1315

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe mist or vapor. Do not apply while equipment is energized. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.
Response	If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed or concerned: Get medical advice/attention.
Storage	Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
acetone		67-64-1	50 - 60
liquefied petroleum gas		68476-86-8	20 - 30
N-methyl-2-pyrrolidone		872-50-4	10 - 20
xylene		1330-20-7	1 - 3
ethylbenzene		100-41-4	< 1
toluene		108-88-3	< 0.2

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema. Jaundice. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 302 of 1315

Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Remove all possible sources of ignition in the surrounding area. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch or walk through spilled material. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Prevent product from entering drains. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, see the product label.
Conditions for safe storage, including any incompatibilities	Level 3 Aerosol. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
acetone (CAS 67-64-1)	PEL	2400 mg/m3 1000 ppm

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 303 of 1315

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
xylene (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm
ethylbenzene (CAS 100-41-4)	TWA	20 ppm
toluene (CAS 108-88-3)	TWA	20 ppm
xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 mg/m3
		100 ppm
toluene (CAS 108-88-3)	STEL	560 mg/m3
		150 ppm
	TWA	375 mg/m3
		100 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
N-methyl-2-pyrrolidone (CAS 872-50-4)	TWA	40 mg/m3
		10 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*
ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
N-methyl-2-pyrrolidone (CAS 872-50-4)	100 mg/l	5-Hydroxy-N-methyl-2-pyrrolidone	Urine	*
toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*
xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 304 of 1315

Exposure guidelines

US - California OELs: Skin designation

N-methyl-2-pyrrolidone (CAS 872-50-4)	Can be absorbed through the skin.
toluene (CAS 108-88-3)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

toluene (CAS 108-88-3)	Skin designation applies.

US WEEL Guides: Skin designation

N-methyl-2-pyrrolidone (CAS 872-50-4)	Can be absorbed through the skin.

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection: Wear protective gloves such as: Butyl rubber.

Other: Wear appropriate chemical resistant clothing.

Respiratory protection: If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Aerosol.
Color	Light grey.
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-138.5 °F (-94.7 °C) estimated
Initial boiling point and boiling range	132.9 °F (56.1 °C) estimated
Flash point	56 °F (13.3 °C) Tag Closed Cup
Evaporation rate	Fast.
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	1 % estimated
Flammability limit - upper (%)	12.8 % estimated
Vapor pressure	1341 hPa estimated
Vapor density	> 1 (air = 1)
Relative density	0.78
Solubility (water)	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	473 °F (245 °C) estimated
Decomposition temperature	Not available.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 305 of 1315

Viscosity (kinematic)	Not available.
Percent volatile	79.2 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Strong acids. Acids. Strong oxidizing agents. Halogens. Peroxides. Phenols.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Health injuries are not known or expected under normal use.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema. Jaundice.

Information on toxicological effects

Acute toxicity Not known.

Components	Species	Test Results
acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	20000 mg/kg
Oral		
LD50	Rat	5800 mg/kg
ethylbenzene (CAS 100-41-4)		
Acute		
Inhalation		
LC50	Rat	17.2 mg/l, 4 hours
Oral		
LD50	Rat	3500 mg/kg
N-methyl-2-pyrrolidone (CAS 872-50-4)		
Acute		
Dermal		
LD50	Rabbit	8000 mg/kg
Oral		
LD50	Rat	3914 mg/kg
xylene (CAS 1330-20-7)		
Acute		
Oral		
LD50	Rat	4300 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 306 of 1315

Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	May cause respiratory irritation. May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs (central nervous system, kidney, liver) through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Harmful to aquatic life.

Components		Species	Test Results
acetone (CAS 67-64-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	10294 - 17704 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
ethylbenzene (CAS 100-41-4)			
Aquatic			
Fish	LC50	Atlantic silverside (Menidia menidia)	4.4 - 5.7 mg/l, 96 hours
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	2.1 mg/l, 48 hours
toluene (CAS 108-88-3)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	6 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	5.5 mg/l, 96 hours
xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	9.54 - 19.2 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

acetone	-0.24
ethylbenzene	3.15

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 307 of 1315

Partition coefficient n-octanol / water (log Kow)	
N-methyl-2-pyrrolidone	-0.54
toluene	2.73
xylene	3.12 - 3.2
Bioconcentration factor (BCF)	
ethylbenzene	1
toluene	90
xylene	23.99

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products If discarded, this product is considered a RCRA ignitable waste, D001. Contents under pressure. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Do not puncture, incinerate or crush. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, Limited Quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, Limited Quantity
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 308 of 1315

15. Regulatory information

US federal regulations

All components are on the U.S. EPA TSCA Inventory List.
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

ethylbenzene (CAS 100-41-4)
N-methyl-2-pyrrolidone (CAS 872-50-4)
xylene (CAS 1330-20-7)

CERCLA Hazardous Substance List (40 CFR 302.4)

acetone (CAS 67-64-1)	Listed.
ethylbenzene (CAS 100-41-4)	Listed.
toluene (CAS 108-88-3)	Listed.
xylene (CAS 1330-20-7)	Listed.

CERCLA Hazardous Substances: Reportable quantity

acetone (CAS 67-64-1)	5000 LBS
ethylbenzene (CAS 100-41-4)	1000 LBS
toluene (CAS 108-88-3)	1000 LBS
xylene (CAS 1330-20-7)	100 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

xylene (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

acetone (CAS 67-64-1)	6532
toluene (CAS 108-88-3)	6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

acetone (CAS 67-64-1)	35 %WV
toluene (CAS 108-88-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

acetone (CAS 67-64-1)	6532
toluene (CAS 108-88-3)	594

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

acetone (CAS 67-64-1)	Low priority

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

acetone (CAS 67-64-1)
ethylbenzene (CAS 100-41-4)

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 309 of 1315

liquefied petroleum gas (CAS 68476-86-8)
N-methyl-2-pyrrolidone (CAS 872-50-4)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. New Jersey Worker and Community Right-to-Know Act

acetone (CAS 67-64-1)
ethylbenzene (CAS 100-41-4)
N-methyl-2-pyrrolidone (CAS 872-50-4)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. Massachusetts RTK - Substance List

acetone (CAS 67-64-1)
ethylbenzene (CAS 100-41-4)
N-methyl-2-pyrrolidone (CAS 872-50-4)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. Pennsylvania Worker and Community Right-to-Know Law

acetone (CAS 67-64-1)
ethylbenzene (CAS 100-41-4)
N-methyl-2-pyrrolidone (CAS 872-50-4)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. Rhode Island RTK

acetone (CAS 67-64-1)
ethylbenzene (CAS 100-41-4)
toluene (CAS 108-88-3)
xylene (CAS 1330-20-7)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

acetaldehyde (CAS 75-07-0)	Listed: April 1, 1988
benzene (CAS 71-43-2)	Listed: February 27, 1987
cumene (CAS 98-82-8)	Listed: April 6, 2010
ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004
naphthalene (CAS 91-20-3)	Listed: April 19, 2002

US - California Proposition 65 - CRT: Listed date/Developmental toxin

benzene (CAS 71-43-2)	Listed: December 26, 1997
N-methyl-2-pyrrolidone (CAS 872-50-4)	Listed: June 15, 2001
toluene (CAS 108-88-3)	Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

benzene (CAS 71-43-2)	Listed: December 26, 1997

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	47.5 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as a Gasket Adhesive Remover, Graffiti Remover and Paint Remover or Stripper. This product is compliant for use in all 50 states.
VOC content (CA)	47.5 %
VOC content (OTC)	47.5 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 310 of 1315

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 10-15-2014

Revision date 09-12-2017

Prepared by Allison Yoon

Version # 02

Further information CRC # 553B/1002570

HMIS® ratings
Health: 2*
Flammability: 4
Physical hazard: 0
Personal protection: B

NFPA ratings
Health: 2
Flammability: 4
Instability: 0

NFPA ratings

Disclaimer The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..

Revision Information This document has undergone significant changes and should be reviewed in its entirety.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

1. Identification

Product identifier **Lectra-Motive® Electric Parts Cleaner**

Other means of identification

Product code 05018

Recommended use Energized electrical cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)
703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Gases under pressure	Compressed gas
Health hazards	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word Danger

Hazard statement Contains gas under pressure; may explode if heated. Causes skin irritation. May cause drowsiness or dizziness. May cause cancer. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49°C/120°F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist or vapor. Avoid breathing gas. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

Response If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If exposed or concerned: Get medical attention. Collect spillage.

Storage Store locked up. Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.

Disposal Dispose of contents/container in accordance with local/regional/national regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Tetrachloroethylene	Perchloroethylene	127-18-4	90 - 100
Carbon dioxide		124-38-9	1 - 5

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.

Most important symptoms/effects, acute and delayed May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes and mucous membranes. Irritation of nose and throat. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Dry chemical, CO2, or water spray.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Contents under pressure. Exposure to high temperature may cause can to burst. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire-fighting equipment/instructions In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Avoid breathing gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Collect spillage. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist or vapor. Avoid breathing gas. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities Level 1 Aerosol.

Contents under pressure. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Do not handle or store near an open flame, heat or other sources of ignition. Exposure to high temperature may cause can to burst. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Tetrachloroethylene (CAS 127-18-4)	Ceiling	200 ppm
	TWA	100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Tetrachloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Tetrachloroethylene (CAS 127-18-4)	0.5 mg/l	Tetrachloroethylene	Blood	*
	3 ppm	Tetrachloroethylene	End-exhaled air	*

* - For sampling details, please see the source document.

Exposure guidelines

US - Minnesota Haz Subs: Skin designation applies

Tetrachloroethylene (CAS 127-18-4)	Skin designation applies.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower should be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Viton®. Polyvinyl alcohol (PVA). Nitrile. Silver Shield®

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Colorless.

Odor Irritating.

Odor threshold 50 ppm

pH Not available.

Melting point/freezing point -8.1 °F (-22.3 °C) estimated

Initial boiling point and boiling range 250.3 °F (121.3 °C) estimated

Flash point None (Tag Closed Cup)

Evaporation rate Very fast.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapor pressure 1352.4 hPa estimated

Vapor density 5.76 (air = 1)

Relative density 1.62

Solubility (water) 0.02 % (77 °F (25 °C))

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity (kinematic) Not available.

Percent volatile 97.7 % estimated

Other information

Partition coefficient (oil/water) 2.88

Released to Imaging: 4/22/2025 3:42:03 PM

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	Hydrogen chloride. Trace amounts of chlorine and phosgene. Carbon oxides. Halogenated materials. Carbonyl halides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Narcotic effects.

Product	Species	Test Results
Lectra-Motive® Electric Parts Cleaner		
Acute		
Dermal		
LD50	Rabbit	3305 mg/kg estimated
Inhalation		
LC50	Rat	20 mg/l, 4 Hours estimated
Oral		
LD50	Rat	2692 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Tetrachloroethylene (CAS 127-18-4) 2A Probably carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Tetrachloroethylene (CAS 127-18-4) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Based on available data, the classification criteria are not met.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product		Species	Test Results
Lectra-Motive® Electric Parts Cleaner			
Aquatic			
Fish	LC50	Fish	19.1805 mg/l, 96 hours estimated

Components		Species	Test Results
Tetrachloroethylene (CAS 127-18-4)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4.73 - 5.27 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)
Tetrachloroethylene 2.88

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This material and its container must be disposed of as hazardous waste. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D039: Waste Tetrachloroethylene
F001: Waste Halogenated Solvent - Spent Halogenated Solvent Used in Degreasing
F002: Waste Halogenated Solvent - Spent Halogenated Solvent

US RCRA Hazardous Waste U List: Reference
Tetrachloroethylene (CAS 127-18-4) U210

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1950
UN proper shipping name Aerosols, poison, Limited Quantity
Transport hazard class(es)
Class 2.2
Subsidiary risk 6.1(PGIII)
Label(s) 2.2, 6.1
Packing group Not applicable.
Special precautions for user Forbidden from transportation by air.
Packaging exceptions 306
Packaging non bulk None
Packaging bulk None

IATA

UN number UN1950
UN proper shipping name Aerosols, non-flammable, containing substances in Division 6.1, Packing Group III
Transport hazard class(es)
Class 2.2
Subsidiary risk 6.1
Packing group Not applicable.
Environmental hazards No.

ERG Code	2P
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2
Subsidiary risk	6.1
Packing group	Not applicable.
Environmental hazards	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Tetrachloroethylene (CAS 127-18-4)

CERCLA Hazardous Substance List (40 CFR 302.4)

Tetrachloroethylene (CAS 127-18-4)

CERCLA Hazardous Substances: Reportable quantity

Tetrachloroethylene (CAS 127-18-4) 100 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Tetrachloroethylene (CAS 127-18-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Tetrachloroethylene (CAS 127-18-4)

US. New Jersey Worker and Community Right-to-Know Act

Carbon dioxide (CAS 124-38-9)

US. Massachusetts RTK - Substance List

Carbon dioxide (CAS 124-38-9)
Tetrachloroethylene (CAS 127-18-4)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Rhode Island RTK

Tetrachloroethylene (CAS 127-18-4)

US. New Jersey Worker and Community Right-to-Know Act

Tetrachloroethylene (CAS 127-18-4)

US. Pennsylvania Worker and Community Right-to-Know Law

Tetrachloroethylene (CAS 127-18-4)
Carbon dioxide (CAS 124-38-9)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Tetrachloroethylene (CAS 127-18-4) Listed: April 1, 1988

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	0 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as an Energized Electrical Cleaner for the following states: California, Connecticut, Delaware, District of Columbia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, Rhode Island and Virginia. It is for energized equipment use only. It is not to be used for motorized vehicle maintenance or their parts. This product is compliant for use in all 50 states.
VOC content (CA)	0 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	12-20-2013
Revision date	01-20-2016
Prepared by	Allison Cho
Version #	03
Further information	CRC # 491G

Released to Imaging: 4/22/2025 3:42:03 PM

HMIS® ratings	Health: 2* Flammability: 0 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 2 Flammability: 0 Instability: 0
NFPA ratings	
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

SAFETY DATA SHEET

1. Identification

Product identifier	**Wasp & Hornet Killer Plus™**
Other means of identification	
Product code	14010
Registration number	EPA: 55809-3
Recommended use	Wasp and hornet insecticide
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: Do not pierce or burn, even after use. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist or vapor. Wash thoroughly after handling. Wear protective gloves. Avoid release to the environment.

Released to Imaging: 4/22/2025 3:42:03 PM

Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. Collect spillage.
Storage	Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), hydrotreated light		64742-47-8	90 - 100
Carbon dioxide		124-38-9	1 - 3
Tetramethrin		7696-12-0	0.2
d-Phenothrin		26002-80-2	0.1

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Dry chemicals. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	100 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear protective gloves such as: Neoprene. Nitrile.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Aerosol.
Color	Clear.
Odor	Petroleum.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-72.4 °F (-58 °C) estimated
Initial boiling point and boiling range	336 °F (168.9 °C) estimated
Flash point	205 °F (96.1 °C) Pensky-Martens Closed Cup
Evaporation rate	Slow.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.5 % estimated
Flammability limit - upper (%)	5.5 % estimated
Vapor pressure	1637.3 hPa estimated
Vapor density	> 2 (air = 1)
Relative density	0.82 estimated
Solubility (water)	Negligible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	410 °F (210 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	95.8 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects.

Product	Species	Test Results
Wasp & Hornet Killer Plus™		
Acute		
Dermal		
LD50	Rabbit	2093.4304 mg/kg estimated
Inhalation		
LC50	Rat	5.356 mg/l, 4 Hours estimated
Oral		
LD50	Rat	5138.2534 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Product		Species	Test Results
Wasp & Hornet Killer Plus™			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	54.8358 mg/l, 48 hours estimated

Released to Imaging: 4/22/2025 3:42:03 PM

Product		Species	Test Results
Fish	LC50	Fish	1.5721 mg/l, 96 hours estimated

Components		Species	Test Results
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)			
Aquatic			
Acute			
Fish	LC50	Bluegill (Lepomis macrochirus)	2.2 mg/l, 96 hours
Tetramethrin (CAS 7696-12-0)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	0.11 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.0037 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Tetramethrin 4.58

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This product is not a RCRA hazardous waste (See 40 CFR Part 261.20 – 261.33). If empty: Place in trash or offer for recycling this container. If partly filled: Call your local solid waste agency for disposal instructions. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1950
UN proper shipping name Aerosols, flammable, Limited Quantity
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Label(s) 2.1
Packing group Not applicable.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions N82
Packaging exceptions 306
Packaging non bulk None
Packaging bulk None

IATA

UN number UN1950
UN proper shipping name Aerosols, flammable, Limited Quantity
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Packing group Not applicable.
Environmental hazards No.
ERG Code 10L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY, MARINE POLLUTANT
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

d-Phenothrin (CAS 26002-80-2)
Tetramethrin (CAS 7696-12-0)

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

US EPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

FIFRA Information	This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.
Signal word	Warning.
Hazard statement	Harmful if absorbed through skin. Causes moderate eye irritation. This product is registered in all 50 United States and Puerto Rico. This product is not registered outside of the United States and Puerto Rico.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. New Jersey Worker and Community Right-to-Know Act

Carbon dioxide (CAS 124-38-9)
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)
d-Phenothrin (CAS 26002-80-2)
Tetramethrin (CAS 7696-12-0)

US. Massachusetts RTK - Substance List

Carbon dioxide (CAS 124-38-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Carbon dioxide (CAS 124-38-9)
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)

US. Rhode Island RTK

d-Phenothrin (CAS 26002-80-2)
Tetramethrin (CAS 7696-12-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	96.5 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as a Wasp and Hornet Insecticide. This product is compliant for use in all 50 states.
VOC content (CA)	1.4 %
VOC content (OTC)	1.4 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Released to Imaging: 4/22/2025 3:42:03 PM

16. Other information, including date of preparation or last revision

Issue date	03-11-2015
Prepared by	Allison Cho
Version #	01
Further information	CRC # 431J
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 2 Flammability: 3 Instability: 0
NFPA ratings	
Disclaimer	CRC cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: CRUDE OIL SWEET
Product Description: Petroleum Crude Oil

Intended Use: Crude oil

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
810 Houston St.
Fort Worth, TX 76102 USA
24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable liquid: Category 2.
Eye irritation: Category 2A. Carcinogen: Category 1B. Specific target organ toxicant (central nervous system): Category 3. Specific target organ toxicant (repeated exposure): Category 2. Aspiration toxicant: Category 1.

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H225: Highly flammable liquid and vapor. H304: May be fatal if swallowed and enters airways. H319: Causes serious eye irritation. H336: May cause drowsiness or dizziness. H350: May cause cancer. H373: May cause damage to organs through prolonged or repeated exposure. Blood, Liver, Spleen, Thymus

Precautionary Statements:
P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P233: Keep container tightly closed. P240: Ground / bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating, and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P260: Do not breathe mist / vapours. P264: Wash skin thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313: IF exposed or concerned: Get medical advice/ attention. P331: Do NOT induce vomiting. P337 + P313: If eye irritation persists: Get medical advice/attention. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish. P391: Collect spillage.P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up.P501: Dispose of contents and container in accordance with local regulations.

Contains: PETROLEUM CRUDE OIL

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. Repeated exposure may cause skin dryness or cracking. May be irritating to nose, throat, and lungs. May cause central nervous system depression. Exposure to benzene is associated with cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders (see Section 11).

ENVIRONMENTAL HAZARDS

Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID:	Health:	2	Flammability:	3	Reactivity:	0
HMIS Hazard ID:	Health:	2*	Flammability:	3	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
PETROLEUM CRUDE OIL	8002-05-9	100%	H225, H304, H336, H350(1B), H319(2A), H373, H401, H411

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BENZENE	71-43-2	1 - 5%	H225, H303, H304, H340(1B), H350(1A), H315, H319(2A), H372, H401
CYCLOHEXANE	110-82-7	1 - 5%	H225, H304, H336, H315, H400(M factor 1), H410(M factor 1)
N-HEXANE	110-54-3	1 - 5%	H225, H304, H336, H361(F), H315, H373, H401, H411
NAPHTHALENE	91-20-3	1 - 5%	H302, H351, H400(M factor 1), H410(M factor 1)
TOLUENE	108-88-3	1 - 5%	H225, H304, H336, H361(D), H315, H373, H401, H412
XYLENES	1330-20-7	1 - 5%	H226, H304, H312, H332, H335, H315, H320(2B), H373, H401

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

NOTE: Hydrogen sulfide (H2S) may be present in the material in trace quantities (by weight) and, when present, may accumulate to toxic or flammable concentrations in enclosed spaces such as tanks or tanker/railcar headspaces.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself

or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. For hot product: Immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Highly flammable. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Exposure to fire can generate toxic fumes. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Hydrogen sulfide, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: -18°C (0°F) - <23°C (73°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Chemical goggles are recommended if splashes or contact with eyes is possible. Work gloves that are resistant to aromatic hydrocarbons are recommended. If contact with hot product is possible or anticipated, gloves should be heat-resistant and thermally insulated. Note: gloves made of PVA are not water-resistant, and are not suitable for emergency use. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic and, if necessary, heat resistant and thermal insulated material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Water Spill: Stop leak if you can do it without risk. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. If permitted by regulatory authorities the use of suitable dispersants should be considered where indicated in local oil spill contingency plans.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Use booms as a barrier to protect shorelines. Use containment booms when the ambient temperature is below the flash point of the material. Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Crude oils can contain trace levels of natural impurities including heavy metals, such as mercury, nickel or lead, as well as naturally occurring radioactive material. As the impurity content may concentrate during refining/processing, process operations, including equipment, materials and products should be evaluated to identify and manage any potential risks to health, safety or the environment or regulatory concerns.

Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Do not enter storage areas or confined spaces unless adequately ventilated. Harmful amounts of H2S may be present. Material may contain trace amounts of naturally occurring radioactive material (NORM), which will accumulate in process equipment and storage vessels. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BENZENE		OSHA Action level	0.5 ppm		N/A	OSHA Sp.Reg.
BENZENE		STEL	5 ppm		N/A	OSHA Sp.Reg.
BENZENE		TWA	1 ppm		N/A	OSHA Sp.Reg.
BENZENE		STEL	1 ppm		N/A	ExxonMobil
BENZENE		TWA	0.5 ppm		N/A	ExxonMobil

BENZENE		STEL	2.5 ppm		Skin	ACGIH
BENZENE		TWA	0.5 ppm		Skin	ACGIH
CYCLOHEXANE		TWA	1050 mg/m3	300 ppm	N/A	OSHA Z1
CYCLOHEXANE		TWA	100 ppm		N/A	ACGIH
N-HEXANE		TWA	1800 mg/m3	500 ppm	N/A	OSHA Z1
N-HEXANE		TWA	50 ppm		Skin	ACGIH
NAPHTHALENE		TWA	50 mg/m3	10 ppm	N/A	OSHA Z1
NAPHTHALENE		TWA	10 ppm		Skin	ACGIH
PETROLEUM CRUDE OIL		TWA	2000 mg/m3	500 ppm	N/A	OSHA Z1
TOLUENE		Ceiling	300 ppm		N/A	OSHA Z2
TOLUENE		Maximum concentration	500 ppm		N/A	OSHA Z2
TOLUENE		TWA	200 ppm		N/A	OSHA Z2
TOLUENE		TWA	20 ppm		N/A	ACGIH
XYLENES		TWA	435 mg/m3	100 ppm	N/A	OSHA Z1
XYLENES		STEL	150 ppm		N/A	ACGIH
XYLENES		TWA	100 ppm		N/A	ACGIH
Hydrogen sulfide		Ceiling	20 ppm		N/A	OSHA Z2
Hydrogen sulfide		Maximum concentration	50 ppm		N/A	OSHA Z2
Hydrogen sulfide		STEL	14 mg/m3	10 ppm	N/A	ExxonMobil
Hydrogen sulfide		TWA	7 mg/m3	5 ppm	N/A	ExxonMobil
Hydrogen sulfide		STEL	5 ppm		N/A	ACGIH
Hydrogen sulfide		TWA	1 ppm		N/A	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

Substance	Specimen	Sampling Time	Limit	Determinant	Source
BENZENE	Creatinine in urine	End of shift	500 ug/g	t,t-Muconic acid	ACGIH BELs (BEIs)
BENZENE	Creatinine in urine	End of shift	25 ug/g	S-Phenylmercapturic acid	ACGIH BELs (BEIs)
N-HEXANE	Urine	End of shift at end of work wk	0.4 mg/l	2,5-Hexanedion, without hydrolysis	ACGIH BELs (BEIs)
NAPHTHALENE	No Biological Specimen provided	End of shift	Not Assigned	1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis	ACGIH BELs (BEIs)
TOLUENE	Blood	Prior to last shift of work wk	0.02 mg/l	Toluene	ACGIH BELs (BEIs)
TOLUENE	Creatinine in	End of shift	0.3 mg/g	o-Cresol, with hydrolysis	ACGIH BELs

	urine				(BEIs)
TOLUENE	Urine	End of shift	0.03 mg/l	Toluene	ACGIH BELs (BEIs)
XYLENES	Creatinine in urine	End of shift	1.5 g/g	Methylhippuric acids	ACGIH BELs (BEIs)

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Positive-pressure, air-supplied respirator in areas where H2S vapors may accumulate is recommended.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: Chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Black
Odor: Petroleum/Solvent
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.661 - 1.013
Flammability (Solid, Gas): N/A
Flash Point [Method]: -18°C (0°F) - <23°C (73°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: > 35°C (95°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: 0 kPa (0 mm Hg) at 20 C - 106.4 kPa (800 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: >0.42 cSt (0.42 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -73°C (-99°F) - 48°C (118°F)

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Not determined.
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation: Data available.	May dry the skin leading to discomfort and dermatitis. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: Data available.	Irritating and will injure eye tissue. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 474 479
Carcinogenicity: Data available.	Caused cancer in laboratory animals. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 451
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 421
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: Data available.	May cause drowsiness or dizziness. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401 402
Repeated Exposure: Data available.	Concentrated, prolonged or deliberate exposure may cause organ damage. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 411

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
NAPHTHALENE	Inhalation Lethality: 4 hour(s) LC50 > 0.4 mg/l (Max attainable vapor conc.) (Rat); Oral Lethality: LD50 533 mg/kg (Mouse)

OTHER INFORMATION

For the product itself:

Target Organs Repeated Exposure: Blood, Liver, Spleen, Thymus

Vapor/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects including death.

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

Crude oil: Contains polycyclic aromatic compounds (PACs). Prolonged and / or repeated exposure by skin or inhalation of certain PACs may cause cancer of the skin, lung, and of other sites of the body. In animal studies, some crudes produced skin tumors in mice, while other crudes produced no tumors. Developmental studies of crude oil in lab animals showed reduced fetal weight and increased fetal resorptions at maternally toxic levels. Repeated dermal exposure to crude oils in rats resulted in toxicity to the blood, liver, thymus, and bone marrow.

Contains:

BENZENE: Caused cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders in human studies. Caused genetic effects and effects on the immune system in laboratory animal and some human studies. Caused toxicity to the fetus and cancer in laboratory animal studies.

Crude oil: Contains polycyclic aromatic compounds (PACs). Prolonged and / or repeated exposure by skin or inhalation of certain PACs may cause cancer of the skin, lung, and of other sites of the body. In animal studies, some crudes produced skin tumors in mice, while other crudes produced no tumors. Developmental studies of crude oil in lab animals showed reduced fetal weight and increased fetal resorptions at maternally toxic levels. Repeated dermal exposure to crude oils in rats resulted in toxicity to the blood, liver, thymus, and bone marrow.

HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

NAPHTHALENE: Exposure to high concentrations of naphthalene may cause destruction of red blood cells, anemia, and cataracts. Naphthalene caused cancer in laboratory animal studies, but the relevance of these findings to humans is uncertain.

N-HEXANE: Prolonged and/or repeated exposures to n-Hexane can cause progressive and potentially irreversible damage to the peripheral nervous system (e.g. fingers, feet, arms, legs, etc.). Simultaneous exposure to Methyl Ethyl Ketone (MEK) or Methyl Isobutyl Ketone (MIBK) and n-Hexane can potentiate the risk of adverse effects from n-Hexane on the peripheral nervous system. n-Hexane has been shown to cause testicular damage at high doses in male rats.

The relevance of this effect for humans is unknown.
TOLUENE : Concentrated, prolonged or deliberate inhalation may cause brain and nervous system damage. Prolonged and repeated exposure of pregnant animals (> 1500 ppm) have been reported to cause adverse fetal developmental effects.
ETHYLBENZENE: Caused cancer in laboratory animal studies. The relevance of these findings to humans is uncertain.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BENZENE	71-43-2	1, 3, 6
ETHYL BENZENE	100-41-4	5
NAPHTHALENE	91-20-3	2, 5

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

More volatile component -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.
Less volatile component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Low molecular wt. component -- Expected to be inherently biodegradable
High molecular wt. component -- Expected to biodegrade slowly.

Photolysis:

More water soluble component -- Expected to degrade at a moderate rate in water when exposed to sunlight.

Atmospheric Oxidation:

More volatile component -- Expected to degrade rapidly in air

BIOACCUMULATION POTENTIAL

Components -- Has the potential to bioaccumulate.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	48 hour(s)	Invertebrate	EC50 10 - 100 mg/l: data for similar materials

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY. TCLP (BENZENE)

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: PETROLEUM CRUDE OIL
Hazard Class & Division: 3
ID Number: 1267
Packing Group: II
ERG Number: 128
Label(s): 3
Transport Document Name: UN1267, PETROLEUM CRUDE OIL, 3, PG II

LAND (TDG)

Proper Shipping Name: PETROLEUM CRUDE OIL
Hazard Class & Division: 3
UN Number: 1267

Packing Group: II

Footnote: Marine Pollutant designation is applicable only if shipped over water.

SEA (IMDG)

Proper Shipping Name: PETROLEUM CRUDE OIL
Hazard Class & Division: 3
EMS Number: F-E, S-E
UN Number: 1267
Packing Group: II
Marine Pollutant: Yes
Label(s): 3
Transport Document Name: UN1267, PETROLEUM CRUDE OIL, 3, PG II, (<23°C c.c.), MARINE POLLUTANT

AIR (IATA)

Proper Shipping Name: PETROLEUM CRUDE OIL
Hazard Class & Division: 3
UN Number: 1267
Packing Group: II
Label(s) / Mark(s): 3
Transport Document Name: UN1267, PETROLEUM CRUDE OIL, 3, PG II

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Aspiration Hazard, Carcinogenicity, Flammable (gases, aerosols, liquids, or solids), Serious eye damage or eye irritation, Specific Target Organ toxicity (single or repeated exposure)

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
BENZENE	71-43-2	1 - 5%
CYCLOHEXANE	110-82-7	1 - 5%

ETHYL BENZENE	100-41-4	0.1 - 1%
N-HEXANE	110-54-3	1 - 5%
NAPHTHALENE	91-20-3	1 - 5%
POLYNUCLEAR AROMATIC HYDROCARBONS		> 0.1%
TOLUENE	108-88-3	1 - 5%
XYLENES	1330-20-7	1 - 5%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BENZENE	71-43-2	1, 2, 4, 10, 11, 13, 15, 16, 17, 18, 19
CYCLOHEXANE	110-82-7	1, 4, 13, 16, 17, 18, 19
ETHYL BENZENE	100-41-4	1, 4, 10, 17, 19
N-HEXANE	110-54-3	1, 4, 13, 16, 17, 18, 19
NAPHTHALENE	91-20-3	1, 4, 10, 13, 16, 17, 18, 19
PETROLEUM CRUDE OIL	8002-05-9	4, 13, 16, 17, 18
POLYNUCLEAR AROMATIC HYDROCARBONS		18
TOLUENE	108-88-3	1, 4, 11, 13, 15, 16, 17, 18, 19
XYLENES	1330-20-7	1, 4, 13, 15, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2
H226: Flammable liquid and vapor; Flammable Liquid, Cat 3
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H303: May be harmful if swallowed; Acute Tox Oral, Cat 5
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H312: Harmful in contact with skin; Acute Tox Dermal, Cat 4

H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A
H320(2B): Causes eye irritation; Serious Eye Damage/Irr, Cat 2B
H332: Harmful if inhaled; Acute Tox Inh, Cat 4
H335: May cause respiratory irritation; Target Organ Single, Resp Irr
H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic
H340(1B): May cause genetic defects; Germ Cell Mutagenicity, Cat 1B
H350(1A): May cause cancer; Carcinogenicity, Cat 1A
H350(1B): May cause cancer; Carcinogenicity, Cat 1B
H351: Suspected of causing cancer; GHS Carcinogenicity, Cat 2
H361(D): Suspected of damaging the unborn child; Repro Tox, Cat 2 (Develop)
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H372: Causes damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 1
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.
Section 04: First Aid Notes information was modified.
Section 11: Other Health Effects information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.
Section 16: Standard phrases for California Proposition 65 information was modified.
THIS MSDS COVERS THE FOLLOWING MATERIALS: CRUDE OIL SWEET ("Sweet" applied by definition of Society of Petroleum Engineers for oils containing sulfur compounds < 1%)

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 1A, 0, 0, 2, 1, 1 PPEC: DVF

DGN: 7136461VUS (1022635)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Baker Hughes

SAFETY DATA SHEET

Section 1. Identification

Product name : CRW132 CORROSION INHIBITOR
Product code : CRW132

Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Corrosion Inhibitor.

Print date : 1/16/2020
Validation date : 1/16/2020
Version : 4.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (optic nerve) - Category 1
AQUATIC HAZARD (ACUTE) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Harmful if swallowed, in contact with skin or if inhaled.
Causes serious eye damage.
Causes skin irritation.
Causes damage to organs. (optic nerve)
Toxic to aquatic life.

Precautionary statements

Released to Imaging: 4/22/2025 3:42:03 PM

Section 2. Hazards identification

Prevention : Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves. 4H gloves.. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : IF exposed: Call a POISON CENTER or physician. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Avoid contact with skin and clothing. Wash thoroughly after handling.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Methanol	20 - 30	67-56-1
Quaternary ammonium compounds	5 - 10	Trade secret.
Alkylpyridine salts	5 - 10	Trade secret.
Ammonium bisulfite	1 - 5	10192-30-0

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 4. First aid measures

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Harmful if inhaled.

Skin contact : Harmful in contact with skin. Causes skin irritation. Defatting to the skin.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : pain,watering,redness

Inhalation : No specific data.

Skin contact : pain or irritation,redness,dryness,cracking,blistering may occur

Ingestion : stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, alcohol-resistant foam or water spray (fog).

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : carbon dioxide,carbon monoxide,nitrogen oxides,sulfur oxides,halogenated compounds

Released to Imaging: 4/22/2025 3:42:03 PM

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Methanol	**ACGIH TLV (United States, 3/2018). Absorbed through skin.** STEL: 328 mg/m³, 0 times per shift, 15 minutes. STEL: 250 ppm, 0 times per shift, 15 minutes. TWA: 262 mg/m³, 0 times per shift, 8 hours. TWA: 200 ppm, 0 times per shift, 8 hours. **NIOSH REL (United States, 10/2016). Absorbed through skin.** STEL: 325 mg/m³, 0 times per shift, 15 minutes. STEL: 250 ppm, 0 times per shift, 15 minutes. TWA: 260 mg/m³, 0 times per shift, 10 hours. TWA: 200 ppm, 0 times per shift, 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 260 mg/m³, 0 times per shift, 8 hours. TWA: 200 ppm, 0 times per shift, 8 hours. **OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.** STEL: 325 mg/m³, 0 times per shift, 15 minutes. STEL: 250 ppm, 0 times per shift, 15 minutes. TWA: 260 mg/m³, 0 times per shift, 8 hours. TWA: 200 ppm, 0 times per shift, 8 hours.
Quaternary ammonium compounds	None.
Alkylpyridine salts	None.
Ammonium bisulfite	None.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 8. Exposure controls/personal protection

Individual protection measures

Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	:	Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.
Hand protection	:	Chemical-resistant gloves: Nitrile or Neoprene gloves. 4H gloves.
Skin protection	:	Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.
Respiratory protection	:	If a risk assessment indicates it is necessary, use a properly fitted supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	:	Liquid.
Color	:	Amber. [Dark]
Odor	:	Pungent. Amine-like.
Odor threshold	:	Not available.
pH	:	4 to 5
	:	Neat - without dilution.
Melting/freezing point	:	Not available.
Boiling point	:	Not available.
Initial Boiling Point	:	Not available.
Flash point	:	Closed cup: 31.1°C (88°F) [PMCC]
Burning time	:	Not applicable.
Burning rate	:	Not applicable.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	45.5 kPa (341.3 mm Hg, 6.6 psig) @ 54.4°C, 130 F (Reid)
Vapor density	:	>1 [Air = 1]
Relative density	:	0.97 (15.6°C)
Density	:	8.08 (lbs/gal)
Solubility in water	:	Soluble
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Dynamic (15.6°C): 8 cP
VOC	:	Not available.
Pour Point	:	-40°C (-40°F)

Released to Imaging: 4/22/2025 3:42:03 PM

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and reducing materials.
Methanol is incompatible and may react with acetyl bromide, alkyl aluminum solutions, beryllium hydride, boron trichloride, nitric acid, cyanuric chloride, dichloromethane, diethylzinc, metals (granulated forms of aluminum and magnesium – including aluminum and zinc salts), phosphorus III oxide, and potassium tert-butoxide.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Methanol	LC50 Inhalation Gas. LC50 Inhalation Gas. LD50 Dermal LD50 Oral LD50 Oral	Rat Rat Rabbit Human Rat	145000 ppm 64000 ppm 15800 mg/kg 500 mg/kg 5600 mg/kg	1 hours 4 hours - - -

Irritation/Corrosion

No applicable toxicity data

Sensitization

No applicable toxicity data

Mutagenicity

No applicable toxicity data

Carcinogenicity

No applicable toxicity data

Reproductive toxicity

No applicable toxicity data

Teratogenicity

No applicable toxicity data

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Methanol	Category 1	Oral	optic nerve

Released to Imaging: 4/22/2025 3:42:03 PM

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Harmful if inhaled.

Skin contact : Harmful in contact with skin. Causes skin irritation. Defatting to the skin.

Ingestion : Harmful if swallowed.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	321.6 mg/kg
Dermal	1003.3 mg/kg
Inhalation (vapors)	10.03 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Methanol	Acute EC50 16.912 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 10000000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2500000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae - Ulva pertusa	96 hours
CRW132 CORROSION INHIBITOR	Acute LC50 2.61 mg/l	Daphnia	48 hours
	Acute LC50 3 ppm	Daphnia	48 hours
	Acute LC50 2.3 mg/l	Fish - Fathead minnow	96 hours
	Acute LC50 2.3 mg/l	Fish - Sheepshead minnow	96 hours

Persistence and degradability

Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN1992	UN1992	UN1992	UN1992
UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S. (Contains: Methanol)	FLAMMABLE LIQUID, TOXIC, N.O.S. (Contains: Methanol)	FLAMMABLE LIQUID, TOXIC, N.O.S. (Contains: Methanol)	FLAMMABLE LIQUID, TOXIC, N.O.S. (Contains: Methanol)
Transport hazard class(es)	3 (6.1)	3 (6.1)	3 (6.1)	3 (6.1)
Packing group	III	III	III	III
Environmental hazards	No.	No.	No.	No.

Additional information

DOT Classification : **Reportable quantity** 16722.2 lbs / 7591.9 kg [2067.6 gal / 7826.7 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.26-2.36 (Class 6).

IMDG : **Emergency schedules** F-E S-D

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

DOT Reportable Quantity Methanol, 2070 gal of this product.
Ammonium bisulfite, 24752 gal of this product.

Marine pollutant Not available.

Section 14. Transport information

North-America NAERG : 131

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export**: No products were found.

TSCA 12(b) annual export notification: No products were found.

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: ammonium hydrogensulphite

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :

List name	Status	Ingredient name	Name on list	Conc.
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Methanol	Methanol	20 - 30

SARA 302/304 : No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

SARA 313

	Product name	CAS number	%
Supplier notification	Methanol Ammonium bisulfite	67-56-1 10192-30-0	20 - 30 1 - 5

California Prop. 65

⚠ **WARNING**: This product can expose you to methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)

History

Date of printing : 1/16/2020

Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

Issuing Date: 14-Apr-2015 **Revision Date:** 14-Apr-2015 **Version** 1

1. IDENTIFICATION

Product Name	DAWN Ultra Original
Product ID:	97234074_RET_NG
Product Type:	Finished Product - Consumer (Retail) Use Only
Recommended Use	Dish Care
Restrictions on Use	Use only as directed on label.
Synonyms	Dawn Ultra Total Clean - Pomegranate Awakening (97234081_RET_NG) Dawn Ultra Total Clean - Apple Orchard Harvest (97234083_RET_NG)
Manufacturer	PROCTER & GAMBLE - Fabric and Home Care Division Ivorydale Technical Centre 5289 Spring Grove Avenue Cincinnati, Ohio 45217-1087 USA Procter & Gamble Inc. P.O. Box 355, Station A Toronto, ON M5W 1C5 1-800-331-3774
E-mail Address	pgsds.im@pg.com
Emergency Telephone	Transportation (24 HR) CHEMTREC - 1-800-424-9300 (U.S./ Canada) or 1-703-527-3887 Mexico toll free in country: 800-681-9531

2. HAZARD IDENTIFICATION

"Consumer Products", as defined by the US Consumer Product Safety Act and which are used as intended (typical consumer duration and frequency), are exempt from the OSHA Hazard Communication Standard (29 CFR 1910.1200). This SDS is being provided as a courtesy to help assist in the safe handling and proper use of the product.

This product is classifed under 29CFR 1910.1200(d) and the Canadian Hazardous Products Regulation as follows:.

Hazard Category	
Eye Damage / Irritation	Category 2B
Signal Word	WARNING
Hazard Statements	Causes eye irritation
Hazard pictograms	None

Received by OCD: 4/14/2025 11:49:46 AM

Precautionary Statements - Prevention Wash hands thoroughly after handling

Precautionary Statements - Response IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF SWALLOWED:
Drink 1 or 2 glasses of water

Precautionary Statements - Storage None

Precautionary Statements - Disposal None

Hazards not otherwise classified (HNOC) None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients are listed according to 29CFR 1910.1200 Appendix D and the Canadian Hazardous Products Regulation

Chemical Name	Synonyms	Trade Secret	CAS-No	Weight %
Sulfuric acid, mono-C10-16-alkyl esters, sodium salts	-	No	68585-47-7	15 - 20
Amine oxides, C10-16-alkyldimethyl	-	No	70592-80-2	5 - 10
Poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-hydroxy-, C10-16-alkyl ethers, sodium salts	-	No	68585-34-2	5 - 10
Ethanol	-	No	64-17-5	1 - 5

4. FIRST AID MEASURES

First aid measures for different exposure routes

Eye contact Rinse with plenty of water. Get medical attention immediately if irritation persists.

Skin contact Rinse with plenty of water. Get medical attention if irritation develops and persists.

Ingestion Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

Inhalation Move to fresh air. If symptoms persist, call a physician.

Most important symptoms/effects, acute and delayed None under normal use conditions.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Dry chemical, CO_2, alcohol-resistant foam or water spray.

Unsuitable Extinguishing Media None.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Special hazard None known.

Special protective equipment for fire-fighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Specific hazards arising from the chemical None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment. Do not get in eyes, on skin, or on clothing.

Advice for emergency responders Use personal protective equipment as required.

Methods and materials for containment and cleaning up

Methods for containment Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	CAS-No	ACGIH TLV	OSHA PEL	Mexico PEL
Ethanol	64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m³	Mexico: TWA 1000 ppm Mexico: TWA 1900 mg/m³

Chemical Name	CAS-No	Alberta	Quebec	Ontario TWAEV	British Columbia
Ethanol	64-17-5	TWA: 1000 ppm TWA: 1880 mg/m³	TWA: 1000 ppm TWA: 1880 mg/m³	STEL: 1000 ppm	STEL: 1000 ppm

No relevant exposure guidelines for other ingredients

Exposure controls

Engineering Measures **Distribution, Workplace and Household Settings:**
Ensure adequate ventilation

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction

Personal Protective Equipment

Eye Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Use appropriate eye protection

Hand Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Protective gloves

Skin and Body Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
Wear suitable protective clothing

Respiratory Protection

Distribution, Workplace and Household Settings:
No special protective equipment required

Product Manufacturing Plant (needed at Product-Producing Plant ONLY):
In case of insufficient ventilation wear suitable respiratory equipment

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @20°C	liquid
Appearance	Various color by product
Odor	Scented
Odor threshold	No information available

Property	Values	Note
pH value	9	10% aqueous solution
Melting/freezing point	No information available	
Boiling point/boiling range	No information available	
Flash point	46.1 - 57.2 °C / 115 - 135 °F	Product is an aqueous solution containing <= 24% alcohol and> 50% water
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limit	No information available	
Lower Flammability Limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	1	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	.
Decomposition temperature	No information available	.
Viscosity of Product	No information available	

VOC Content (%) Products comply with US state and federal regulations for VOC content in consumer

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

products.

10. STABILITY AND REACTIVITY

Reactivity None under normal use conditions.

Stability Stable under normal conditions.

Hazardous polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

Conditions to Avoid None under normal processing.

Materials to avoid None in particular.

Hazardous Decomposition Products None under normal use.

11. TOXICOLOGICAL INFORMATION

Product Information

Information on likely routes of exposure

Inhalation No known effect.
Skin contact No known effect.
Ingestion No known effect.
Eye contact Irritating to eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute toxicity No known effect.
Skin corrosion/irritation No known effect.
Serious eye damage/eye irritation Irritating to eyes.
Skin sensitization No known effect.
Respiratory sensitization No known effect.
Germ cell mutagenicity No known effect.
Neurological Effects No known effect.
Reproductive toxicity No known effect.
Developmental toxicity No known effect.
Teratogenicity No known effect.
STOT - single exposure No known effect.
STOT - repeated exposure No known effect.
Target Organ Effects No known effect.
Aspiration hazard No known effect.
Carcinogenicity No known effect.

Component Information

Chemical Name	CAS-No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Amine oxides, C10-16-alkyldimethyl	70592-80-2	1330.00 mg/kg (rat)	-	-
Poly(oxy-1,2-ethanediyl), alpha-sulfo-omega-hydroxy-, C10-16-alkyl ethers, sodium salts	68585-34-2	>2001 mg/kg	-	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not expected to be hazardous to the environment.

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Mobility No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste from Residues / Unused Products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Codes (non-household setting) 331

14. TRANSPORT INFORMATION

DOT Not regulated

IMDG Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	CAS-No	Hazardous Substances RQs	Extremely Hazardous Substances RQs	CERCLA/SARA 302 TPQ
Sodium hydroxide	1310-73-2	1000 lb	-	

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product contains the following substance(s) which are either listed as hazardous air pollutants (HAPS) or VOC's per the Clean Air Act:

Chemical Name	CAS-No	CAA (Clean Air Act) - 1990 Hazardous Air Pollutants
Phenoxyethanol	122-99-6	X

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CAS-No	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide	1310-73-2	1000 lb	-	-	X

California Proposition 65
This product is not subject to warning labeling under California Proposition 65.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

U.S. State Regulations (RTK)

Chemical Name	CAS-No	New Jersey
Ethanol	64-17-5	X

Chemical Name	CAS-No	Massachusetts
Ethanol	64-17-5	X

Chemical Name	CAS-No	Pennsylvania
Ethanol	64-17-5	X
Sodium hydroxide	1310-73-2	X
Phenoxyethanol	122-99-6	X

International Inventories

United States
All intentionally-added components of this product(s) are listed on the US TSCA Inventory.

Canada
This product is in compliance with CEPA for import by P&G.

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act

16. OTHER INFORMATION

Issuing Date: 14-Apr-2015
Revision Date: 14-Apr-2015
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Released to Imaging: 4/22/2025 3:42:03 PM

BRENNTAG

SAFETY DATA SHEET

1. Identification

Product identifier **DEFOAMER 1017F**

Other means of identification None.

Recommended use ALL PROPER AND LEGAL PURPOSES

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Brenntag / Coastal Chemical Co., LLC

Address 3520 Veterans Memorial Drive
Abbeville, LA 70510

Telephone 337-893-3862

E-mail Not available.

Emergency phone number 800-424-9300 CHEMTREC

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The substance does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Propane-1,2-diol, propoxylated (>1 <4.5 mol PO)		25322-69-4	100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Material	Type	Value	Form
Propane-1,2-diol, propoxylated (>1 <4.5 mol PO) (CAS 25322-69-4)	TWA	10 mg/m3	Aerosol.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

The following are recommendations for Personnel Protective Equipment (PPE). The employer/user of this product must perform a Hazard Assessment of the workplace according to OSHA regulations 29 CFR 1910.132 to determine the appropriate PPE for use while performing any task involving potential exposure to this product.

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear suitable protective clothing.

Released to Imaging: 4/22/2025 3:42:03 PM

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Colorless
Odor	CHARACTERISTIC
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	365.0 °F (185.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	8.36 lbs/gal
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Molecular formula	(C3-H6-O)MULT-H2-O
Oxidizing properties	Not oxidizing.
Percent volatile	100 %
Specific gravity	1
VOC	100 % 100 % EPA estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
Propane-1,2-diol, propoxylated (>1 <4.5 mol PO) (CAS 25322-69-4)			
Aquatic			
Fish	LC50	Inland silverside (Menidia beryllina)	650 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

DOT information on packaging may be different from that listed.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-21-2017

Version # 01

HMIS® ratings
Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 0
Flammability: 1
Instability: 0

Disclaimer
While Brenntag believes the information contained herein to be accurate, Brenntag makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The Buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Brenntag's terms and conditions of sale.

Revision information
Accidental release measures: Methods and materials for containment and cleaning up
Exposure controls/personal protection: Generalized Statements
Other information, including date of preparation or last revision: Disclaimer
Other information, including date of preparation or last revision: Further information

Page 369 of 1315

Product Number 834

SAFETY DATA SHEET

Issuing Date No data available **Revision Date** 11-DEC-2017 **Revision Number** 3

The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Denatured Alcohol**

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Fuel

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name Sunnyside Corporation
Supplier Address 225 Carpenter Avenue
Wheeling
IL
60090
US
Supplier Phone Number Phone:8003238611
Fax:8475419043

Supplier Email sscontact@sunnysidecorp.com
Emergency telephone number Chem Trec 8004249300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Specific target organ toxicity (single exposure)	Category 1
Flammable liquids	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

Hazard Statements
Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled
Causes damage to organs
Highly flammable liquid and vapor

Appearance Clear **Physical State** Liquid **Odor** Alcohol

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ ventilating/ lighting/ equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response
IF exposed: Call a POISON CENTER or doctor/physician
Specific treatment (see supplemental first aid instructions on this label)

Skin
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician

Page 370 of 1315
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity

Other information

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

Interactions with Other Chemicals
Use of alcoholic beverages may enhance toxic effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Ethyl Alcohol	64-17-5	30 - 60	
Methyl Alcohol	67-56-1	30 - 60	

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

General Advice — Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact — Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Seek immediate medical attention/advice. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin Contact — Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Page 371 of 1315
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 372 of 1315

Inhalation	Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If not breathing, give artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Ingestion	Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects	Coughing and/ or wheezing. Difficulty in breathing.

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Dry chemical. Carbon dioxide (CO_2). Water spray. Alcohol resistant foam.

Unsuitable Extinguishing Media
CAUTION: All these products have a very low flash point. Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
Vapors can form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.

Uniform Fire Code	Flammable Liquid: I-B Highly Toxic: Liquid

Hazardous Combustion Products
Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact	No.
Sensitivity to Static Discharge	Yes.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 373 of 1315

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Full encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Stop leak if you can do it without risk.
Other Information	Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Environmental Precautions

Environmental Precautions	Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for Containment	A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Methods for cleaning up	Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling	Handle in accordance with good industrial hygiene and safety practice. Use personal protection equipment. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Use only with adequate ventilation and in closed systems. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

Conditions for safe storage, including any incompatibilities

Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store away from other materials. Store locked up. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.
Incompatible Products	None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 374 of 1315

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methyl Alcohol	STEL = 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m^3 (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m^3 (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m^3 (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m^3 STEL: 325 mg/m^3 STEL: 250 ppm
Ethyl Alcohol	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m^3 (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m^3	IDLH: 3300 ppm 10% LEL TWA: 1000 ppm TWA: 1900 mg/m^3

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tight sealing safety goggles.

Skin and Body Protection Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves. Antistatic boots.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Liquid		
Appearance	Clear	**Odor**	Alcohol
Color	No information available	**Odor Threshold**	No information available

Property	Values	Remarks/ Method
pH	N/A	None known
Melting / freezing point	No data available	None known

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Boiling point / boiling range	64 °C / 147 °F	None known
Flash Point	10 C / 50 F	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	3.3% @ 77°F	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	Appreciable	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	685°F	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	100%
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Excessive heat. Heat, flames and sparks.

Incompatible materials
None known based on information supplied.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Page 375 of 1315
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 376 of 1315

Product Information

Inhalation Specific test data for the substance or mixture is not available. Toxic by inhalation. (based on components).

Eye Contact Specific test data for the substance or mixture is not available.

Skin Contact Specific test data for the substance or mixture is not available. Toxic in contact with skin. May be absorbed through the skin in harmful amounts. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components). May be fatal or cause blindness if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Methyl Alcohol	= 5628 mg/kg (Rat)	-	= 83.2 mg/L (Rat) 4 h
Ethyl Alcohol	-	-	= 124.7 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms Coughing and/ or wheezing. Difficulty in breathing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage.

Chemical Name	ACGIH	IARC	NTP	OSHA
Methyl Alcohol	A3	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive Toxicity No information available.

STOT - single exposure Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). If this product is a mixture, the classification is not based on toxicology studies for this product, but is based solely on toxicology studies for ingredients found within this product. Detailed substance and/or ingredient information may be provided in other sections of this SDS. Target organs effects listed in this document may result from a single overexposure to this product. Causes damage to organs if swallowed. Causes damage to organs in contact with skin. Causes damage to organs if inhaled.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 377 of 1315

STOT - repeated exposure No information available.

Chronic Toxicity Effects from this product caused by acute exposure may cause permanent damage to target organs and/or may cause chronic conditions. Inhalation, ingestion, or skin absorption of methanol can cause blindness.

Target Organ Effects Respiratory system. Systemic Toxicity. Eyes. Skin. Gastrointestinal tract (GI). Blood. Central Nervous System (CNS). Liver. Reproductive System.

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
191.00 mg/kg
ATEmix (dermal)
574.00 mg/kg (ATE)
ATEmix (inhalation-dust/mist)
0.96 mg/l
ATEmix (inhalation-vapor)
6.00 ATEmix

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Persistence and Degradability
No information available.

Bioaccumulation
No information available

Chemical Name	Log Pow
Methyl Alcohol	-0.77
Ethyl Alcohol	-0.32

Other adverse effects
No information available.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

US EPA Waste Number D001

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl Alcohol		Included in waste stream: F039		U154

California Hazardous Waste Codes 212

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Methyl Alcohol	Toxic Ignitable
Ethyl Alcohol	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN# UN1987
Proper Shipping Name ALCOHOLS, NOS
Hazard Class III
Packing Group 2
Description UN1987, ALCOHOLS, NOS, 3, PGII

TDG

UN-No. UN1986
Proper Shipping Name ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.
Hazard Class 3
Subsidiary class (6.1)
Packing Group II
Description UN1986, ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (METHANOL, ETHANOL), 3 (6.1), II

MEX

UN-No. UN1986
Proper Shipping Name ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.
Hazard Class 3
Subsidiary class 6.1
Packing Group II
Description UN1986, ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (METHANOL, ETHANOL), 3 (6.1), II

ICAO

UN-No. UN1986
Proper Shipping Name ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.

Page 378 of 1315
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Hazard Class	3
Subsidiary class	6.1
Packing Group	II
Description	UN1986, ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (METHANOL, ETHANOL), 3 (6.1), II

IATA

UN-No.	UN1986
Proper Shipping Name	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.
Hazard Class	3
Subsidiary class	6.1
Packing Group	II
Description	UN1986, ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (METHANOL, ETHANOL), 3 (6.1), II

IMDG/IMO

UN-No.	UN1986
Proper Shipping Name	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.
Hazard Class	3
Subsidiary class	6.1
Packing Group	II
EmS No.	F-E, S-D
Description	UN1986, ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (METHANOL, ETHANOL), 3 (6.1), II, FP 10C

RID

UN-No.	UN1986
Proper Shipping Name	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.
Hazard Class	3
Packing Group	II
Classification code	FT1
Description	UN1986, ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (METHANOL, ETHANOL), 3 (6.1), II
ADR/RID-Labels	6.1

ADR

UN-No.	UN1986
Proper Shipping Name	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.
Hazard Class	3
Packing Group	II
Classification code	FT1
Description	UN1986, ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (METHANOL, ETHANOL), 3 (6.1), II
ADR/RID-Labels	6.1

ADN

UN-No.	UN1986
Proper Shipping Name	ALCOHOLS, FLAMMABLE, TOXIC, N.O.S.
Hazard Class	3
Packing Group	II
Classification code	FT1
Special Provisions	274, 802
Description	UN1986, ALCOHOLS, FLAMMABLE, TOXIC, N.O.S. (METHANOL, ETHANOL), 3 (6.1), II
Hazard Labels	3 + 6.1
Limited Quantity	1 L
Ventilation	VE01, VE02

15. REGULATORY INFORMATION

International Inventories

Page 379 of 1315
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 380 of 1315

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Methyl Alcohol		30 - 60	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Methyl Alcohol	5000 lb		RQ= 2270 kg final RQ RQ= 5000 lb final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Methyl Alcohol	Developmental
Ethyl Alcohol	Carcinogen Developmental
MIBK	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Methyl Alcohol	X	X	X	X	X
MIBK		X			
Ethyl Alcohol	X	X	X	X	X

International Regulations

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 381 of 1315

Mexico

National occupational exposure limits

Component	Carcinogen Status	Exposure Limits
Methyl Alcohol (30 - 60)		Mexico: TWA= 200 ppm Mexico: TWA= 260 mg/m^3 Mexico: STEL= 250 ppm Mexico: STEL= 310 mg/m^3
Ethyl Alcohol (30 - 60)		Mexico: TWA 1000 ppm Mexico: TWA 1900 mg/m^3

Mexico - Occupational Exposure Limits - Carcinogens

Canada

WHMIS Hazard Class

B2 - Flammable liquid

D2B - Toxic materials

16. OTHER INFORMATION

NFPA	**Health Hazards**	3	**Flammability**	3	**Instability**	0	**Physical and Chemical Hazards** -
HMIS	**Health Hazards**	3	**Flammability**	3	**Physical Hazard**	0	**Personal Protection** X

Prepared By

Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date 17-Sep-2014

Revision Note No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL DTE OIL LIGHT**
Product Description: Base Oil and Additives
Product Code: 201560501560, 600148-00, 970294
Intended Use: Turbine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77253 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary

from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
2,6-DI-TERT-BUTYLPHENOL	128-39-2	0.1 - < 1%	H315, H400(M factor 1), H410(M factor 1)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200°C (392°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways,

sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.869
Flammability (Solid, Gas): N/A
Flash Point [Method]: >200°C (392°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D

pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 31 cSt (31 mm2/sec) at 40 °C | 5.5 cSt (5.5 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: -18°C (0°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-

	chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, IECSC, PICCS, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Composition: Component Table information was modified.
Section 01: Company Mailing Address information was modified.
Section 05: Hazardous Combustion Products information was modified.
Section 07: Handling and Storage - Handling information was modified.
Section 07: Handling and Storage - Storage Phrases information was modified.

Section 14: Marine Pollutant information was modified.
Section 15: Community RTK - Header information was modified.
Section 16: HCode Key information was modified.
Section 16: Revision Information - Implementation of GHS requirements phrase. information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2007057XUS (538877)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Material Safety Data Sheet

DuPont™ SUVA® 134a refrigerant

Version 2.2

Revision Date 10/18/2011 Ref. 130000000349

This SDS adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ SUVA® 134a refrigerant
Product Grade/Type	:	ASHRAE Refrigerant number designation: R-134a
Tradename/Synonym	:	HFC-134a SUVA® 134a
MSDS Number	:	130000000349
Product Use	:	Refrigerant
Manufacturer	:	E.I. du Pont Canada Company P.O. Box 2200, Streetsville Mississauga, ON L5M 2H3 Canada
Product Information	:	1-800-387-2122
Medical Emergency	:	1-800-441-3637 (24 hours)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Rapid evaporation of the liquid may cause frostbite.

Potential Health Effects

Skin

1,1,1,2-Tetrafluoroethane	:	Contact with liquid or refrigerated gas can cause cold burns and frostbite. May cause skin irritation. May cause: Discomfort, itching, redness, or swelling.

Eyes

1,1,1,2-Tetrafluoroethane	:	Contact with liquid or refrigerated gas can cause cold burns and frostbite. May cause eye irritation. May cause: tearing, Redness, Discomfort.

DuPont™ SUVA® 134a refrigerant

Version 2.2

Revision Date 10/18/2011 Ref. 130000000349

Inhalation

1,1,1,2-Tetrafluoroethane : Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects.
Other symptoms potentially related to misuse or inhalation abuse are: Anaesthetic effects, Light-headedness, dizziness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness.
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
1,1,1,2-Tetrafluoroethane	811-97-2	100 %

SECTION 4. FIRST AID MEASURES

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately. Consult a physician. Wash contaminated clothing before re-use. Treat for frostbite if necessary by gently warming affected area.

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician if necessary.

Inhalation : Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.

DuPont™ SUVA® 134a refrigerant

Ingestion	:	Is not considered a potential route of exposure.
General advice	:	Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.
Notes to physician	:	Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

SECTION 5. FIREFIGHTING MEASURES

Flammable Properties

Flash point	:	does not flash
Ignition temperature	:	> 743 °C (> 1,369 °F) at 1,013 hPa
Lower explosion limit	:	Method : None per ASTM E681
Upper explosion limit	:	Method : None per ASTM E681
Fire and Explosion Hazard	:	Hazardous thermal decomposition products: Carbon oxides Hydrogen fluoride Carbonyl fluoride Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. Decomposition may occur. Contact of welding or soldering torch flame with high concentrations of refrigerant can result in visible changes in the size and colour of the torch flame. This flame effect will only occur in concentrations of product well above the recommended exposure limit. Therefore stop all work and ventilate to disperse refrigerant vapors from the work area before using any open flames.

DuPont™ SUVA® 134a refrigerant

HFC-134a is not flammable in air at temperatures up to 100 deg. C (212 deg. F) at atmospheric pressure. However, mixtures of HFC-134a with high concentrations of air at elevated pressure and/or temperature can become combustible in the presence of an ignition source. HFC-134a can also become combustible in an oxygen enriched environment (oxygen concentrations greater than that in air). Whether a mixture containing HFC-134a and air, or HFC-134a in an oxygen enriched atmosphere become combustible depends on the inter-relationship of 1) the temperature 2) the pressure, and 3) the proportion of oxygen in the mixture. In general, HFC-134a should not be allowed to exist with air above atmospheric pressure or at high temperatures; or in an oxygen enriched environment. For example HFC-134a should NOT be mixed with air under pressure for leak testing or other purposes.
Experimental data have also been reported which indicate combustibility of this substance in the presence of certain concentrations of chlorine.

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Firefighting Instructions	:	In the event of fire, wear self-contained breathing apparatus. Wear neoprene gloves during cleaning up work after a fire. Cool containers / tanks with water spray. Water runoff should be contained and neutralized prior to release.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel to safe areas. Ventilate the area. Refer to protective measures listed in sections 7 and 8.
Spill Cleanup	:	Evaporates.
Accidental Release Measures	:	Should not be released into the environment. Self-contained breathing apparatus (SCBA) is required if a large release occurs. Avoid open flames and high temperatures.

DuPont™ SUVA® 134a refrigerant

Version 2.2

Revision Date 10/18/2011 Ref. 130000000349

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Use sufficient ventilation to keep employee exposure below recommended limits. For personal protection see section 8. Handle in accordance with good industrial hygiene and safety practice.
Handling (Physical Aspects)	:	The product should not be mixed with air for leak testing or used with air for any other purpose above atmospheric pressure. Contact with chlorine or other strong oxidizing agents should also be avoided.
Storage	:	Valve protection caps and valve outlet threaded plugs must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (>3000 psig) piping or systems. Never attempt to lift cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Separate full containers from empty containers. Keep at temperature not exceeding 52°C. Do not store near combustible materials. Avoid area where salt or other corrosive materials are present.
Storage temperature	:	< 52 °C (< 126 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	:	Normal ventilation for standard manufacturing procedures is generally adequate. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low or enclosed places. Refrigerant concentration monitors may be necessary to determine vapour concentrations in work areas prior to use of torches or other open flames, or if employees are entering enclosed areas.
Personal protective equipment		
Respiratory protection	:	For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.
Hand protection	:	Additional protection: Impervious gloves

Eye protection	:	Wear safety glasses with side shields. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne contact with this material.
Protective measures	:	Self-contained breathing apparatus (SCBA) is required if a large release occurs.

Exposure Guidelines

Exposure Limit Values

1,1,1,2-Tetrafluoroethane

AEL *	(DUPONT)	1,000 ppm	8 & 12 hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Liquefied gas
Color	:	colourless
Odor	:	slight, ether-like
Boiling point	:	-26.1 °C (-15.0 °F) at 1,013 hPa
% Volatile	:	100 %
Vapour Pressure	:	6,661 hPa at 25 °C (77 °F)
	:	13,190 hPa at 50 °C (122 °F)
Density	:	1.206 g/cm3 at 25 °C (77 °F) (as liquid)
Specific gravity	:	1.208 at 25 °C (77 °F)
Water solubility	:	1.5 g/l at 25 °C (77 °F) at 1,013 hPa
Vapour density	:	3.6 at 25 °C (77 °F) (Air = 1.0)
Evaporation rate	:	> 1 (CCL4=1.0)

SECTION 10. STABILITY AND REACTIVITY

Stability	:	Stable under recommended storage conditions.

DuPont™ SUVA® 134a refrigerant

Conditions to avoid	:	The product is not flammable in air under ambient conditions of temperature and pressure. When pressurised with air or oxygen, the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions.
Incompatibility	:	Alkali metals Alkaline earth metals, Powdered metals, Powdered metal salts
Hazardous decomposition products	:	Decomposition products are hazardous., This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and possibly carbonyl fluoride., These materials are toxic and irritating., Avoid contact with decomposition products
Hazardous reactions	:	Polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

DuPont™ SUVA® 134a refrigerant

Further information	:	Cardiac sensitisation threshold limit : 312975 mg/m3 Anaesthetic effects threshold limit : 834600 mg/m3 Did not show carcinogenic or teratogenic effects in animal experiments.Inhalation of decomposition products in high concentration may cause shortness of breath (lung oedema).Rapid evaporation of the liquid may cause frostbite.

1,1,1,2-Tetrafluoroethane

Dermal	:	not applicable
Oral	:	not applicable
Inhalation 4 h LC50	:	567000 ppm , rat
Inhalation	:	dog Cardiac sensitization
Skin irritation	:	slight irritation, rabbit Not expected to cause skin irritation based on expert review of the properties of the substance. No skin irritation, human

Eye irritation	:	slight irritation, rabbit Not expected to cause eye irritation based on expert review of the properties of the substance. No eye irritation, human
Skin sensitization	:	Did not cause sensitization on laboratory animals., guinea pig Not expected to cause sensitization based on expert review of the properties of the substance. Did not cause sensitization on laboratory animals. There are no reports of human respiratory sensitization.
Repeated dose toxicity	:	Inhalation rat No toxicologically significant effects were found.
Carcinogenicity	:	Overall weight of evidence indicates that the substance is not carcinogenic. An increased incidence of benign tumours was observed in laboratory animals.
Mutagenicity	:	Did not cause genetic damage in animals. Did not cause genetic damage in cultured mammalian cells. Did not cause genetic damage in cultured bacterial cells.
Reproductive toxicity	:	Animal testing showed no reproductive toxicity.
Teratogenicity	:	Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity
1,1,1,2-Tetrafluoroethane

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) 450 mg/l
72 h EC50	:	Algae > 118 mg/l

DuPont™ SUVA® 134a refrigerant

Version 2.2

Revision Date 10/18/2011 Ref. 130000000349

Information given is based on data obtained from similar substances.

48 h EC50 : Daphnia magna (Water flea) 980 mg/l

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal : Can be used after re-conditioning. Recover by distillation or remove to a permitted waste disposal facility. Comply with applicable Federal, State/Provincial and Local Regulations.

Environmental Hazards : Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

TDG_ROAD	UN number	: 3159
	Proper shipping name	: 1,1,1,2-Tetrafluoroethane
	Class	: 2.2
	Labelling No.	: 2.2
TDG_RAIL	UN number	: 3159
	Proper shipping name	: 1,1,1,2-Tetrafluoroethane
	Class	: 2.2
	Labelling No.	: 2.2
IATA_C	UN number	: 3159
	Proper shipping name	: 1,1,1,2-Tetrafluoroethane
	Class	: 2.2
	Labelling No.	: 2.2
IMDG	UN number	: 3159
	Proper shipping name	: 1,1,1,2-Tetrafluoroethane
	Class	: 2.2
	Labelling No.	: 2.2

Material Safety Data Sheet

DuPont™ SUVA® 134a refrigerant

Version 2.2

Revision Date 10/18/2011 Ref. 130000000349

SECTION 15. REGULATORY INFORMATION

DSL Status	:	On the inventory, or in compliance with the inventory
WHMIS Classification	:	A - Compressed Gas
Remarks	:	This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16. OTHER INFORMATION

MSDS preparation date : 10/18/2011

SUVA® is a registered trademark of E. I. du Pont de Nemours and Company
Before use read DuPont's safety information.
For further information contact the local DuPont office or DuPont's nominated distributors.
® DuPont's registered trademark

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.

Version: 3.1
Revision Date: 05/04/2020

SAFETY DATA SHEET

1. Identification

Identification

Product name: **DURACLEAR DS-4614-5-F (DR) MLA32486002**

Additional identification

Chemical name: Mixture

Recommended use and restriction on use

Recommended use: Formulated Industrial Lubricant
Restrictions on use: None identified.

Details of the supplier of the safety data sheet

Supplier

Company Name: Flowserve Corporation
Address: 5215 N. O'Conner Blvd., Suite 2300
Irving, Texas, USA 75039

Contact: DuraClear@flowserve.com

Emergency telephone number:
FOR TRANSPORT EMERGENCY CALL CHEMTREC (+1)703 527 3887, OR WITHIN USA 800 424 9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

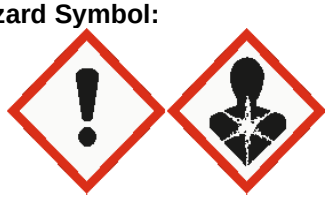
Acute toxicity (Inhalation - dust and mist)	Category 4
Aspiration Hazard	Category 1

Unknown toxicity

Acute toxicity, oral	49.7 %
Acute toxicity, dermal	49.7 %
Acute toxicity, inhalation, vapor	100.0 %
Acute toxicity, inhalation, dust or mist	0.5 %

Label Elements:

Hazard Symbol:



Signal Word: Danger

Released to Imaging: 4/22/2025 3:42:03 PM

Hazard Statement: May be fatal if swallowed and enters airways.
Harmful if inhaled.

Precautionary Statements:

Prevention: Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Call a POISON CENTRE/doctor if you feel unwell.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None identified.

3. Composition/information on ingredients

General information:

Chemical name	CAS number	Percent by Weight
Hydrocarbon polymer	Confidential	40 - 50%
Alkanes	151006-58-5	40 - 50%

Trade secret information: A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Ingestion: Do NOT induce vomiting. Aspiration of material due to vomiting can cause chemical pneumonitis which can be fatal. If vomiting occurs naturally, the casualty should lean forward to reduce the risk of aspiration. Immediately call a POISON CENTER/doctor.

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.

Skin Contact: Wash with soap and water. If skin irritation occurs, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

Most important symptoms/effects, acute and delayed

Symptoms: See section 11.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: CO_2, dry chemical, foam, water spray, water fog.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. See section 10 for additional information. Water may cause splattering.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Recommend wearing self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. Keep upwind. Keep unauthorized personnel away. See Section 8 of the SDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Dike far ahead of larger spill for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material. Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Avoid breathing dust/fume/gas/mist/vapours/spray. Observe good industrial hygiene practices. Use only in well-ventilated areas. Wear appropriate personal protective equipment.

Maximum Handling Temperature: Not determined.

Released to Imaging: 4/22/2025 3:42:03 PM

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. See section 10 for incompatible materials.

Maximum Storage Temperature: Not determined.

8. Exposure controls/personal protection

Control Parameters:

Occupational Exposure Limits

None of the components have assigned exposure limits.

Other exposure limits

Chemical name	Type	Exposure Limit Values	Source
Hydrocarbon polymer	TWA	1 mg/m3	

Appropriate engineering controls: No special requirements under ordinary conditions of use and with adequate ventilation. Adequate ventilation should be provided so that exposure limits are not exceeded. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory and eye protection may be needed in special circumstances, such as poorly ventilated spaces, heating, evaporation of liquids from large surfaces, spraying of mists, mechanical generation of dusts, drying of solids, etc.

Eye/face protection: If contact is likely, safety glasses with side shields are recommended.

Skin Protection

Hand Protection: Suitable gloves can be recommended by the glove supplier.

Other: Long sleeve shirt is recommended.

Respiratory Protection: A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Under normal use conditions, respirator is not usually required. Use appropriate respiratory protection if exposure to dust particles, mist or vapors is likely. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.

Hygiene measures: Observe good industrial hygiene practices.

9. Physical and chemical properties

Released to Imaging: 4/22/2025 3:42:03 PM

Appearance	
Physical state:	liquid
Form:	liquid
Color:	Colorless to yellow
Odor:	Mild
Odor threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	354.9 °F (179.4 °C) (COC)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	0.79 68 °F (20 °C)
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Will not occur.
Conditions to avoid:	Do not expose to excessive heat, ignition sources, or oxidizing materials.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decomposition Products:	Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion.

Released to Imaging: 4/22/2025 3:42:03 PM

11. Toxicological information

Information on likely routes of exposure

Inhalation: Harmful if inhaled.

Ingestion: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity

Oral

Product: Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in severe injury to the lungs and death. Not classified for acute toxicity based on available data.

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: ATEmix (, 4 h): 1 - 2 mg/l. Dusts, mists and fumes

Skin Corrosion/Irritation:

Product: Prolonged or repeated contact may cause irritation.
Remarks: Not classified as a primary skin irritant.

Serious Eye Damage/Eye Irritation:

Product: Remarks: Not classified as a primary eye irritant.

Respiratory sensitization:

No data available

Skin sensitization:

Hydrocarbon polymer: Classification: Not a skin sensitizer. (read across) Not a skin sensitizer.

Specific Target Organ Toxicity - Single Exposure:

Hydrocarbon polymer: If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.

Aspiration Hazard:

Product: May be fatal if swallowed and enters airways.

Chronic Effects

Carcinogenicity:

No data available

Released to Imaging: 4/22/2025 3:42:03 PM

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity:
No data available

Reproductive toxicity:
No data available

Specific Target Organ Toxicity - Repeated Exposure:
No data available

12. Ecological information

Ecotoxicity

Fish
No data available

Aquatic Invertebrates
No data available

Toxicity to Aquatic Plants
No data available

Toxicity to soil dwelling organisms
No data available

Sediment Toxicity
No data available

Toxicity to Terrestrial Plants
No data available

Toxicity to Above-Ground Organisms
No data available

Toxicity to microorganisms
No data available

Persistence and Degradability

Biodegradation
No data available

Bioaccumulative Potential

Released to Imaging: 4/22/2025 3:42:03 PM

Bioconcentration Factor (BCF)

No data available

Partition Coefficient n-octanol / water (log Kow)

Hydrocarbon polymer	Log Kow: 10.09 20 °C 68 °F

Mobility:

No data available

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

Contaminated Packaging: Container packaging may exhibit hazards.

14. Transport information

DOT

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

Transport in bulk according to Annex II of MARPOL and the IBC Code

None known.

The DOT shipping information in this section is based on a bulk container. Please review the accompanying shipping papers for the correct shipping descriptions based the size of the package. Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. During transportation, steps must be taken to prevent load shifting or materials falling, and all relating legal statutes should be obeyed. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4)

None present or none present in regulated quantities.

Released to Imaging: 4/22/2025 3:42:03 PM

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 311 Classifications
Acute toxicity (any route or exposure)
Aspiration Hazard

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
No ingredient regulated by CA Prop 65 present.

Inventory Status

Australia (AICS)
All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDSL)
All substances contained in this product are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List (DSL) or are exempt.

China (IECSC)
All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACh)
To obtain information on the REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

Japan (ENCS)
All components are in compliance with the Chemical Substances Control Law of Japan.

Korea (ECL)
All components are in compliance in Korea.

New Zealand (NZIoC)
All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)
All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

Switzerland (SWISS)
All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

Taiwan (TCSCA)
All components of this product are listed on the Taiwan inventory.

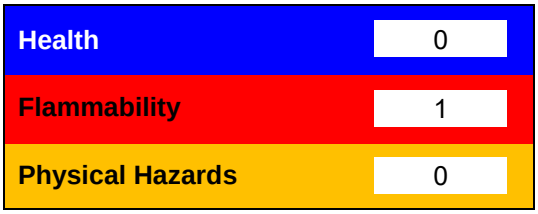
Released to Imaging: 4/22/2025 3:42:03 PM

United States (TSCA)
All substances contained in this product are listed on the TSCA inventory or are exempt.

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

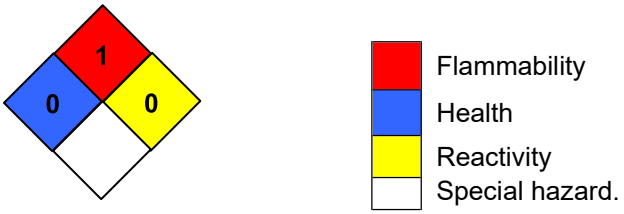
16.Other information, including date of preparation or last revision

HMIS Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	02/21/2018
Version #:	3.0
Source of information:	Internal company data and other publically available resources.
Further Information:	Contact supplier (see Section 1)
Disclaimer:	As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.

Released to Imaging: 4/22/2025 3:42:03 PM

Version: 3.2
Revision Date: 08.05.2020

SAFETY DATA SHEET

1. Identification

Identification

Product name: **DURACLEAR DS-4614-32-F (PL) MLA32486053**

Additional identification

Chemical name: Mixture

Recommended use and restriction on use

Recommended use: Formulated Industrial Lubricant
Restrictions on use: None identified.

Details of the supplier of the safety data sheet

Supplier

Company Name: Flowserve Corporation
Address: 5215 N. O'Conner Blvd., Suite 2300
Irving, Texas, USA 75039
Contact: DuraClear@flowserve.com

Emergency telephone number:
FOR TRANSPORT EMERGENCY CALL CHEMTREC (+1)703 527 3887, OR WITHIN USA 800 424 9300

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements:

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: Not applicable

Precautionary Statements: Not applicable

Other hazards which do not result in GHS classification: None identified.

3. Composition/information on ingredients

General information: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Ingestion: Treat symptomatically. Get medical attention.

Inhalation: Remove exposed person to fresh air if adverse effects are observed.

Skin Contact: Wash with soap and water. If skin irritation occurs, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

Most important symptoms/effects, acute and delayed

Symptoms: See section 11.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: CO_2, dry chemical, foam, water spray, water fog.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. See section 10 for additional information.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Recommend wearing self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations.

Methods and material for containment and cleaning up: Dike far ahead of larger spill for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.

Environmental Precautions: Avoid release to the environment. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment.

Maximum Handling Temperature: Not determined.

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. See section 10 for incompatible materials.

Maximum Storage Temperature: Not determined.

8. Exposure controls/personal protection

Control Parameters:

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate engineering controls: No special requirements under ordinary conditions of use and with adequate ventilation.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: If contact is likely, safety glasses with side shields are recommended.

Skin Protection

Hand Protection: Polyvinyl alcohol. Note: polyvinyl alcohol gloves are water soluble and should not be used when there is potential for water contact. Suitable gloves can be recommended by the glove supplier.

Other: No data available.

Respiratory Protection: Use respirator if irritation is experienced or if the recommended exposure limit is exceeded. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless to yellow
Odor:	Mild
Odor threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	465.1 °F (240.6 °C) (Cleveland Open Cup)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	0.82 68 °F (20 °C)
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Bulk density:	6.87 lb/gal

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Will not occur.
Conditions to avoid:	Do not expose to excessive heat, ignition sources, or oxidizing materials. Strong oxidizing agents.
Incompatible Materials:	Peroxides. Nitrates. Strong oxidizing agents. Chlorates

Hazardous Decomposition Products: Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion.

11. Toxicological information

Information on likely routes of exposure

Inhalation: No data available.

Ingestion: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity

Oral
Product: Not classified for acute toxicity based on available data.

Dermal
Product: Not classified for acute toxicity based on available data.

Inhalation
Product: Not classified for acute toxicity based on available data.

Skin Corrosion/Irritation:
Product: Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.
Remarks: Not classified as a primary skin irritant.

Serious Eye Damage/Eye Irritation:
Product: Remarks: Not classified as a primary eye irritant.

Respiratory sensitization:
No data available

Skin sensitization:
No data available

Specific Target Organ Toxicity - Single Exposure:
No data available

Aspiration Hazard:
No data available

Chronic Effects

Carcinogenicity:
No data available

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity:
No data available

Reproductive toxicity:
No data available

Specific Target Organ Toxicity - Repeated Exposure:
No data available

12. Ecological information

Ecotoxicity

Fish
No data available

Aquatic Invertebrates
No data available

Toxicity to Aquatic Plants
No data available

Toxicity to soil dwelling organisms
No data available

Sediment Toxicity
No data available

Toxicity to Terrestrial Plants
No data available

Toxicity to Above-Ground Organisms
No data available

Toxicity to microorganisms
No data available

Persistence and Degradability

Biodegradation
No data available

Bioaccumulative Potential

Bioconcentration Factor (BCF)
No data available

Partition Coefficient n-octanol / water (log Kow)
No data available

Mobility:
No data available

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.
Since emptied containers retain product residue, follow label warnings even after container is emptied.

Contaminated Packaging: Container packaging may exhibit hazards.

14. Transport information

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

Transport in bulk according to Annex II of MARPOL and the IBC Code
None known.

The DOT shipping information in this section is based on a bulk container. Please review the accompanying shipping papers for the correct shipping descriptions based the size of the package. Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. During transportation, steps must be taken to prevent load shifting or materials falling, and all relating legal statutes should be obeyed. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4)
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 311 Classifications
Not classified

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
No ingredient requiring a warning under CA Prop 65.

Inventory Status

Australia (AICS)
All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDSL)
All substances contained in this product are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List (DSL) or are exempt.

China (IECSC)
All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACh)
To obtain information on the REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

Japan (ENCS)
All components are in compliance with the Chemical Substances Control Law of Japan.

Korea (ECL)
All components are in compliance in Korea.

New Zealand (NZIoC)
All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)
All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

Switzerland (SWISS)
All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

Taiwan (TCSCA)
All components of this product are listed on the Taiwan inventory.

United States (TSCA)
All substances contained in this product are listed on the TSCA inventory or are exempt.

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

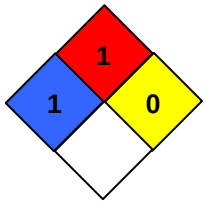
16.Other information, including date of preparation or last revision

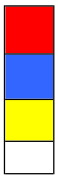
HMIS Hazard ID

Health	0
Flammability	1
Physical Hazards	0

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID





Flammability
Health
Reactivity
Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	01/11/2019
Version #:	3.1
Source of information:	Internal company data and other publically available resources.
Further Information:	Contact supplier (see Section 1)
Disclaimer:	As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.

SAFETY DATA SHEET
SSS® DUST MOP TREATMENT (#05010)

Version 1.0 Revision Date 05/20/2015 Print Date 05/31/2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Material name : SSS® Dust Mop Treatment

Material number : A00810

Manufacturer or supplier's details

Company : Triple S

Address : 2 Executive Park Drive
Billerica, MA 01862

Telephone : 978-667-7900

Emergency telephone numbers		
For SDS Information	:	978-667-7900
For a Medical Emergency	:	1-888-779-1339
For a Transportation Emergency	:	1-888-779-1339

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Aerosol containing a liquefied gas
Colour	white
Odour	characteristic

GHS Classification

Flammable aerosols : Category 2
Gases under pressure : Liquefied gas
Skin irritation : Category 2

GHS Label element

Hazard pictograms :

Signal word : Warning

Hazard statements : H223 Flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H315 Causes skin irritation.

Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves.
Response:

Received by OCD: 4/14/2025 11:49:46 AM

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Potential Health Effects

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	Concentration [%]
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	>= 10 - < 20
Distillates (petroleum), hydrotreated light	64742-47-8	>= 5 - < 10
butane	106-97-8	>= 5 - < 10
Stoddard solvent	8052-41-3	>= 5 - < 10
propane	74-98-6	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

General advice	:	Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	If skin irritation persists, call a physician. Wash off immediately with plenty of water for at least 15 minutes. If on clothes, remove clothes.
In case of eye contact	:	Remove contact lenses. Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

If swallowed	:	Keep respiratory tract clear. DO NOT induce vomiting unless directed to do so by a physician or poison control center.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical Water spray jet
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon dioxide (CO2) Carbon monoxide Smoke
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up or vacuum up spillage and collect in suitable container for disposal.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Always replace cap after use.
Dispose of rinse water in accordance with local and national regulations.
Do not breathe vapours or spray mist.

Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
No smoking.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
Keep in a dry, cool and well-ventilated place.

Materials to avoid : Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	TWA (Mist)	5 mg/m3	OSHA Z-1
		TWA (Inhalable fraction)	5 mg/m3	ACGIH
Distillates (petroleum), hydrotreated light	64742-47-8	TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	400 ppm 1,600 mg/m3	OSHA P0
butane	106-97-8	TWA	800 ppm 1,900 mg/m3	NIOSH REL
		TWA	800 ppm 1,900 mg/m3	OSHA P0
Stoddard solvent	8052-41-3	TWA	100 ppm	ACGIH
		TWA	350 mg/m3	NIOSH REL
		C	1,800 mg/m3	NIOSH REL
		TWA	500 ppm 2,900 mg/m3	OSHA Z-1
		TWA	100 ppm 525 mg/m3	OSHA P0
propane	74-98-6	TWA	1,000 ppm	ACGIH

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

		TWA	1,000 ppm 1,800 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,800 mg/m3	OSHA Z-1
		TWA	1,000 ppm 1,800 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Safety glasses
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection : impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Aerosol containing a liquefied gas

Colour : white

Odour : characteristic

Odour Threshold : no data available

pH : not applicable

Melting point/freezing point : no data available

Boiling point : no data available

Flash point : not applicable

Evaporation rate : no data available

Flammability (solid, gas) : Extremely flammable aerosol.

Upper explosion limit : no data available

Lower explosion limit : no data available

Vapour pressure : no data available

Relative vapour density : no data available

Density : 0.93 g/cm3

Solubility(ies)

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Water solubility	:	emulsifiable
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	not determined
Thermal decomposition	:	no data available

Viscosity

Viscosity, kinematic	:	no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO2) Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

Distillates (petroleum), hydrotreated heavy naphthenic:

Acute oral toxicity	:	LD50 rat: > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 rat: > 5 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 rabbit: > 5,000 mg/kg

Distillates (petroleum), hydrotreated light:

Acute oral toxicity	:	LD50 rat: > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 rat: > 4.6 mg/l Exposure time: 6 h
Acute dermal toxicity	:	LD50 rat: > 2,000 mg/kg

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

butane:

Acute inhalation toxicity	:	LC50 mouse: 1,237 mg/l Exposure time: 2 h
		LC50 rat: 1,355 mg/l

propane:

Acute inhalation toxicity	:	LC50 mouse: 1,237 mg/l Exposure time: 2 h
		LC50 rat: 658 mg/l Exposure time: 4 h
		LC50 rat: 1,355 mg/l

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Product:

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

Distillates (petroleum), hydrotreated heavy naphthenic:
Distillates (petroleum), hydrotreated light:
butane:
Stoddard solvent:
propane:

STOT - single exposure

no data available

STOT - repeated exposure

no data available

Aspiration toxicity

no data available

Further information

Product:

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Remarks: no data available

Components:
Distillates (petroleum), hydrotreated light:
Remarks: no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

Product:

Partition coefficient: n-octanol/water	:	Remarks: no data available

Components:
butane :

Partition coefficient: n-octanol/water	:	Pow: 2.89

Mobility in soil

no data available

Other adverse effects

no data available

Product:

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life with long lasting effects.

Components:
Distillates (petroleum), hydrotreated light :

Additional ecological information	:	no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Waste from residues	:	Dispose of in accordance with local regulations. The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

Transportation Regulation: 49 CFR (USA):
ORM-D, CONSUMER COMMODITY

Transportation Regulation: IMDG (Vessel):
UN1950, AEROSOLS, 2.1, - Limited quantity

Transportation Regulation: IATA (Cargo Air):
UN1950, Aerosols, flammable, 2.1, - Limited quantity

Transportation Regulation: IATA (Passenger Air):
UN1950, Aerosols, flammable, 2.1, - Limited quantity

Transportation Regulation: TDG (Canada):
UN1950, AEROSOLS, 2.1, - Limited quantity

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
xylenes	1330-20-7	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Fire Hazard Sudden Release of Pressure Hazard Acute Health Hazard
SARA 302	:	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

TSCA	On TSCA Inventory
DSL	This product contains one or several components that are not on the Canadian DSL nor NDSL.
AICS	Not in compliance with the inventory
NZIoC	Not in compliance with the inventory
PICCS	Not in compliance with the inventory
IECSC	Not in compliance with the inventory

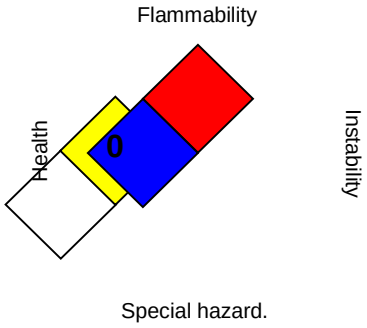
Inventory Acronym and Validity Area Legend:

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	3
PHYSICAL HAZARD	2

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

OSHA GHS Label Information:

Hazard pictograms :

Signal word : **Warning:**
Hazard statements : Flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation.
Precautionary statements :

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Pressurized container: Do not pierce or burn, even after use. Wash skin thoroughly after handling. Wear protective gloves.
Response: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse.
Storage: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Version:	1.0
Revision Date:	05/20/2015
Print Date:	05/31/2015

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes. This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

Released to Imaging: 4/22/2025 3:42:03 PM

Page 432 of 1315

SAFETY DATA SHEET

1. Identification

Product identifier Dymon® THE End.™ Wasp and Hornet Killer

Other means of identification

Part Number 18320

Synonyms Article number: 183

Recommended use Insecticide

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ITW Pro Brands

Address 805 E. Old 56 Highway
Olathe, KS 66061

Country (U.S.A.)

Tel: +1 800-443-9536

In Case of Emergency 1-800-535-5053 (Infotrac)

2. Hazard(s) identification

Physical hazards	Gases under pressure	Compressed gas
Health hazards	Aspiration hazard	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word Danger

Hazard statement Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting.

Storage Store locked up. Protect from sunlight. Store in a well-ventilated place.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Combustible.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates Petroleum Hydrotreated Light		64742-47-8	90 - 100
Carbon Dioxide		124-38-9	1 - 3
Permethrin		52645-53-1	0.1 - 1
Piperonyl Butoxide		51-03-6	0.1 - 1
Tetramethrin		7696-12-0	0.1 - 1

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 433 of 1315

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	No specific first aid measures noted.
Ingestion	Not likely, due to the form of the product.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Dry chemical powder. Dry chemicals. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Use water spray to reduce vapors or divert vapor cloud drift. Isolate area until gas has dispersed. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat and sources of ignition. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 434 of 1315

U.S. - OSHA

Components	Type	Value	Form
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)	PEL	5 mg/m3	Oil mist.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm

ACGIH

Components	Type	Value	Form
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)	STEL	10 mg/m3	Oil mist.
	TWA	5 mg/m3	

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Gas.

Form Aerosol.

Color Colorless.

Odor Very faint.

Odor threshold Not available.

pH 5.1

Melting point/freezing point Not available.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 435 of 1315

Initial boiling point and boiling range	429.8 °F (221 °C)
Flash point	179.6 °F (82.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	80 - 100 psig @ 21°C (70°F)
Vapor density	> 1 (air = 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not miscible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.78 - 0.80 g/cm³ @ 20°C (70°F)
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
VOC	0 % per US State & Federal Consumer Product Regulations

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 436 of 1315

Components	Species	Test Results
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 4.5 mg/l, 4 Hours
		> 0.1 mg/l, 8 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Permethrin (CAS 52645-53-1)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Piperonyl Butoxide (CAS 51-03-6)		
Acute		
Dermal		
LD50		> 2000 mg/kg
Inhalation		
LC50	Rat	> 5.2 mg/l, 4 Hours
Oral		
LD50	Rat	> 2000 mg/kg
Tetramethrin (CAS 7696-12-0)		
Acute		
Dermal		
LD50	Rat	> 1000 mg/kg
Inhalation		
LC50	Rat	> 2.7 mg/l, 3 Hours
Oral		
LD50	Rat	4600 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Permethrin (CAS 52645-53-1)	3 Not classifiable as to carcinogenicity to humans.
Piperonyl Butoxide (CAS 51-03-6)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 437 of 1315

Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours
Permethrin (CAS 52645-53-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.0006 - 0.0025 mg/l, 48 hours
Fish	LC50	Apache trout (Oncorhynchus gilae apache)	0.0013 - 0.0022 mg/l, 96 hours
Piperonyl Butoxide (CAS 51-03-6)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.0027 - 0.0043 mg/l, 96 hours
Tetramethrin (CAS 7696-12-0)			
Aquatic			
Fish	LC50	Carp (Cyprinus carpio)	0.095 - 0.16 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
Permethrin	6.5
Piperonyl Butoxide	4.75
Tetramethrin	4.73

Mobility in soil No data available.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
D003: Waste Reactive material

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, (each not exceeding 1 L capacity), MARINE POLLUTANT (Tetramethrin)
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2
Packing group	Not available.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 438 of 1315

Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	Not available.
Environmental hazards	No.
ERG Code	2L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, MARINE POLLUTANT
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	Not available.
Environmental hazards	
Marine pollutant	Yes
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

DOT

IATA; IMDG

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 439 of 1315

Marine pollutant

General information IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

Classified hazard categories Gas under pressure
Aspiration hazard

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. New Jersey Worker and Community Right-to-Know Act

Carbon Dioxide (CAS 124-38-9)
Permethrin (CAS 52645-53-1)
Piperonyl Butoxide (CAS 51-03-6)
Tetramethrin (CAS 7696-12-0)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 440 of 1315

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 06-11-2018

Version # 01

Disclaimer ITW Pro Brands cannot anticipate **all** conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Issue date: 02-December-2014
Revision date: -
Supersedes date: -
Version number: 01

SAFETY DATA SHEET

1. Identification

Product identifier **Lead Acid Battery Wet, Filled With Acid**

Other means of identification

Synonyms may include gel/absorbed electrolyte type lead acid batteries

Recommended use of the chemical and restrictions on use

Recommended use Electric storage battery.

Restrictions on use Not available.

Details of manufacturer or importer

Manufacturer

		Supplier Identification:
Manufacturer/Supplier	East Penn Manufacturing Company, Inc.	CATERPILLAR OF AUSTRALIA PTY LTD 1
Address	102 Deka Road, Lyon Station PA 19536	Caterpillar Drive
Telephone number	(610) 682-6361	Tullamarine Victoria 3043 Australia
Contact person	East Penn EHS Department	Telephone: +61 3 9953 9333
Emergency telephone number	USA/Canada: CHEMTREC (800) 424-9300, Outside USA 1 (703) 527-3887	
E-mail	contactus@eastpenn-deka.com	

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Reproductive toxicity	Category 1
	Specific target organ toxicity, single exposure	Category 1 (Respiratory system)
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 1 (respiratory system)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

Label elements, including precautionary statements

Hazard symbol(s)

Corrosion | Health hazard | Environment | Exclamation mark

Signal word Danger

Hazard statement(s) Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. May damage fertility or the unborn child. Causes damage to organs (Respiratory system). Causes damage to organs (respiratory system) through prolonged or repeated exposure. May cause respiratory irritation. Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Do not breathe dust. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid release to the environment.
Response	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Immediately call a POISON CENTER or doctor/physician. Collect spillage.
Storage	Store in a well-ventilated place. Keep container tightly closed.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification

Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

Supplemental information

In use, may form flammable/explosive vapor-air mixture.

3. Composition/information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Lead and lead compounds (inorganic)	7439-92-1	43 - 70
Electrolyte (Sulfuric acid)	7664-93-9	20 - 44
Antimony	7440-36-0	3 - 5

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
Content composition concentrations will vary with battery type/size.

4. First-aid measures

Description of necessary first aid measures

Inhalation	Exposure to contents of an open or damaged battery: Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues.
Skin contact	Exposure to contents of an open or damaged battery: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.
Eye contact	Exposure to contents of an open or damaged battery: Flush thoroughly with water for at least 15 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Get medical attention if irritation develops and persists.
Ingestion	Exposure to contents of an open or damaged battery: Rinse mouth thoroughly with water. DO NOT induce vomiting because of danger of aspirating liquid into lungs. Get medical attention immediately.

Personal protection for first-aid responders

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Symptoms caused by exposure

Under normal conditions of processing and use, exposure to the chemical constituents in this product is unlikely. The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.
Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues.

Medical attention and special treatment

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Dry chemical, foam, carbon dioxide, water fog.
Unsuitable extinguishing media	Do NOT use water on live electrical circuits.

Specific hazards arising from the chemical	Batteries evolve flammable hydrogen gas during charging and may increase fire risk. Containers may explode when heated.
Special protective equipment and precautions for fire fighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials.
Hazchem code	Not available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Avoid contact with skin.
For emergency responders	Keep unnecessary personnel away.
Environmental precautions	Prevent runoff from entering drains, sewers, or streams.
Methods and materials for containment and cleaning up	Neutralize the spilled material before disposal. Sweep up or vacuum up spillage and collect in suitable container for disposal. Dispose of waste and residues in accordance with local authority requirements.

7. Handling and storage

Precautions for safe handling	In the event of damage resulting in a leak of exposed materials, avoid contact with contents of an open or damaged cell or battery. Keep away from heat, sparks and open flame. Do not allow conductive material to touch the battery terminals. A dangerous short-circuit may occur and cause battery failure and fire.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Protect containers from damage. Place cardboard between layers of stacked batteries to avoid damage and short circuits.

8. Exposure controls and personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3	
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	STEL	3 mg/m3	
	TWA	1 mg/m3	
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.15 mg/m3	Dust and fume.

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3	
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	STEL	3 mg/m3	
	TWA	1 mg/m3	
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.15 mg/m3	Dust and fume.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3	
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	TWA	0.2 mg/m3	Thoracic fraction.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.05 mg/m3	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Antimony (CAS 7440-36-0)	TWA	0.5 mg/m3
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	TWA	0.05 mg/m3
Lead and lead compounds (inorganic) (CAS 7439-92-1)	TWA	0.15 mg/m3

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	TWA	0.1 mg/m3	Inhalable fraction.

Biological limit values

Germany. TRGS 903, BAT List (Biological Limit Values)

Components	Value	Determinant	Specimen	Sampling Time	Notes
Lead and lead compounds (inorganic) (CAS 7439-92-1)	400 µg/l	Blei	Blood	*	
	300 µg/l	Blei	Blood	*	This BAT is for women less than 45 years old.

* - For sampling details, please see the source document.

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Lead and lead compounds (inorganic) (CAS 7439-92-1)	300 µg/l	Lead	Blood	*

* - For sampling details, please see the source document.

Appropriate engineering controls Provide adequate ventilation. Provide easy access to water supply and eye wash facilities.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection None under normal conditions. Leak from a damaged or opened battery: Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection None under normal conditions. Leak from a damaged or opened battery: Wear appropriate chemical resistant gloves.

Other None under normal conditions. Leak from a damaged or opened battery: Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection None under normal conditions.

Thermal hazards When material is heated, wear gloves to protect against thermal burns.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Sulfuric acid, liquid. Lead, solid.

Color Not available.

Odor Odorless.

Odor threshold Not available.

Released to Imaging: 4/22/2025 3:42:03 PM

pH	< 1
Melting point/freezing point	Not available.
Initial boiling point and boiling range	235 - 240 °F (112.78 - 115.56 °C) (Sulfuric acid)
Flash point	Below room temperature (as hydrogen gas).
Evaporation rate	< 1 (n-BuAc=1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	4 % (Hydrogen)
Flammability limit - upper (%)	74 % (Hydrogen)
Vapor pressure	10 mm Hg
Vapor density	> 1 (Air=1)
Relative density	1.27 - 1.33
Solubility(ies)	
Solubility (water)	100 % (Sulfuric acid)
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other physical and chemical parameters	
Specific gravity	1.27 - 1.33 (H2O = 1)

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Will not occur.
Conditions to avoid	Overcharging. Ignition sources.
Incompatible materials	Strong bases. Combustible organic materials. Reducing agents. Finely divided metals. Strong oxidizers. Water.
Hazardous decomposition products	Sulfur dioxide. Sulfur trioxide. Carbon monoxide. Sulfuric acid. Hydrogen.

11. Toxicological information

Information on possible routes of exposure

Inhalation	Dust/mist may irritate respiratory system. Difficulty in breathing. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
Skin contact	Dust/mist may irritate skin.
Eye contact	Dust/mist may irritate the eyes.
Ingestion	May cause discomfort if swallowed. Copper poisoning can result in hemolytic anemia and kidney, liver and spleen damage.
Symptoms related to exposure	Dust may irritate the eyes and the respiratory system.

Components	Species	Test Results
Electrolyte (Sulfuric acid) (CAS 7664-93-9)		
Acute		
Oral		
LD50	Rat	2140 mg/kg

Skin corrosion/irritation	Exposure to contents of an open or damaged battery: Causes skin burns.
Serious eye damage/irritation	Exposure to contents of an open or damaged battery: Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization No data available.

Skin sensitization No data available.

Germ cell mutagenicity No data available.

Carcinogenicity The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

ACGIH Carcinogens

Lead and lead compounds (inorganic) (CAS 7439-92-1)	A3 Confirmed animal carcinogen with unknown relevance to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Lead and lead compounds (inorganic) (CAS 7439-92-1)	2B Possibly carcinogenic to humans.

Reproductive toxicity None under normal conditions. Exposure to contents of an open or damaged battery: May damage fertility or the unborn child.

Specific target organ toxicity - single exposure None under normal conditions. Exposure to contents of an open or damaged battery: Causes damage to organs (Respiratory system).

Specific target organ toxicity - repeated exposure None under normal conditions. Exposure to contents of an open or damaged battery: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Due to the physical form of the product it is not an aspiration hazard.

Chronic effects Exposure to contents of an open or damaged battery: Heavy lead exposure may result in central nervous system damage, encephalopathy and damage to the blood-forming (hematopoietic) tissues. Chronic inhalation of sulfuric acid mist may increase the risk of lung cancer.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Exposure to contents of an open or damaged battery: Very toxic to aquatic life with long lasting effects.

Components	Species	Test Results
Lead and lead compounds (inorganic) (CAS 7439-92-1)		
LC50	Rainbow trout, donaldson trout (Oncorhynhus mykiss)	1.17 mg/l, 96 Hours

Persistence and degradability The degradation half-life of the product is not known. Lead and its compounds are highly persistent in water.

Bioaccumulative potential Bioaccumulation of lead occurs in aquatic and terrestrial animals and plants, but very little bioaccumulation occurs through the food chain.

Mobility in soil Lead in massive forms is not mobile in the environment.

Mobility in general The product is insoluble in water and will spread on water surfaces.

Other adverse effects None known.

13. Disposal considerations

Disposal methods Recycle the batteries, as the primary disposal method. Avoid discharge into water courses or onto the ground. Dispose of this material and its container to hazardous or special waste collection point.

Residual waste Avoid discharge into water courses or onto the ground.

Contaminated packaging Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

ADG

UN number 2794

UN proper shipping name BATTERIES, WET, FILLED WITH ACID, electric storage

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group -

Released to Imaging: 4/22/2025 3:42:03 PM

Environmental hazards	Yes
Hazchem code	2R
Special precautions for user	Not available.

RID

UN number	2794
UN proper shipping name	BATTERIES, WET, FILLED WITH ACID, electric storage
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	-
Environmental hazards	Yes
Special precautions for user	Not available.

IATA

UN number	2794
UN proper shipping name	Batteries, wet, filled with acid electric storage
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	-
Environmental hazards	Yes
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	2794
UN proper shipping name	BATTERIES, WET, FILLED WITH ACID electric storage
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	-
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

Safety, health and environmental regulations

National regulations This Safety Data Sheet was prepared in accordance with the Australia National Code of Practice for the Preparation of Material Safety Data Sheets (NOHSC: 2011.) Additional information is given in the Material Safety Data Sheet. No poison schedule number allocated.

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

Lead and lead compounds (inorganic) (CAS 7439-92-1)	Low toxicity. General: Any use

Australia Medicines & Poisons Appendix C

Lead and lead compounds (inorganic) (CAS 7439-92-1)	In paints, tinters, inks or ink additives

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

Antimony (CAS 7440-36-0)	For advice, contact a Poisons information Centre (Phone eg Australia 131 - 126; New Zealand 03 - 4747 - 000) or a doctor (at once).

Electrolyte (Sulfuric acid) (CAS 7664-93-9)	For advice, contact a Poisons information Centre (Phone eg Australia 131 - 126; New Zealand 03 - 4747 - 000) or a doctor (at once)., If swallowed, do NOT induce vomiting., If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes., If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	in hair cosmetics For advice, contact a Poisons information Centre (Phone eg Australia 131 - 126; New Zealand 03 - 4747 - 000) or a doctor (at once). in other [unspecified] preparations For advice, contact a Poisons information Centre (Phone eg Australia 131 - 126; New Zealand 03 - 4747 - 000) or a doctor (at once)., If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

Australia Medicines & Poisons Appendix F

Electrolyte (Sulfuric acid) (CAS 7664-93-9)	applies to all preparations in any concentration Corrosive. Avoid contact with eyes., Avoid contact with skin.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	applies to all preparations in any concentration Avoid contact with eyes., Avoid contact with skin., Avoid breathing dust (or) vapour (or) spray mist. applies to all preparations in any concentration Unless adequately fired, utensils glazed with this preparation must not be used as containers for food or beverages; to do so may cause lead poisoning. in hair cosmetics Do not use on broken skin. Wash hands thoroughly after use.

Australia Medicines & Poisons Appendix G

Antimony (CAS 7440-36-0)

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Antimony (CAS 7440-36-0)	First Schedule.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	Third Schedule.

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

Antimony (CAS 7440-36-0)	for therapeutic use
Lead and lead compounds (inorganic) (CAS 7439-92-1)	in preparations for human therapeutic use

Australia Medicines & Poisons Schedule 5

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 6

Antimony (CAS 7440-36-0)	applies to all preparations in any concentration Exception may apply, see the regulation for relevance.
Electrolyte (Sulfuric acid) (CAS 7664-93-9)	Exception may apply, see the regulation for relevance.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	applies to all preparations in any concentration Exception may apply, see the regulation for relevance.

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

Australia National Pollutant Inventory (NPI): Threshold quantity

Antimony (CAS 7440-36-0)	10 TONNES/YR Threshold Category: 1

Released to Imaging: 4/22/2025 3:42:03 PM

Electrolyte (Sulfuric acid) (CAS 7664-93-9)	10 TONNES/YR Threshold Category: 1
Lead and lead compounds (inorganic) (CAS 7439-92-1)	10 TONNES/YR Threshold Category: 1

High Volume Industrial Chemicals (HVIC)

Electrolyte (Sulfuric acid) (CAS 7664-93-9)	> 1000000 TONNES See the regulation for additional information.
Lead and lead compounds (inorganic) (CAS 7439-92-1)	100000 - 999999 TONNES See the regulation for additional information.

Importation of Ozone Deleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Lead and lead compounds (inorganic) (CAS 7439-92-1)	2000 TONNES/YR Threshold Category: 2B

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Resricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	02-December-2014
Revision date	-
Key abbreviations or acronyms used	DNEL: Derived No-Effect Level. PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative.

References	IARC Monographs. Overall Evaluation of Carcinogenicity Registry of Toxic Effects of Chemical Substances (RTECS)
Disclaimer	The information in this SDS was obtained from sources which we believe are reliable, but no warranty or representation as to its accuracy or completeness is hereby given. Users should consider the information herein only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal, the safety and health of employees and customers and the protection of the environment.

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: ETHANE
Product Description: Hydrocarbon Gas, Gas or Liquefied Gas

Intended Use: Gas, Process stream

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
810 Houston St.
Fort Worth, TX 76102 USA
24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable gas: Category 1. Gas under pressure: Liquefied gas.
Simple Asphyxiant

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P273: Avoid release to the environment.P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.P410 + P403: Protect from sunlight. Store in a well-ventilated place.P501: Dispose of contents and container in accordance with local regulations.

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation. May cause central nervous system depression.

ENVIRONMENTAL HAZARDS

Expected to be harmful to aquatic organisms.

NFPA Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
ETHANE	74-84-0	> 95%	H220, H280, H402
METHANE	74-82-8	0 - 5%	H220, H280
PROPANE	74-98-6	0 - 5%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental

oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

NOTE TO PHYSICIAN

This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Stop leak if you can do it without risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Flammable Gas. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. This liquid is volatile and gives off invisible vapors. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: -135°C (-211°F) [Closed Cup]
Flammable Limits (Approximate volume % in air): LEL: 3.0 UEL: 13
Autoignition Temperature: 472°C (882°F) [Calculated]

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Allow liquid to evaporate from the surface. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not confine in area of spill. Allow liquid to evaporate from the surface. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Material may contain trace amounts of naturally occurring radioactive material (NORM), which will accumulate in process equipment and storage vessels. Material can accumulate static charges which may cause an electrical spark (ignition source). Material may contain trace amounts of naturally occurring radioactive material (NORM), which will accumulate in process equipment and storage vessels.

Static Accumulator: This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
PROPANE		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use

conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Face shield is recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Gas
Form: Compressed or Liquified
Color: Colorless
Odor: Odorless (may be odorized)
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 1.28
Flammability (Solid, Gas): N/A
Flash Point [Method]: -135°C (-211°F) [Closed Cup]
Flammable Limits (Approximate volume % in air): LEL: 3.0 UEL: 13
Autoignition Temperature: 472°C (882°F) [Calculated]
Boiling Point / Range: -92°C (-134°F) [Calculated]
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: 3817.1 kPa (28700 mm Hg) at 20 °C [Calculated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: 8 cSt (8 mm2/sec) at 40 °C | 12 cSt (12 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 20 mg/l (Gas)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD

	Guideline 471 473 474
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 422
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 422

OTHER INFORMATION

For the product itself:

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Material -- Expected to degrade at a moderate rate in air

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: ETHANE
Hazard Class & Division: 2.1
ID Number: 1035
Packing Group: (N/A)
ERG Number: 115
Label(s): 2.1
Transport Document Name: UN1035, ETHANE, 2.1

LAND (TDG)

Proper Shipping Name: ETHANE
Hazard Class & Division: 2.1
UN Number: 1035
Packing Group: (N/A)
ERAP Index Number: 3 000

SEA (IMDG)

Proper Shipping Name: ETHANE
Hazard Class & Division: 2.1
EMS Number: F-D, S-U
UN Number: 1035
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.1
Transport Document Name: UN1035, ETHANE, 2.1, (-135°C c.c.)

AIR (IATA)

Proper Shipping Name: ETHANE
Hazard Class & Division: 2.1
UN Number: 1035
Packing Group: (N/A)
Label(s) / Mark(s): 2.1
Transportation Limitations: CARGO AIRCRAFT ONLY
Transport Document Name: UN1035, ETHANE, 2.1

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Flammable (gases, aerosols, liquids, or solids), Gas under Pressure, Simple Asphyxiant

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ETHANE	74-84-0	13, 16, 17, 18, 19
METHANE	74-82-8	13, 16, 17, 19
PROPANE	74-98-6	4, 13, 16, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H402: Harmful to aquatic life; Acute Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was added.
Composition: Component Table information was deleted.
Composition: Defined as statement (GHS) information was modified.
Composition: US GHS Footnote information was added.
Section 01: Company Mailing Address information was modified.
Section 04: First Aid Notes information was modified.
Section 05: Hazardous Combustion Products information was modified.
Section 07: Handling and Storage - Storage Phrases information was modified.
Section 11: Other Health Effects information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.
Section 16: Standard phrases for California Proposition 65 information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for

convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0, 0, 0, 0 PPEC: DF

DGN: 7134668VUS (1012902)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

MATERIAL SAFETY DATA SHEET

HMIS Ratings Health: 0
Flammability: 0
Reactivity: 0

Identity : Eyesaline Eyewash or Sterile Eyesaline - **Product #s:** 32-ST1050, 32-ST2050, 32-000440, 32-000445, 32-000446, 32-000448, 32-000449, 32-000451, 32-000452, 32-000454, 32-000455, 32-000456, 32-000457, 32-000458, 32-000460, 32-000461, 32-000462, 32-000463, 32-000465, 32-000470, 32-000471, 32-000494, 32-000497, 32-000498

Section I

Manufacturer : Sperian Eye & Face Protection, Inc.
(a Honeywell Company)

Address : 825 East Highway 151
Platteville, WI 53818 USA

Emergency Telephone : 1-800-430-5490

Information Telephone : 1-800-543-4842

Date prepared : 02/14/13

Section II – Hazardous Ingredients/Identify Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Outer limits recommended	% (optional)
NONE	NONE	NONE	N/A	N/A

Section III – Physical/Chemical Characteristics

Boiling Point : 200°F (93.3°C)

Specific Gravity (H_2O = 1) : NOT DETERMINED

Vapor Pressure (mm Hg) : 760

Melting Point : N/A

Vapor Density (Air = 1) : NOT DETERMINED

Evaporation Rate (Butyl Acetate = 1) : NOT DETERMINED

Solubility in Water : 100%

Appearance and Odor : COLORLESS LIQUID WITH NO DISCERNABLE ODOR.

Section IV – Fire and Explosion Hazard Data

Flash Point (Method Used) : N/A

Flammable Limits :

LEL : N/A

UEL : N/A

Extinguishing Media : THIS IS A NONFLAMMABLE AQUEOUS SOLUTION.

Special Fire Fighting Procedures : N/A

Unusual Fire and Explosion Hazards : N/A

Section V – Reactivity Data

Stability : **Unstable :** NO **Stable :** YES

Conditions to Avoid : THIS PRODUCT IS STABLE AND CONSIDERED NON-REACTIVE UNDER NORMAL CONDITIONS OF STORAGE AND USAGE.

Incompatibility (Materials to Avoid) : NONE KNOWN

Hazardous Decomposition or Byproducts : NONE

Hazardous Polymeization : **May Occur :** NO **Will Not Occur :** YES

Conditions to Avoid : NONE

Section VI – Health Hazard Data

Route(s) of Entry : **Inhalation?** NO **Skin?** NO **Ingestion?** YES

Health Hazards (Acute and Chronic) : INGESTION OF VOLUMES IN EXCESS OF 20 LITERS MAY CAUSE GASTRIC IRRITATION.

Carcinogenicity : **NTP?** NO **IARC Monographs?** NO **OSHA Regulated?** NO

Signs and Symptoms of Exposure : N/A

Medical Conditions Generally Aggraveted by Exposure : N/A

Emergency First Aid Procedures : NOTES TO PHYSICIAN : IN THE UNLIKELY EVENT OF RAPID INGESTIONS OF LARGE VOLUMES OF THE SOLUTION, INDUCE VOMITING AND OBSERVE THE PATIENT FOR GASTRIC IRRITATION.

Section VII – Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled : FLUSH AREA WITH WATER. THE SOLUTION IS NOT RCRA HAZARDOUS WASTE.

Waste Disposal Method : N/A

Precautions to Be Taken in Handling and Storing : DO NOT FREEZE OR EXPOSE TO TEMPERATURES IN EXCESS OF 110°F (43°C) FOR EXTENDED PERIODS.

Other Precautions : N/A

Section VIII – Control Measures

Respiratory Protection : N/A

Ventilation : **Local Exhaust :** N/A **Mechanical :** N/A **Special :** N/A **Other :** N/A

Protective Gloves : N/A

Eye Protection : N/A

Other Protective Clothing : N/A

Work Hygienic Practices : N/A

Part #32-005591 Rev. G

HOJA DE INFORMACIÓ DE SEGURIDAD DEL MATERIAL

HMIS Calificaciones Salund: 0
Inflamabilidad: 0
Reactividad: 0

Identidad : Lavaojos Eyesaline o Estéril Eyesaline - **Números de productos:** 32-ST1050, 32-ST2050, 32-000440, 32-000445, 32-000446, 32-000448, 32-000449, 32-000451, 32-000452, 32-000454, 32-000455, 32-000456, 32-000457, 32-000458, 32-000460, 32-000461, 32-000462, 32-000463, 32-000465, 32-000470, 32-000471, 32-000494, 32-000497, 32-000498

Sección I

Fabricante : Sperian Eye & Face Protection, Inc. (una compañía de Honeywell)	**Télefono de emergencia :** 1-800-430-5490
Dococilio : 825 East Highway 151 Platteville, WI 53818 USA	**Télefono de información :** 1-800-543-4842
	Fecha de preparación : 02/14/13

Sección II – Ingredientes peligrosos/identificación de información

Componentes peligrosos (Identidad Quimica Especifica; Nombre(s) Común(es))	**OSHA[1] PEL[2]**	**ACGIH[3] TLV[4]**	**Otros limites recomendados**	**% (opcional)**
NINGUNO	NINGUNO	NINGUNO	N/A	N/A

Sección III – Caracteristicas fisicoquimicas

Punto de ebullición: 93.3 °C (200 °F)	**Gravedad especifica (H_2O = 1)** : NO DETERMINADA
Presión de vapor (mm Hg) : 760	**Punto de fusión** : N/A
Densidad de vapor (Air = 1) : NO DETERMINADA	**Tasa de evaporación (acetato de butilo = 1) :** NO DETERMINADA

Solubilidad en agua : 100 %

Apariencia y olor : LIQUIDO INCOLORO SIN NINGUN OLOR APRECIABLE

Sección IV – Información de peligros de fuego y explosión

Punto se inflamación (Método usado) : N/A	**Limites de inflamación :**	**LEL[5]:** N/A	**UEL[6]:** N/A

Medios de extinción : ESTE UNA SOLUCIN ACUOSA NO INFLAMABLE.

Procedimientos especiales para la extinción de incendios : N/A

Peligros inusuales de fuego y explosión : N/A

Sección V – Información de reactividad

Estabilidad	**Inestable :** NO **Estable :** SÍ	**Condiciones que deban evitarse :** ESTE PRODUCTO ES ESTABLE SE CONSIDERA NO REACTIVO BAJO CONDICIONES NORMALES DE USO Y ALMACENAMIENTO.

Incompatibilidad (materials que deben evitarse) : NINGUNO CONOCIDO

Descomposición o subproductos peligrosos : NINGUNO

Polimerización peligrosa	**Puede occurir:** NO **No ocurriá:** SÍ	**Condiciones que se deben evitar:** NINGUNA

Sección VI – Información de peligros para la salud

Ruta(s) de entrada: **¿Ihalación?** NO **¿Cutánea?** NO **¿Ingestión?** SÍ

Peligros para la salud (agudos y crónica): LA INGESTIÓN DE VOLUMENES MAYORES A 20 LITROS PUEDE PROVOCAR IRRITACIÓN GÁSTRICA.

CARCINOGENIDAD: **¿NTP[7]?** NO **¿Monografias IARC[8]?** NO **¿Regulado por OSHA[1]?** NO

Sintomas y indicios de la exposición: N/A

Condiciones médicas generalmente agravadas por la esposición: N/A

Procedimientos de primeros auxilios de emergencia: NOTAS PARA EL MEDICO: EN EL FORTUITO CASE DE UNA INGESTIÓN RAPIDA DE GRANDES VOLUMENES DE LA SOLUCIÓN, PROVOQUE EL VOMITO Y OBSERVE SI SE PRESENTA IRRITACIÓN GÁSTRICA EN EL PACIENTE.

Sección VII – Precauciones para uso y manejo seguro

Pasos a seguir en caso que el material sea liberado o derramado: LAVE EL ÁREA CON AGUA. LA SOLUCIÓN NO ES UN DESPERDICIO PELIGROSO PARA RCRA[9].

Método de desecho de desperdicios: N/A

Precauciones qu se deban tomar para el manejo y almacenamineto: NO SE CONGELE O EXPONGA A TEMPERATURAS MAYORES A LOS 43°C (110°F) POR PERIODOS EXTENSOS.

Otras Precauciones: N/A

Sección VIII – Medidas de control

Protección respiratoria: N/A

Ventilación:	**Extracción:** N/A **Mecánica:** N/A	**Especial:** N/A **Otra:** N/A

Cuantes protectores: N/A	**Protección para ojos:** N/A

Otras prendas protectoras: N/A

Prácticas de higiene laboral: N/A

Parte # 32-005591 Rev. G

1. Occupational Safety and Health Act (Decreto de Salud y Seguridad Ocupacional); 2. Prescriptive Exposure Limit (Limite Prescrito de Exposición); 3. American Conference of Governmental Industrial Hygienists (Conferencia Americana de Higienistas Industriales Guvernamentales); 4. Threshold Limit Value(s) (Valor(es) Limite de Umbral); 5. Lower Explosive Level (Nivel de Explosión interior); 6. Upper Explosive Limit (Nivel Superior de Explosión); 7. National Toxicology Program (Programa Nacional de Toxicología); 8. International Agency for Research on Cancer (Agencia Internacional para Investigación del Cancer); 9. Resource Conservation and Recovery Act (Decreto de Conservación y Recuperación de Recursos).

FICHE SIGNALÉTIQUE

HMIS Classements Santé: 0
Inflammabilité: 0
Réactivité : 0

Nom du produit : Lavage Oculaire Eyesaline ou Stérile Eyesaline - **Numéros de produit :** 32-ST1050, 32-ST2050, 32-000440, 32-000445, 32-000446, 32-000448, 32-000449, 32-000451, 32-000452, 32-000454, 32-000455, 32-000456, 32-000457, 32-000458, 32-000460, 32-000461, 32-000462, 32-000463, 32-000465, 32-000470, 32-000471, 32-000494, 32-000497, 32-000498

Section I

Fabricant : Sperian Eye & Face Protection, Inc. (une compagine de Honeywell)	**Téléphone (en cas d'urgence)** 1-888-212-7233
Adresse : 825 East Highway 151 Platteville, WI 53818 USA	**Téléphone (pour obtenir des informations)** 1-800-543-4842
	Date de la préparation : 02/14/13

Section II – Ingrédients dangereux/Renseignements signalétiques

Composants dangereux (Dénomination chimique spécifique ; noms communs)	OSHA PEL	ACGIH TLV	Autres limites recommandées	% (facultatif)
NÉANT	NÉANT	NÉANT	SANS OBJET	SANS OBJET

Section III – Caractéristiques physiques et chimiques

Point d'ébullition : 93,3 °C (200 °F)	**Densité spécifique (H_2O = 1)** : AUCUNE DONNÉE DISPONIBLE
Tension de vapeur (mm Hg): 760	**Point de fusion** : SANS OBJET
Densité de vapeur (Air = 1) : AUCUNE DONNÉE DISPONIBLE	**Taux d'évaporation (acétate de butyle = 1) :** AUCUNE DONNÉE DISPONIBLE

Solubilité dans l'eau : 100 %

Apparence et odeur : LIQUIDE INCOLORE SANS ODEUR DISCERNABLE.

Section IV – Risques d'incendie ou d'explosion

Point d'éclair (méthode utilisée) : SANS OBJET	**Limites d'inflammabilité** :	**LIE :** SANS OBJET	**LSE :** SANS OBJET

Moyens d'extinction : CETTE SOLUTION AQUEUSE EST ININFLAMMABLE.

Procédures spéciales de lutte contre l'incendie : SANS OBJET

Risques inhabituels d'incendie et d'explosion : SANS OBJET

Section V – Réactivité

Stabilité	**Instable** : NON **Stable** : OUI	**Conditions à éviter :** CE PRODUIT EST CONSIDÉRÉ COMME ÉTANT NON-RÉACTIF ET STABLE DANS DES CONDITIONS NORMALES D'ENTREPOSAGE ET D'USAGE.

Incompatibilité (matériaux à éviter) : AUCUN CONNU

Produits ou sous-produits de décomposition dangereux : NÉANT

Polymérisation dangereuse	**Peut avoir lieu :** NON **N'aura pas lieu** : OUI	**Conditions à éviter :** NÉANT

Section VI – Risques pour la santé

Voies d'exposition : **Inhalation ?** NON **Peau ?** NON **Ingestion ?** OUI

Risques pour la santé (aigus et chroniques) : L'INGESTION DE PLUS DE 20 LITRES RISQUE DE PROVOQUER UNE IRRITATION GASTRIQUE.

Cancérogénicité : **NTP ?** NON **Monographies CIRC ?** NON **Réglementation OSHA ?** NON

Signe et symptômes d'exposition : SANS OBJET

Troubles médicaux généralement aggravés par l'exposition : SANS OBJET

Premiers soins : NOTES À L'INTENTION DU MÉDECIN : DANS LE CAS PEU PROBABLE D'UNE INGESTION RAPIDE DE GRANDES QUANTITÉS DE LA SOLUTION, PROVOQUER LE VOMISSEMENT ET OBSERVER LE PATIENT POUR TOUTE IRRITATION GASTRIQUE.

Section VII – Précautions à prendre pour une manutention et une utilisation sécuritaires

Précautions à prendre en cas de fuite ou de déversement de matériau : RINCER LA SURFACE À L'EAU. LA SOLUTION N'EST PAS UN DÉCHET DANGEREUX DE LA RCRA DE L'EPA DES ÉTATS-UNIS.

Méthode d'élimination des résidus : SANS OBJET

Précautions à prendre lors de la manutention et de l'entreposage : NE PAS CONGELER NI EXPOSER À DES TEMPÉRATURES SUPÉRIEURES À 43°C (110 ºF) PENDANT DES PÉRIODES PROLONGÉES.

Autres précautions : SANS OBJET

Section VIII – Mesures de contrôle

Protection des voies respiratoires : SANS OBJET

Ventilation :	**Locale :** SANS OBJET **Mécanique :** SANS OBJET	**Spéciale** : SANS OBJET **Autre** : SANS OBJET

Gants de protection : SANS OBJET	**Protection des yeux :** SANS OBJET

Autres vêtements de protection : SANS OBJET

Pratiques d'hygiène au travail : SANS OBJET

Honeywell

SAFETY DATA SHEET

1. Identification

Product identifier **Water Additive**

Other means of identification

Product code 32-001100, 32-000130, 32-000230

Recommended use Water additive.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name: Honeywell Safety Products USA, Inc

Address: 825 East Highway 151
Platteville, WI 53818 USA

Telephone: 1-800-873-5242

Contact Person hsptechsupport@honeywell.com

E-mail: msds@chemtrec.com

Emergency telephone number: +1-703-741-5500 for USA/Canada

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements None

Signal word None

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handeling.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Chlorhexidine Gluconate	18472-51-0	1

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Skin contact Wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.

Released to Imaging: 4/22/2025 3:42:03 PM

Eye contact	If non-diluted product is in contact with eye, flush eyes with plenty of water. Remove contact lenses. Get medical attention promptly if symtoms occur after flushing.
Ingestion	Seek medical advice.
Most important symptoms/effects, acute and delayed	May cause eye and skin irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	No restrictions known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Self-contained breathing apparatus operated in positive pressure mode and full protective clothing must be worn in case of fire. Cool material exposed to heat with water spray and remove it if no risk is involved. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Wear appropriate personal protective equipment (See Section 8).
Methods and materials for containment and cleaning up	Should not be released into the environment. Do not allow material to contaminate ground water system. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Flush area with water. Large Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste.
Environmental precautions	Inform appropriate managerial or supervisory personnel of all environmental releases. Do not discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices. Do not taste or swallow.
Conditions for safe storage, including any incompatibilities	Keep container closed. Store away from incompatible materials. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	No exposure standards allocated.
Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection	None under normal conditions.
Skin protection	
Hand protection	Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Released to Imaging: 4/22/2025 3:42:03 PM

Other	Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact glove manufacturer for specific information.
Respiratory protection	Use suitable protective equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Almost colorless to pale yellow liquid.
Physical state	Liquid.
Form	Liquid.
Color	Almost colorless to pale yellow.
Odor	Not assigned.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	206.6 °F (97 °C)
Evaporation rate	Same as water.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.06
Solubility(ies)	
Solubility (water)	Soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	Stable at normal conditions.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Elevated temperatures.
Incompatible materials	Strong oxidizers, strong acids, and strong bases.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	May cause skin irritation.
Eye contact	May cause slight eye irritation.

Released to Imaging: 4/22/2025 3:42:03 PM

Ingestion	No harmful effects expected in amounts likely to be ingested by accident.
Symptoms related to the physical, chemical and toxicological characteristics	Causes serious eye damage. May cause skin irritation.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	May cause slight eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not classified.
Skin sensitization	Not a skin sensitizer.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Not classified.

12. Ecological information

Ecotoxicity	The mixture is not toxic to the environment.
Persistence and degradability	No data available.
Bioaccumulative potential	The product is not expected to bioaccumulate.
Mobility in soil	The product is soluble in water.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Dispose in accordance with all applicable regulations. Do not allow runoff to sewer, waterway or ground.
Hazardous waste code	Waste codes should be assigned by the user based on the application for which the product was used.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Released to Imaging: 4/22/2025 3:42:03 PM

15. Regulatory information

US federal regulations This product is not hazardous according to OSHA 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 15-September-2015

Revision date 28-October-2015

Version # 02

Further information The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

List of abbreviations

References

ACGIH
EPA: Acquire database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
ESIS (European chemical Substances Information System)
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity

Disclaimer This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

EMERGENCY CALL: 1-800-222-1222 (POISON CONTROL CENTER)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **FarmWorks Indoor/Outdoor Insect Control**
EPA Reg. No.: 84009-32
Product Type: Insecticide

Company Name:
Ragan and Massey, Inc.
101 Ponchatoula Parkway
Ponchatoula, LA 70454
1-800-264-5281

Telephone Numbers: **For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night: 1-800-424-9300 For Medical Emergencies Only, Call 1-877-325-1840**

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:
None

HEALTH HAZARDS:

Acute toxicity – Oral	Category 4
Acute toxicity – Inhalation	Category 4
Skin corrosion/irritation	Category 2
Eye damage/irritation	Category 2B

ENVIRONMENTAL HAZARDS:

Hazardous to the aquatic environment, acute hazard	Category 1

SIGNAL WORD:
WARNING

HAZARD STATEMENTS
Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Causes eye irritation. Very toxic to aquatic life.

PRECAUTIONARY STATEMENTS
Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves (such as Natural Rubber, Selection Category A). If swallowed: Rinse mouth.

If on skin: Wash with plenty of water. Specific treatment: see product label and Section 4 for First Aid instructions. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue

rinsing. If eye irritation persists: Get medical advice/attention.

Avoid breathing mist/vapors/spray. Use only outdoors or in a well-ventilated area. If inhaled: Remove person to fresh air and keep comfortable for breathing.

Call a poison center/doctor if you feel unwell. See product label and Section 4 for emergency medical advice/attention.

Dispose of contents/container in accordance with State and Federal Regulations. See product label for disposal instructions.

Avoid releases to the environment. Collect spillage.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Bifenthrin	82657-04-3	7.50 – 8.30
Propylene glycol	57-55-6	9.50 – 10.50
Other Ingredients	Trade Secret	Trade Secret

Synonyms: (2-methyl[1,1'-biphenyl]–3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product's specifications.

4. FIRST AID MEASURES

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Most Important symptoms/effects, acute and delayed: Brief skin exposure may cause moderate irritation. Prolonged exposure or overexposure may cause paresthesia (rash, tingling, numb, or burning sensation) which is characteristic of overexposure to the skin to pyrethroid insecticides. Dermal absorption is typically minimal. Systemic intoxication resulting from overexposure to the skin is not expected. Eye exposure may cause mild irritation.

Indication of Immediate medical attention and special treatment if needed, if necessary: Seek immediate medical attention for overexposure resulting in stupor, rapid breathing and heartbeat, profuse sweating and/or seizures

Note to Physician: This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils or alcohol may increase absorption and so should be avoided.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use water spray, dry chemical, foam, or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control

water later.

Unusual Fire and Explosion Hazards: Slightly combustible, and may support combustion at elevated temperatures. If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as hydrogen chloride, hydrogen fluoride, carbon oxides and unidentified organic compounds.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Clean-Up and Disposal: Avoid creation of dusty conditions. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING:
Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin and clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE:
Keep out of reach of children and animals, Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. **DO NOT** put concentrate or dilute material into food or drink container. In case of spill, avoid contact, isolate area, and keep out animals and unprotected persons. Confine spills. Call CHEMTREC: 1-800-424-9300.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:
Eye/Face Protection: To avoid contact with eyes or when handlers are working in a non-ventilated space, wear chemical goggles or safety glasses with front, brow and temple protection. An emergency eyewash or water supply should be readily accessible to the work area.
Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, shoes, socks and chemical resistant gloves. An emergency shower or water supply should be readily accessible to the work area.
Respiratory Protection: If vapors or mists exceed acceptable levels or when working in a non-ventilated space, wear a NIOSH approved respirator with any R, P or HE filter or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P, or HE prefilter.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	**TWA**	**STEL**	**TWA**	**STEL**	**Unit**
Bifenthrin	NE	NE	10*	NE	
Propylene Glycol	10 (WEEL)	NE	NE	NE	mg/m^3
Other Ingredients	NE	NE	NE	NE	

WEEL = AIHA Workplace Environmental Exposure Level
NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off-white colored liquid
Odor:	Faint odor
Odor threshold:	No data available
pH:	6-8 (1% Solution)
Melting point:	No data available
Initial boiling point and boiling range:	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor Pressure:	No data available
Vapor Density:	No data available
Relative density:	1.017 g/ml
Solubility(ies):	Dispersible
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	573.897 cSt (20°C); 381.811 cSt (40° C)
VOC Emission Potential (%):	9.76

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Stable under normal conditions of use.
Chemical Stability: This material is stable under normal handling and storage conditions.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Excessive heat. Do not store near heat or flame.
Incompatible Materials: Potassium permanganate.
Hazardous Decomposition Products: Under fire conditions, may produce gases such as hydrogen chloride, hydrogen fluoride, carbon oxides and unidentified organic compounds.

11. TOXICOLOGICAL INFORMAITON

Likely Routes of Exposure: Inhalation, eye and skin contact.
Symptoms of Exposure: Skin contact with bifenthrin causes slight irritation. Overexposure to the skin may produce skin sensations such as rash, numbness, burning or tingling. These skin sensations are reversible and usually subside within 12 hours. Causes mild eye irritation. Systemic effects are not expected from skin exposure. Overexposure (inhalation or

ingestion) may result in tremors, convulsions, incoordination, decreased locomotion and nasal discharge, including bleeding.
Delayed, immediate and chronic effects of exposure: None presently known.

Toxicological Data:
Oral, Rat LD_{50}: 975.5 mg/kg
Dermal, Rat or Rabbit LD_{50}: >5,000 mg/kg
Inhalation, Rat 4-hr LC_{50}: >2.04 mg/l (No mortalities at highest dose tested)
Eye Irritation, Rabbit: Mildly irritating
Skin Irritation, Rabbit: Slightly irritating (PDHII = >0 - 2.0)
Skin Sensitization, Guinea Pig: Not considered a sensitizer

Subchronic (Target Organ) Effects: Ingestion of large amounts of propylene glycol has resulted in symptoms of reversible central nervous system depression including stupor, rapid breathing and heartbeat, profuse sweating and seizures.

Carcinogenicity / Chronic Health Effects: Bifenthrin has produced an increased incidence of urinary bladder tumors in male mice at the highest dose level tested. This response, however, was considered equivocal and not evidence of a clear compound related effect. The U.S. EPA has classified bifenthrin as a Class C carcinogen (a possible human carcinogen). Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal kidney damage.

Reproductive Toxicity: In studies with animals, bifenthrin did not cause reproductive toxicity.

Developmental Toxicity: Animal tests with bifenthrin have not demonstrated developmental effects.

Genotoxicity: Tests with bifenthrin have shown an absence of genotoxicity.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Environmental Hazards:
This product is toxic to fish and aquatic invertebrates.

Excotoxicity:
Data from EPA ECOTOX website for Bifenthrin Technical:

Bluegill 96-hour LC_{50}:	0.344 ug/l	**Bobwhite Quail** Oral LD_{50}:	4450 ppm
Rainbow Trout 96-hour LC_{50}:	0.15 ug/l	**Mallard Duck** 8-day Dietary LC_{50}:	1280 ppm
Daphnia 48-hour EC_{50}:	1.6 ug/l	**Honey Bee** Oral LD_{50}:	0.0146 ug/bee

Environmental Fate:
In the soil, bifenthrin is stable over a wide pH range and degrades at a slow rate that is governed by soil characteristics. Bifenthrin will also persist in aquatic sediments. Bifenthrin has a high Log Pow (>6.0), a high affinity for organic matter, and is not mobile in soil. Therefore, there is little potential for movement into ground water. There is the potential for bifenthrin to bioconcentrate (BCF = 11,750).

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling and Disposal:
Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Nonrefillable containers larger than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Refillable Container: Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Ragan & Massey, Inc.'s Customer Service Department at 1-800-264-5281 to arrange for return of the empty refillable container.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT:
Non Regulated – See 49 CFR 173.132(b)(3)

IMDG:
UN3082, Environmentally Hazardous substances, liquid, n.o.s. (bifenthrin), 9, PG III, Marine Pollutant

IATA:
UN3082, Environmentally Hazardous substances, liquid, n.o.s. (bifenthrin), 9, PG III, Marine Pollutant

15. REGULATORY INFORMATION

U.S. Federal Regulations:
TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:
Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Immediate, Delayed

Section 313 Toxic Chemical(s):
Bifenthrin (CAS No. 82657-04-3) - 7.5 – 8.30% by weight in product

Reportable Quantity (RQ) under U.S. CERCLA:
None specified.

RCRA Waste Code:
None

State Information:
Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed

16. OTHER INFORMATION

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter “Information”) are presented in good faith and believed to be correct as of the date hereof, Ragan and Massey, Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Ragan and Massey, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFER AND ALL SUCH WARRNATIES ARE HEREBY SPECIFICALLY DISCLAIMED.

SDS Version: 1.0 Effective Date: 10/23/2017

Page 479 of 1315

SAFETY DATA SHEET

Flammable Gas Mixture: Ethane / N-Butane / Propane

Airgas
an Air Liquide company

Section 1. Identification

GHS product identifier : Flammable Gas Mixture: Ethane / N-Butane / Propane

Other means of identification : X03NB55C3500003

Product type : Gas.

Product use : Synthetic/Analytical chemistry.

Synonym : X03NB55C3500003

SDS # : 016801

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Compressed gas

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.
May form explosive mixtures with air.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources.

Storage : Protect from sunlight. Store in a well-ventilated place.

Disposal : Not applicable.

Hazards not otherwise classified : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 480 of 1315

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : X03NB55C3500003

Product code : 016801

Ingredient name	%	CAS number
N-Butane	0.0001 - 100	106-97-8
Propane	0.0001 - 100	74-98-6
Ethane	0.0001 - 100	74-84-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 481 of 1315

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 482 of 1315

Section 7. Handling and storage

(ventilating, lighting and material handling) equipment.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
N-Butane	**NIOSH REL (United States, 10/2020).** TWA: 1900 mg/m³ 10 hours. TWA: 800 ppm 10 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1900 mg/m³ 8 hours. TWA: 800 ppm 8 hours. **ACGIH TLV (United States, 1/2021).** **Explosive potential.** STEL: 1000 ppm 15 minutes.
Propane	**NIOSH REL (United States, 10/2020).** TWA: 1800 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential.**
ethane	**ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential.**

Biological exposure indices

No exposure indices known.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 483 of 1315

Section 8. Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not applicable.

Melting point : -138°C (-216.4°F) This is based on data for the following ingredient: N-Butane. Weighted average: -171.07°C (-275.9°F)

Boiling point : Not available.

Critical temperature : Lowest known value: 32.35°C (90.2°F) (ethane).

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Highest known value: 2.1 (Air = 1) (N-Butane). Weighted average: 1.58 (Air = 1)

Gas Density (lb/ft ^{3}) : Weighted average: 0.11

Relative density : Not applicable.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 484 of 1315

Section 9. Physical and chemical properties

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flow time (ISO 2431) : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Oxidizers

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
N-Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 485 of 1315

Section 11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 486 of 1315

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
N-Butane	2.89	-	low
Propane	1.09	-	low
ethane	1.09	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1954	UN1954	UN1954	UN1954	UN1954
UN proper shipping name	Compressed gas, flammable, n.o.s. (propane, ethane)	COMPRESSED GAS, FLAMMABLE, N. O.S. (propane, ethane)	GAS COMPRIMIDO INFLAMABLE, N. E.P. (propane, ethane)	COMPRESSED GAS, FLAMMABLE, N. O.S. (propane, ethane)	Compressed gas, flammable, n.o.s. (propane, ethane)
Transport hazard class(es)	2.1	2.1	2.1	2.1	2.1
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Additional information

DOT Classification : **Limited quantity** Yes.
Packaging instruction Exceptions: 306. Non-bulk: 302, 305. Bulk: 314, 315.
Quantity limitation Passenger aircraft/rail: Forbidden. Cargo aircraft: 150 kg.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 487 of 1315

Section 14. Transport information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
Explosive Limit and Limited Quantity Index 0.125
ERAP Index 3000
Passenger Carrying Vessel Index Forbidden
Passenger Carrying Road or Rail Index Forbidden
Special provisions 16

Mexico Classification : **Special provisions** 274

IMDG : **Emergency schedules** F-D, S-U
Special provisions 274, 392

IATA : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Packaging instructions: Forbidden. Cargo Aircraft Only: 150 kg. Packaging instructions: 200. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
Special provisions A1, A807

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined
Clean Air Act (CAA) 112 regulated flammable substances: N-Butane; propane; ethane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

State regulations

Massachusetts : The following components are listed: BUTANE; PROPANE; ETHANE

New York : None of the components are listed.

New Jersey : The following components are listed: BUTANE; PROPANE; ETHANE

Pennsylvania : The following components are listed: BUTANE; PROPANE; ETHANE

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 488 of 1315

Section 15. Regulatory information

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Eurasian Economic Union	: **Russian Federation inventory**: Not determined.
Japan	: **Japan inventory (CSCL)**: All components are listed or exempted. **Japan inventory (ISHL)**: Not determined.
New Zealand	: All components are listed or exempted
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Thailand	: All components are listed or exempted.
Turkey	: Not determined.
United States	: All components are active or exempted.
Viet Nam	: All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 489 of 1315

Section 16. Other information

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas	Calculation method On basis of test data

History

Date of printing : 9/28/2022

Date of issue/Date of revision : 9/28/2022

Date of previous issue : No previous validation

Version : 0.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

GAS/SPEC CS-1160

Section 1. Identification

GHS product identifier : GAS/SPEC CS-1160

Other means of identification : Not available.

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : GAS TREATING SOLVENT

Area of application : Industrial applications.

Uses advised against	Reason
None known.	-

Supplier's details : INEOS GAS/SPEC TECHNOLOGY GROUP
INEOS AMERICAS LLC
2600 South Shore Boulevard
Suite 400
League City, Texas 77573

e-mail address of person responsible for this SDS : Email: OLIGOMERSMSDS@ineos.com
Telephone no.:1-866-363-2454

Emergency telephone number (with hours of operation) : USA:1 (800) 424-9300
Outside USA:+1 703-527-3887 (CHEMTREC)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
AQUATIC TOXICITY (ACUTE) - Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
Harmful to aquatic life.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Wear protective clothing: Recommended: Wear apron or coverall if there is a risk of exposure to splashes. Boots.. In case of inadequate ventilation wear respiratory protection. Avoid release to the environment. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response : IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : MSDS# 124740

Ingredient name	Other names	%	CAS number
2,2-(methylimino)di-ethanol	2,2'-methyliminodiethanol	<85	105-59-9
Piperazine	piperazine	<20	110-85-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, alcohol-resistant foam or water spray (fog).

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
Ammonia.
Aldehyde. / Ketone.
hydrogen cyanide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Piperazine	**ACGIH TLV (United States, 4/2014). Skin sensitizer. Inhalation sensitizer.** TWA: 0.03 ppm, (as piperazine) 8 hours. Form: Inhalable fraction and vapor TWA: 0.1 mg/m³, (as piperazine) 8 hours. Form: Inhalable fraction and vapor

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Recommended: butyl rubber, neoprene, nitrile rubber, Viton®.

Body protection : Wear apron or coverall if there is a risk of exposure to splashes. Boots.

Section 8. Exposure controls/personal protection

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Clear.]

Color : Colorless to light yellow.

Odor : Fish. Amine-like.

Odor threshold : Not available.

pH : 11 to 12 @ 100 g/l

Melting point : <10°C (<50°F)

Boiling point : >100°C (>212°F)

Flash point : Closed cup: >100°C (>212°F) [ASTM D93]

Evaporation rate : Not available.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : >0.24 kPa (>1.8 mm Hg) [room temperature] at 25°C

Vapor density : >2 [Air = 1]

Relative density : 1.04 [at 25°C]

Solubility : Easily soluble in the following materials: cold water and hot water.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : 200°C (392°F) DIN 51758

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Decomposes on heating to high temperature. Store away from direct sunlight.

Section 10. Stability and reactivity

Incompatible materials : Reactive or incompatible with the following materials: nitrite, strong acids, strong oxidizers.

Contact with nitrosating agents, under acidic conditions such as nitrous acid, nitrite or nitrogen oxides, can form nitrosamines some of which are potent carcinogens.

Corrosive to aluminum, copper, brass, bronze and other copper alloys, zinc, magnesium and galvanized iron.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2-(methylimino)di-ethanol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	4680 mg/kg	-
Piperazine	LC0 Inhalation Vapor	-	2mg/kg	4 hours
	LD50 Dermal	Rabbit	8300 mg/kg	-
	LD50 Oral	Rat	2600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,2-(methylimino)di-ethanol	Eyes - Irritant	Rabbit	-	-	-
	Skin - Negative	Rabbit	-	-	-
Piperazine	Skin - Visible necrosis	Rabbit	-	<1 hours	<14 days

Conclusion/Summary

Skin : Prolonged or repeated contact with skin or mucous membrane may result in irritation symptoms, such as redness, blistering, dermatitis etc.

Respiratory : Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
2,2-(methylimino)di-ethanol	skin	Guinea pig	Not sensitizing
Piperazine	skin	Guinea pig	Sensitizing
	Respiratory	Human	Sensitizing

Carcinogenicity

Conclusion/Summary : No component of this product at levels greater than or equal to 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

Reproductive toxicity

Section 11. Toxicological information

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
2,2-(methylimino)di-ethanol	-	-	Negative	Rat	Unreported: 1000 mg/kg NOAEL	15 days
	-	Negative	-	Rat	Unreported: 300 mg/kg NOAEL (P)	4 weeks
Piperazine	-	Positive	-	Rat	Unreported: 300 mg/kg LOAEL (P)	-
	-	Negative	-	Rat	Unreported: 125 mg/kg NOEL (P)	-

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	4163.7 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2,2-(methylimino)di-ethanol	Acute EC50 >100 mg/l Acute EC50 233 mg/l Acute LC50 1466 mg/l	Algae Daphnia Fish	72 hours 48 hours 96 hours
Piperazine	EC50 >1000 mg/l EC50 21 mg/l LC50 >1000 mg/l	Algae Daphnia Fish	72 hours 48 hours 96 hours

Conclusion/Summary : Harmful to aquatic life.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Not available.				

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
GAS/SPEC CS-1160	-	-	Readily
2,2-(methylimino)di-ethanol	-	-	Readily
Piperazine	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Piperazine	-1.24	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN2735	UN2735	UN2735
UN proper shipping name	Amines, liquid, corrosive, n.o.s. (Piperazine)	AMINES, LIQUID, CORROSIVE, N.O.S. (Piperazine)	Amines, liquid, corrosive, n.o.s. (Piperazine)
Transport hazard class(es)	8	8	8
Packing group	III	III	III
Environmental hazards	No.	No.	No.
Additional information	**Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 5 L **Cargo aircraft** Quantity limitation: 60 L **Special provisions** IB3, T7, TP1, TP28	**Emergency schedules (EmS)** F-A, S-B **Special provisions** 223, 274	**Passenger and Cargo Aircraft** Quantity limitation: 5 L Packaging instructions: 852 **Cargo Aircraft Only**Quantity limitation: 60 L Packaging instructions: 856 **Limited Quantities - Passenger Aircraft**Quantity limitation: 1 L Packaging instructions: Y841 **Special provisions** A3, A803

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
2,2-(methylimino)di-ethanol	<85	No.	No.	No.	Yes.	No.
Piperazine	<20	No.	No.	No.	Yes.	Yes.

SARA 313

Not applicable.

State regulations

Massachusetts : The following components are listed: PIPERAZINE

New York : None of the components are listed.

New Jersey : The following components are listed: PIPERAZINE

Pennsylvania : The following components are listed: PIPERAZINE

California Prop. 65

None of the components are listed.

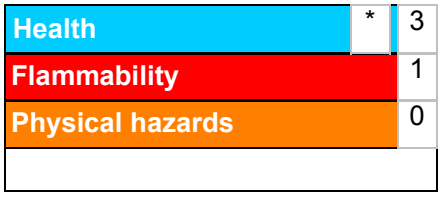
International lists : **China inventory (IECSC)**: All components are listed or exempted.
Australia inventory (AICS): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
Europe inventory: All components are listed or exempted.
Canada inventory: All components are listed or exempted.

Section 15. Regulatory information

Chemical Weapons Convention List Schedule III Chemicals : Listed

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of issue/Date of revision : 03/02/2015

Date of previous issue : 02/16/2015

Version : 1.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : HCS (U.S.A.)- Hazard Communication Standard
International transport regulations

Indicates information that has changed from previously issued version.

Section 16. Other information

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet

Issue Date: 22-Oct-2012 **Revision Date:** 5-May-2015 **Version** 1

1. IDENTIFICATION

Product Identifier
Product Name **Gold Band AW Anti-Wear Hydraulic Oil**

Other means of identification **AW 32, AW 46, AW 68**
SDS # GB-001

Recommended use of the chemical and restrictions on use
Recommended Use Hydraulic oil

Details of the supplier of the safety data sheet
Supplier Address
Warren Oil Company
915 E. Jefferson Ave.
West Memphis, AR 72301

Emergency Telephone Number
Company Phone Number 1-800-428-9284
Emergency Telephone (24 hr) Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Appearance Light amber, liquid **Physical State** Liquid **Odor** Typical petroleum

Classification
This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Petroleum distillates, hydrotreated heavy paraffinic	64742-54-7	90-100
Severely Hydrotreated Heavy Naphthenic Petroleum Oil	64742-52-5	90-100

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact Flush eyes with large amounts of water, for at least 15 minutes, until irritation subsides. If irritation persists get medical attention.

Skin Contact No treatment is necessary under ordinary circumstances. Remove contaminated clothing and shoes. Wash contaminated area thoroughly with soap and water. If redness or irritation occurs and persists, seek medical attention. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should seek immediate medical attention.

Received by OCD: 4/14/2025 11:49:46 AM

Inhalation Remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get medical attention.

Ingestion If swallowed, do not induce vomiting. If victim exhibits signs of lung aspiration such as coughing or choking, seek immediate medical attention.

Most important symptoms and effects

Symptoms Expected to be a minor eye irritant. Repeated or prolonged skin contact may cause dermatitis.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use dry chemical, foam, carbon dioxide or water fog.

Unsuitable Extinguishing Media While carbon dioxide and inert will extinguish the fire, they can also displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.

Specific Hazards Arising from the Chemical
This material can burn but will not readily ignite. This material will release vapors when heated above the flashpoint temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flashpoint. Dense smoke may be generated while burning.

Hazardous Combustion Products Carbon monoxide. Carbon dioxide (CO2). Aldehydes. Ketones. Combustion products of sulfur and nitrogen.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Avoid breathing smoke and vapor. Water may be used to cool containers exposed to heat or flame.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required.

Methods and material for containment and cleaning up

Methods for Containment Remove sources of ignition. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Clean-Up Take up small spills with absorbent pads. Large spills may be taken up with pump or vacuum.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Conditions for safe storage, including any incompatibilities

Storage Conditions Store at ambient conditions. Store at atmospheric pressure. Keep container tightly closed. Store in a cool, well-ventilated place. Keep away from heat, sparks, and flame. Empty containers retain product residues.

Incompatible Materials This product may react with strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Severely Hydrotreated Heavy Naphthenic Petroleum Oil 64742-52-5	TWA: 5 mg/m^3 (oil mist) STEL: 10 mg/m^3 (oil mist)	TWA: 5mg/m^3 (oil mist) STEL: none estab.	TWA: none estab. STEL: none estab.
Severely Hydrotreated Heavy Naphthenic Petroleum Oil 64742-52-5	TWA: 5 mg/m^3 (oil mist) STEL: 10 mg/m^3 (oil mist)	TWA: 5mg/m^3 (oil mist) STEL: none estab.	TWA: none estab. STEL: none estab.

Appropriate engineering controls

Engineering Controls Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces. If product is heated above 70 C (155 F) in the presence of water, hydrogen sulfide vapors may be released. Ventilation should be sufficient to keep hydrogen sulfide levels below recommended exposure limits. Eye wash fountains are recommended.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses. Wear chemical goggles or face shield if splash or mist occurs.

Skin and Body Protection Use impervious gloves for prolonged contact. Wear oil-impervious garments if contact is unavoidable.

Respiratory Protection If mist is generated (heating, spraying) and engineering controls are not sufficient, wear approved organic vapor respirator suitable for oil mist.

General Hygiene Considerations Use good hygiene when handling petroleum product. Launder contaminated clothing before reuse. Excessive misting may cause slippery floors - wear appropriate footwear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Viscous liquid		
Appearance	Light amber, viscous liquid	**Odor**	Typical petroleum
Color	Light amber	**Odor Threshold**	Not determined

Property	Values	Remarks • Method
pH	Not available	
Melting Point/Freezing Point	Not available	
Boiling Point/Boiling Range	Not available	
Flash Point	202 °C / 396 °F	ASTM D-92
Evaporation Rate	Not available	
Flammability (Solid, Gas)	Liquid-Not applicable	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not available	
Vapor Density	>1	(Air=1)
Specific Gravity	0.87	

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Water Solubility	insoluble
Solubility in other solvents	Not determined
Partition Coefficient	Not available

Property	**Values**	**Remarks • Method**
Auto-ignition Temperature	No data available	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to Avoid
Avoid formation of mists. Extreme heat, open flames or sparks. Keep separated from incompatible substances.

Incompatible Materials
This product may react with strong oxidizing agents.

Hazardous Decomposition Products
Decomposition of this product may yield oxides of boron, calcium, magnesium, nitrogen, phosphorus, sulfur including hydrogen sulfide and zinc as well as carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Do not inhale.

Ingestion Do not ingest.

Component Information

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated heavy paraffinic 64742-54-7		5000: 96 h Oncorhynchus mykiss mg/L LC50		1000: 48 h Daphnia magna mg/L EC50
Severely Hydrotreated Heavy Naphthenic Petroleum Oil 64742-52-5		5000: 96 h Oncorhynchus mykiss mg/L LC50		1000: 48 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility
Not determined

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS

Released to Imaging: 4/22/2025 3:42:03 PM

Petroleum distillates, hydrotreated heavy paraffinic	Present	X		Present		Present	X	Present	X	X
Chemical Name	**TSCA**	**DSL**	**NDSL**	**EINECS**	**ELINCS**	**ENCS**	**IECSC**	**KECL**	**PICCS**	**AICS**
Severely Hydrotreated Heavy Naphthenic Petroleum Oil	Present	X		Present		Present	X	Present	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

Received by OCD: 4/14/2025 11:49:46 AM

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	0	1	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	1	1	0	Not determined

Issue Date: 22-Oct-2012
Revision Date: 5-May-2015
Revision Note: New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: HYDROGEN SULFIDE
Product Description: Gas

Intended Use: Process stream

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
810 Houston St.
Fort Worth, TX 76102 USA
24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable gas: Category 1. Gas under pressure: Compressed gas.
Acute inhalation toxicant: Category 1.

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated. H330: Fatal if inhaled.

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P260: Do not breathe gas. P271: Use

only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P284: Wear respiratory protection.P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P310: Immediately call a POISON CENTER or doctor/physician. P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.P403 + P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up. P410 + P403: Protect from sunlight. Store in a well-ventilated place.P501: Dispose of contents and container in accordance with local regulations.

Contains: HYDROGEN SULFIDE

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

Hydrogen sulfide, a highly toxic gas, is expected to be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere.

ENVIRONMENTAL HAZARDS

Expected to be very toxic to aquatic organisms.

NFPA Hazard ID:	Health:	4	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	4	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
HYDROGEN SULFIDE	7783-06-4	> 99 %	H220, H280, H330(2), H400(M factor 1)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in

accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: DANGER! Allow the fire to burn under controlled conditions. Stop leak if you can do it without risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Flammable Gas. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: -60°C (-76°F) [Estimated]
Flammable Limits (Approximate volume % in air): LEL: 4.3 UEL: 46
Autoignition Temperature: 260°C (500°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. Avoid allowing water runoff to contact spilled material. Consider igniting spill or leak to eliminate toxic gas concerns. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Isolate area until gas has dispersed.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid breathing mists or vapors. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Do not enter storage areas or confined spaces unless adequately ventilated. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. H2S is present. The toxic and olfactory (sense of smell) fatigue properties of hydrogen sulfide require that air monitoring alarms and respiratory protection be used where the concentration might be expected to reach a harmful level, such as in an enclosed space, heated transport vessel, or in a spill or leak situation.

Material can accumulate static charges which may cause an electrical spark (ignition source). Auto-refrigeration: Drains can be plugged and valves may become inoperable because of the formation of ice when

expanding vapors or vaporizing liquids cause temperatures to drop below the freezing point of water.

Static Accumulator: This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
HYDROGEN SULFIDE		Ceiling	20 ppm		N/A	OSHA Z2
HYDROGEN SULFIDE		Maximum concentration	50 ppm		N/A	OSHA Z2
HYDROGEN SULFIDE		STEL	14 mg/m3	10 ppm	N/A	ExxonMobil
HYDROGEN SULFIDE		TWA	7 mg/m3	5 ppm	N/A	ExxonMobil
HYDROGEN SULFIDE		STEL	5 ppm		N/A	ACGIH
HYDROGEN SULFIDE		TWA	1 ppm		N/A	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Self-contained breathing apparatus

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Chemical goggles and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective, chemical resistant full body suit is recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications.

GENERAL INFORMATION

Physical State: Gas
Form: Clear
Color: Colorless
Odor: Rotten Egg
Odor Threshold: 0.05 ppm

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density: N/D
Flammability (Solid, Gas): N/D
Flash Point [Method]: -60°C (-76°F) [Estimated]
Flammable Limits (Approximate volume % in air): LEL: 4.3 UEL: 46
Autoignition Temperature: 260°C (500°F)
Boiling Point / Range: -60°C (-76°F)

Decomposition Temperature: N/D
Vapor Density (Air = 1): 1.2 at 101 kPa
Vapor Pressure: [N/D at 20 °C] | 4320.505 kPa (32485 mm Hg) at 0°F
Evaporation Rate (n-butyl acetate = 1): N/A
pH: N/D
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: -86°C (-123°F)
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Nitric acid, Powdered Metals, Soda Lime, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 444 ppm (Gas)	Highly toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data for material.	N/A
Eye	
Serious Eye Damage/Irritation: Data	May cause mild, short-lasting discomfort to eyes. Based on test

available.	data for the material. Test method unavailable.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 476
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 414 421
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 413

OTHER INFORMATION

For the product itself:

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn).

Contains:

HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be very toxic to aquatic organisms.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: HYDROGEN SULFIDE
Hazard Class & Division: 2.3
ID Number: 1053
Packing Group: (N/A)
Product RQ: 100.5 LBS - HYDROGEN SULFIDE
ERG Number: 117
Label(s): 2.3 (2.1)
Transport Document Name: UN1053, HYDROGEN SULFIDE, 2.3 (2.1)

SEA (IMDG)

Proper Shipping Name: HYDROGEN SULFIDE
Hazard Class & Division: 2.3
EMS Number: F-D, S-U
UN Number: 1053
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.3 (2.1)
Transport Document Name: UN1053, HYDROGEN SULFIDE, 2.3 (2.1), (-60°C c.c.)

AIR (IATA)

Proper Shipping Name: FORBIDDEN

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: TSCA

SARA 302

Chemical Name	CAS Number	Typical Value	Component TPQ
HYDROGEN SULFIDE	7783-06-4	99.5 %weight	500 LBS

CERCLA:

Chemical Name	CAS Number	Typical Value	Component RQ	Product RQ
HYDROGEN SULFIDE	7783-06-4	> 99 %	100 LBS	100.5 LBS

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Acute Toxicity (any route of exposure), Flammable (gases, aerosols, liquids, or solids), Gas under Pressure

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
HYDROGEN SULFIDE	7783-06-4	> 99 %

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
HYDROGEN SULFIDE	7783-06-4	1, 4, 13, 14, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL 6 = TSCA 5a2 11 = CA P65 REPRO 16 = MN RTK

2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H330(2): Fatal if inhaled; Acute Tox Inh, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.
Section 06: Accidental Release - Spill Management - Land information was modified.
Section 07: Handling and Storage - Handling information was modified.
Section 07: Handling and Storage - Storage Phrases information was modified.
Section 09: Flash Point C(F) information was modified.
Section 10: Materials to Avoid information was modified.
Section 11: Eye Irritation Conclusion information was modified.
Section 11: Inhalation Lethality Test Data information was modified.
Section 11: Mutagen Test Comment information was modified.
Section 11: Mutagen Test Guideline information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.
Section 16: Code to MHCs information was modified.
Section 16: Standard phrases for California Proposition 65 information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 14, 0, 1

DGN: 7132898VUS (1022357)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Page 523 of 1315

CRC MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: **Ice-Off® Windshield Spray De-Icer** (aerosol)

Product Number (s): **05346**

Product Use: melt ice on windshields

Manufacturer / Supplier Contact Information:

In United States:
CRC Industries, Inc.
885 Louis Drive
Warminster, PA 18974
www.crcindustries.com
1-215-674-4300(General)
(800) 521-3168 (Technical)
(800) 272-4620 (Customer Service)

In Canada:
CRC Canada Co.
2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
www.crc-canada.ca
1-905-670-2291

In Mexico:
CRC Industries Mexico
Av. Benito Juárez 4055 G
Colonia Orquídea
San Luís Potosí, SLP CP 78394
www.crc-mexico.com
52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

DANGER: POISON. Flammable. Vapor Harmful. May be Fatal or Cause Blindness if Swallowed. Contents Under Pressure.
Appearance & Odor: Colorless liquid, characteristic pungent odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause mild irritation. Symptoms include stinging, tearing, and redness.

SKIN: May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns. Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

INHALATION: Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful, and may cause irritation of airways, dizziness, drowsiness, nausea, and vomiting.

INGESTION: Swallowing this material may be harmful. Symptoms may include nausea, vomiting, dizziness, leg cramps, pain in the abdomen or lower back, blurred vision, shortness of breath, visual impairment (including blindness), coma and death.

CHRONIC EFFECTS: Overexposure to this material may cause liver abnormalities, central nervous system damage, and visual impairment.

TARGET ORGANS: Liver, kidneys, pancreas, heart, lungs, and brain

Medical Conditions Aggravated by Exposure: Pre-exiting disorders of the following organs: Skin, lung, liver, kidney central nervous system, pancreas, and heart.

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 524 of 1315

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Methanol	67-56-1	85 - 95
Water	7732-18-5	3 - 8
Propylene glycol	57-55-6	< 1
Carbon dioxide	124-38-9	5 - 10

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Note to Physicians: Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 µg/dl. Methanol is effectively removed by hemodialysis. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and may be used as an antidote in the treatment of methanol poisoning.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)).

Flash Point: 54°F / 12°C (TCC) Upper Explosive Limit: 36

Autoignition Temperature: 725°F / 385°C Lower Explosive Limit: 7.3

Fire and Explosion Data:

Suitable Extinguishing Media: Dry chemical, alcohol-resistant foam, carbon dioxide (CO_2)

Products of Combustion: Carbon dioxide and carbon monoxide

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode. Vapors may accumulate in a confined space and create a flammable atmosphere.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 525 of 1315

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains. If run-off occurs, notify the proper authorities as required, that a spill has occurred.

Methods for Containment & Clean-up: Eliminate all ignition sources. Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C to prevent cans from rupturing.

Aerosol Storage Level: III

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

	OSHA		ACGIH		OTHER		
COMPONENT	TWA	STEL	TWA	STEL	TWA	SOURCE	UNIT
Methanol	200	NE	200 (s)	250 (s)	NE	NE	ppm
Water	NE	NE	NE	NE	NE		
Propylene glycol	NE	NE	NE	NE	10	AIHA	mg/m^3
Carbon dioxide	5000	30000(v)	5000	30000	NE		ppm
N.E. – Not Established		(c) – ceiling		(s) – skin		(v) – vacated	

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 526 of 1315

Skin Protection: Use protective gloves such as nitrile or natural rubber. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: colorless
Odor: characteristic pungent odor
Odor Threshold: ND
Specific Gravity: 0.809
Initial Boiling Point: 148.5°F / 65°C
Freezing Point: ND
Vapor Pressure: 16.93 kPa @ 77°F / 25°C
Vapor Density: 1.1 (air = 1)
Evaporation Rate: fast
Solubility: completely soluble in water
Coefficient of water/oil distribution: ND
pH: NA
Volatile Organic Compounds: wt %: 87.8 g/L: 710.3 lbs./gal: 5.92

Section 10: Stability and Reactivity

Stability: Stable

Conditions to Avoid: Sources of ignition

Incompatible Materials: Hypochlorites, peroxides, reactive metals such as aluminum and magnesium,, sodium, strong acids, strong bases, strong oxidizing agents, zinc

Hazardous Decomposition Products: Carbon dioxide and carbon monoxide

Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Methanol	5628 mg/kg	15,800 mg/kg	64,000 ppm/4H
Water	> 90 mL/kg	No data	No data
Propylene glycol	20 g/kg	20,000 mg/kg	4.1 mg/L/8H
Carbon dioxide	No data	No data	470,000 ppm/30M

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitizer
Methanol	No	No	No	eye, skin	Unknown
Water	No	No	No	No	No
Propylene glycol	No	No	No	No	No
Carbon dioxide	No	No	No	No	No

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 527 of 1315

Reproductive Toxicity:	No information available
Teratogenicity:	No information available
Mutagenicity:	No information available
Synergistic Effects:	No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity:	No information available
Persistence / Degradability:	No information available
Bioaccumulation / Accumulation:	No information available
Mobility in Environment:	No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is a RCRA hazardous waste for the characteristic of ignitability with the following potential waste codes: D001, U154. (See 40 CFR Part 261.20 – 261.33) Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground):	UN1950, Aerosols, flammable, 2.1, Limited Quantity**
ICAO/IATA (air):	UN1950, Aerosols, flammable, 2.1, Limited Quantity
IMO/IMDG (water):	UN1950, Aerosols, 2.1, Limited Quantity
Special Provisions:	**This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping.

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):
All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Reportable Quantities (RQ's) exist for the following ingredients: Methanol (5000 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:
Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	Yes
	Reactive Hazard	No
	Release of Pressure	Yes

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 528 of 1315

Acute Health Hazard	Yes
Chronic Health Hazard	No

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Methanol (<88%)

Clean Air Act:
Section 112 Hazardous Air Pollutants (HAPs): Methanol

Occupational Safety and Health Administration (OSHA):
This product is regulated under the Hazard Communication Standard.

U.S. State Regulations:

California Safe Drinking Water and Toxic Enforcement Act (Prop 65):
This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: Methanol

Consumer Products VOC Regulations: None

State Right to Know:

New Jersey:	67-56-1, 57-55-6, 124-38-9
Pennsylvania:	67-56-1, 57-55-6, 124-38-9
Massachusetts:	67-56-1, 57-55-6, 124-38-9
Rhode Island :	67-56-1, 57-55-6, 124-38-9

Canadian Regulations:

Controlled Products Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Hazard Class: A, B5, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: None

Received by OCD: 4/14/2025 11:49:46 AM

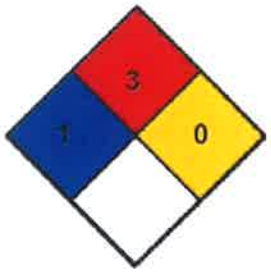
Released to Imaging: 4/22/2025 3:42:03 PM

Page 529 of 1315

Section 16: Other Information

HMIS® (II)	
Health:	1
Flammability:	3
Reactivity:	0
PPE:	B

NFPA



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 638
Revision Date: 11/21/2013

Changes since last revision: Section 15: Prop 65

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substance List
g/L: grams per Liter
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization
lbs./gal: pounds per gallon
LC: Lethal Concentration
LD: Lethal Dose

NA: Not Applicable
ND: Not Determined
NIOSH: National Institute of Occupational Safety & Health
NFPA: National Fire Protection Association
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PMCC: Pensky-Martens Closed Cup
PPE: Personal Protection Equipment
ppm: Parts per Million
RoHS: Restriction of Hazardous Substances
STEL: Short Term Exposure Limit
TCC: Tag Closed Cup
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Information System

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: ISOBUTANE
Product Description: Hydrocarbon Gas

Intended Use: Fuel gas, Process stream

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
810 Houston St.
Fort Worth, TX 76102 USA
24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable gas: Category 1. Gas under pressure: Liquefied gas.
Simple Asphyxiant

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking.P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.P403: Store in a well-ventilated place. P410 + P403: Protect from sunlight. Store in a well-ventilated place.

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation. May cause central nervous system depression.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BUTANE	106-97-8	25%	H220, H280
ISOBUTANE	75-28-5	70%	H220, H280
PROPANE	74-98-6	5%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

NOTE TO PHYSICIAN

This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Stop leak if you can do it without risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Flammable Gas. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: -159°C (-254°F) [ASTM D-56]
Flammable Limits (Approximate volume % in air): LEL: 1.4 UEL: 8.4
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of the spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that provide chemical resistance and, when necessary, heat-resistance and/or thermal insulation are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Small spills: normal work clothes are usually adequate. Large spills: full body suit of chemical and thermal resistant material is recommended. Chemical goggles and face shield are recommended if contact with liquefied gas is possible.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Allow liquid to evaporate from the surface. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not confine in area of spill. Allow liquid to evaporate from the surface. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Do not enter storage areas or confined spaces unless adequately ventilated. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Material

can accumulate static charges which may cause an electrical spark (ignition source). Material may contain trace amounts of naturally occurring radioactive material (NORM), which will accumulate in process equipment and storage vessels.

Static Accumulator: This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BUTANE		STEL	1000 ppm		N/A	ACGIH
ISOBUTANE		STEL	1000 ppm		N/A	ACGIH
PROPANE		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode.

Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Face shield is recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Gas
Form: Liquified
Color: Colorless
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.56
Flammability (Solid, Gas): N/D
Flash Point [Method]: -159°C (-254°F) [ASTM D-56]
Flammable Limits (Approximate volume % in air): LEL: 1.4 UEL: 8.4
Autoignition Temperature: N/D
Boiling Point / Range: -11°C (12°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: 240 kPa (1800 mm Hg) at 20 °C

Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/D

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 20 mg/l (Gas)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. N/A Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. N/A Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data	Not expected to be a respiratory sensitizer.

for material.	
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 422
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 422

OTHER INFORMATION

For the product itself:

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Material -- Expected to degrade at a moderate rate in air

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: ISOBUTANE
Hazard Class & Division: 2.1
ID Number: 1966
Packing Group: (N/A)
ERG Number: 115
Label(s): 2.1
Transport Document Name: UN1966, ISOBUTANE, 2.1

LAND (TDG)

Proper Shipping Name: ISOBUTANE
Hazard Class & Division: 2.1
UN Number: 1969
Packing Group: (N/A)
Special Provisions: 29
ERAP Index Number: 3 000

SEA (IMDG)

Proper Shipping Name: ISOBUTANE
Hazard Class & Division: 2.1
EMS Number: F-D, S-U
UN Number: 1969
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.1
Transport Document Name: UN1969, ISOBUTANE, 2.1 (-159°C c.c.)

AIR (IATA)

Proper Shipping Name: ISOBUTANE
Hazard Class & Division: 2.1
UN Number: 1969
Packing Group: (N/A)
Label(s) / Mark(s): 2.1
Transportation Limitations: CARGO AIRCRAFT ONLY
Transport Document Name: UN1969, ISOBUTANE, 2.1

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Flammable (gases, aerosols, liquids, or solids), Gas

under Pressure

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BUTANE	106-97-8	1, 13, 16, 17, 18, 19
ISOBUTANE	75-28-5	1, 13, 16, 17, 18, 19
PROPANE	74-98-6	4, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was added.
Composition: Component Table information was deleted.
Composition: Defined as statement (GHS) information was modified.
Composition: US GHS Footnote information was added.
Section 01: Company Mailing Address information was modified.
Section 04: First Aid Notes information was modified.
Section 05: Hazardous Combustion Products information was modified.
Section 07: Handling and Storage - Storage Phrases information was modified.
Section 11: Other Health Effects information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.
Section 16: Standard phrases for California Proposition 65 information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate

and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0, 0, 0, 0 PPEC: DF

DGN: 7132916VUS (1014010)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Page 542 of 1315

KOPR KOTE® INDUSTRIAL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 03/13/2020 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : KOPR KOTE® INDUSTRIAL

1.2. Recommended use and restrictions on use

Use of the substance/mixture : HIGH TEMPERATURE ANTI-SEIZE

Use of the substance/mixture : Lubricant

1.3. Supplier

Manufacturer
Jet-Lube
930 Whitmore Drive
Rockwall, Texas 75087 - USA
T 1.972.771.1000
Regulatory@whitmores.com - www.jetlube.com

1.4. Emergency telephone number

Emergency number : For Chemical Emergency Call CHEMTREC 24hr/day 7days/week
Within USA and Canada: 1.800.424.9300
Outside USA and Canada: +1.703.527.3887
(collect calls accepted)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning

Hazard statements (GHS US) : H319 - Causes serious eye irritation

Precautionary statements (GHS US) : P264 - Wash hands thoroughly after handling.
P280 - Wear eye protection, protective gloves.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Distillates (petroleum), hydrotreated heavy naphthenic	(CAS-No.) 64742-52-5	30 - 40	Not classified
Copper	(CAS-No.) 7440-50-8	5 - 10	Not classified

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 543 of 1315

Name	Product identifier	%	GHS US classification
Calcium dodecylbenzenesulfonate	(CAS-No.) 26264-06-2	1 - 5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Exercise caution. Spill area may be slippery. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 544 of 1315

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

KOPR KOTE® INDUSTRIAL

No additional information available

Distillates (petroleum), hydrotreated heavy naphthenic (64742-52-5)

No additional information available

Copper (7440-50-8)

USA - ACGIH - Occupational Exposure Limits

Local name	Copper, as Cu
ACGIH TWA (mg/m³)	0.2 mg/m³ (Fume) 1 mg/m³ (Dusts and mists)
Remark (ACGIH)	TLV® Basis: Irr; GI; metal fume fever
Regulatory reference	ACGIH 2019

USA - OSHA - Occupational Exposure Limits

Local name	Copper
OSHA PEL (TWA) (mg/m³)	0.1 mg/m³ (Fume (as Cu)) 1 mg/m³ (Dusts and mists (as Cu))
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

Calcium dodecylbenzenesulfonate (26264-06-2)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves. Neoprene or nitrile rubber gloves

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Paste.
Color	: Metallic
Odor	: Petroleum-like odour
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 221 °C Open Cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 545 of 1315

Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Specific gravity / density	:	1.15
Solubility	:	insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	> 25 mm²/s @ 40°C
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

VOC content : 0 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Distillates (petroleum), hydrotreated heavy naphthenic (64742-52-5)	
LD50 oral rat	> 5000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
LD50 dermal rat	> 5000 mg/kg Sufficiently refined

Copper (7440-50-8)	
LD50 oral rat	> 2500 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: EPA OTS 798.1100 (Acute Dermal Toxicity), Guideline: other:MAFF 4200 (1985)
LC50 inhalation rat (mg/l)	> 5.11 mg/l air Animal: rat, Guideline: OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class Method)

Calcium dodecylbenzenesulfonate (26264-06-2)	
LD50 oral rat	1300 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
ATE US (oral)	1300 mg/kg body weight

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Causes serious eye irritation.
Respiratory or skin sensitization	:	Not classified

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 546 of 1315

Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified.
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified.

Distillates (petroleum), hydrotreated heavy naphthenic (64742-52-5)	
LOAEL (oral,rat,90 days)	125 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard	: Not classified
Viscosity, kinematic	: > 25 mm²/s @ 40°C
Symptoms/effects after eye contact	: Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Copper (7440-50-8)	
LC50 fish 1	38.4 – 256.2 µg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Read-across)
EC50 Daphnia 1	3.8 – 118.5 µg/l (US EPA, 48 h, Daphnia magna, Static system, Fresh water, Weight of evidence)

12.2. Persistence and degradability

Copper (7440-50-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Copper (7440-50-8)	
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

Copper (7440-50-8)	
Ecology - soil	Adsorbs into the soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 547 of 1315

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Copper	CAS-No. 7440-50-8	5 - 10%
Copper (7440-50-8)		
CERCLA RQ	5000 lb	
Calcium dodecylbenzenesulfonate (26264-06-2)		
CERCLA RQ	1000 lb	

15.2. International regulations

CANADA

Distillates (petroleum), hydrotreated heavy naphthenic (64742-52-5)
Listed on the Canadian DSL (Domestic Substances List)
Copper (7440-50-8)
Listed on the Canadian DSL (Domestic Substances List)
Calcium dodecylbenzenesulfonate (26264-06-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases:

H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Safety Data Sheet

Joe's All Purpose Hand Cleaner

SECTION 1. IDENTIFICATION

Product Identifier	**Joe's All Purpose Hand Cleaner**
Other Means of Identification	**Joe's Hand Cleaner, Joe's, Joe's 2841, All Purpose Hand Cleaner, Formula 116**
Recommended Use	**General use by professionals and for the workplace for the removal of heavily soiled dirt, grease, and grime on hands and skin**
Restrictions on Use	**For use only as recommended**
Initial Manufacturer / Supplier Identifier	**Kleen Products, Inc.** **8136 SW 8th Street** **Oklahoma City, OK 73128,** **(PO Box 852100,** **Yukon, OK 73085-2100)** **Phone: 405 495 1168** **Facsimile: 405 495 1175** **Toll Free: 800 392 1792** **Email: mmk@joeshandcleaner.com** **Web: www.joeshandcleaner.com**
Emergency Telephone Number	**Chemtrec: 1 800 424 9300** **Oklahoma Poison Control: 1 405 271 5454**

SECTION 2. HAZARD IDENTIFICATION

Classification Eye irritant Category 2A

Label Elements

EMERGENCY OVERVIEW

Causes eye irritation Signal word: **Warning**

Pictograms: Exclamation Mark

Received by OCD: 4/14/2025 11:49:46 AM

Appearance: Pink
Physical State: semi solid
Odor: Banana

Precautionary Statements – Prevention

Wash hands and skin thoroughly after handling.
Wear eye protection/face protection.

Precautionary Statements – Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Other Hazards None identified

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration	Common name / Synonyms	Other identifiers
Petroleum distillates, Hydrotreated Light	64742-47-8	30-40%	None	Petroleum Distillates
Petroleum Distillates,solvent-refined light paraffinic	Proprietary	10-20%	None	Petroleum Distillates
2-Ethyl Hexanol EO-PO Nonionic Surfactant	64366-70-7	1-5%	None	Surfactant
Propylene Glycol	57-55-6	1-5%	PG	Emulsifier
All other ingredients are below reportable amounts				

SECTION 4. FIRST-AID MEASURES

Inhalation Remove person from source of exposure and get medical attention for any breathing difficulty.

Skin Contact Get medical advice if irritation develops.

Eye Contact In case of eye contact, flush with water and get medical attention if needed. (see precautionary statements)

Ingestion DO NOT induce vomiting. Rinse mouth with water. Get immediate medical if not feeling well.

Most Important Symptoms and Effects, Acute and Delayed May cause eye irritation

Released to Imaging: 4/22/2025 3:42:03 PM

Immediate Medical Attention and Special Treatment	If exposed and feeling unwell or are concerned, seek medical attention

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media:	
Suitable Extinguishing Media	Use dry chemical powder, alcohol-resistant foam, or carbon dioxide. Water spray, but DO NOT use heavy or strong water steam, which may spread flames
Unsuitable Extinguishing Media	DO NOT use heavy or strong water steam, which may spread flames
Specific Hazards Arising from the Product	Nature of decomposition products not known
Special Protective Equipment and Precautions for Fire-Fighters	Exercise caution when fighting any chemical fire Wear self-contained breathing apparatus for firefighting if necessary. In case of major fire, evacuate area, fight fire remotely.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures	Avoid breathing vapors, mist, or gas. For personal protections see section 8.
Methods for Containment and Cleaning Up	Contain Spillage. Place in container for disposal according to local regulations.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling	Avoid inhalation of vapor or mist Wear proper personal protective equipment.
Conditions for Safe Storage	Store in original container. Keep Container tightly closed in a cool, dry, and well-ventilated area. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH® TLV®		OSHA PEL	
	TWA	STEL	TWA	STEL
Distillates (petroleum), Hydrotreated Light	400mg/m^3 100ppm (Vapor)			
Propylene Glycol (CAS 57-55-6)	10 mg/m^3 (Aerosol)			

Notes:

Appropriate Engineering Controls	Emergency eye wash and shower stations should be in ready proximity of any potential exposure hazard. Ensure adequate ventilation is maintained in use areas. Ensure all national/state regulations are observed.
Individual Protection Measures	Apparel: Gloves, goggles, or face shields, and respiratory equipment should be worn when handling bulk product.
Eye/Face Protection	Wear chemically resistant goggles or face shields.
Skin Protection	Use appropriate protective clothing, (i.e. chemically resistant materials and fabrics).
Respiratory Protection	Wear approved respiratory protection when necessary. (i.e. exposure limits are exceeded or unknown, when ventilation is inadequate).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Semi-solid
Odor	Banana
Odor Threshold	No data available
pH	6.0 to 8.0
Melting Point and Freezing Point	No data available
Initial Boiling Point and Boiling Range	No data available
Flash Point	>200°F
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper and Lower Flammability or Explosive Limit	No data available
Vapor Pressure	No data available
Vapor Density (air = 1)	No data available
Relative Density (water = 1)	No data available
Solubility in Water	No data available

Received by OCD: 4/14/2025 11:49:46 AM

Solubility in Other Liquids	No data available
Partition Coefficient, n-Octanol / Water (Log Kow)	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Not reactive in normal or expected conditions
Chemical Stability	Stable under recommended conditions
Possibility of Hazardous Reactions	No known reactions
Conditions to Avoid	No known conditions
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	Carbon dioxide, carbon monoxide are common during rapid decomposition or burning.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation
Skin contact
Eye contact
Ingestion

Acute Toxicity: Has not been determined for this product.

Skin Corrosion / Irritation	No information available
Serious Eye Damage / Irritation	May cause eye irritation
STOT (Specific Target Organ Toxicity) - Single Exposure	No information available.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Aspiration Hazard	Not an aspiration hazard
STOT (Specific Target Organ Toxicity) - Repeated Exposure	
Respiratory and/or Skin Sensitization	No information available.

Carcinogenicity

Reproductive Toxicity:

Development of Offspring	No information available
Sexual Function and Fertility	No information available
Effects on or via Lactation	No information available
Germ Cell Mutagenicity	No information available
Interactive Effects	No information available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available
Persistence and Degradability	No information available
Bio accumulative Potential	No information available
Mobility in Soil	No information available
Other Adverse Effects	No information available

Chemical Name	CAS No.	Toxicity	Literature Value	Bio accumulative Potential
Propylene Glycol	57-55-6	EC50 Water Flea LC50 Flathead Minnow	10000 mg/L (48hrs) 710 mg/L (96hr)	Log Kow = -0.92

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods Dispose of contents and containers in accordance with federal, state, and local statutes.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Technical Name (for N.O.S. entry)	Transport Hazard Class(es)	Packing Group
This material is not regulated for transportation by IMDG, IATA, Canadian TDG					

Special Precautions None known

Environmental Hazards Do not release into the environment

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code Not applicable

SECTION 15. REGULATORY INFORMATION

Chemical Name	CAS No.	Jurisdiction	Regulation
Petroleum distillates, Hydrotreated Light	64742-47-8	Osha New Jersey Pennsylvania	Z Right to Know Right To Know
Petroleum Distillates, solvent-refined light paraffinic	Proprietary	Massachusetts	Right to know
Propylene Glycol	57-55-6	New Jersey Pennsylvania	Right to know Right to know
2-Ethyl Hexanol EO-PO Nonionic Surfactant	64366-70-7	SARA 311/312	Immediate (acute) health hazard
Isopropanol	67-63-0	Massachusetts New Jersey Pennsylvania Pennsylvania	Right to know Right to know Right to know Environmental hazards list

Released to Imaging: 4/22/2025 3:42:03 PM

Butylated Hydroxytoluene	128-37-0	SARA 311/312 Massachusetts New Jersey Pennsylvania Rhode Island	Acute Health Hazard Right to know Right to know Right to know Right to know

California Proposition 65: This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

All materials Comply with the following inventories:
TSCA
DSL/NDLS
EINECS/ELINCS
ENCS
IECSC
KECL
PICCS
AICS

SECTION 16. OTHER INFORMATION

Date of Latest Revision 09-12-2018

Prepared by ETI-Oilab, LLC, 4619 N. Santa Fe, Oklahoma City, OK 73118 ; www.eti-lab.com

Disclaimer: This Safety Data Sheet has been prepared in accordance with the Globally Harmonized System for the Classification and Labeling of Chemical (GHS). To the best of our knowledge the information herein is accurate. However, the supplier makes no warranty and assume no liability resulting from its use. In no event shall the manufacturer/supplier be liable for any claims, losses, or damages of any third party resulting from the use of or reliance upon this information.

KANO LABORATORIES, INC.
SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: Kano Laboratories, Inc.
1000 E. Thompson Lane
Nashville, TN 37211
Information Phone Number: (615) 833-4101
Fax: (615) 833-5790 **Emergency:** 800-424-9300 (Chemtrec)
Website: www.kanolaboratories.com

HMIS Hazard Rating

HEALTH	1
FLAMMABILITY	2
REACTIVITY	0
PERSONAL PROTECTION	X

Product Name: AEROKROIL
MSDS Date of Preparation: 01/01/2013
Product Use: Penetrant/Lubricant for Industrial Use

SECTION 2: HAZARDS IDENTIFICATION

Slightly reddish liquid with a refreshing odor packaged as an aerosol.

EMERGENCY OVERVIEW

WARNING! Contents under pressure. Heated can may rupture. Combustible Liquid and Vapor. May cause eye and skin irritation. May be harmful if absorbed through the skin. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects such as headache, dizziness, nausea and vomiting. Harmful or fatal if swallowed. Aspiration into the lungs during ingestion or vomiting may cause lung damage. May cause chronic effects.

Potential Health Effects:

Eye: May cause eye irritation with redness, tearing and stinging. Corneal injury is possible if not promptly removed.

Skin: May cause mild irritation with redness, rash, swelling. Prolonged or repeated contact may result in defatting and dermatitis. May be absorbed through the skin with effects similar to inhalation and ingestion.

Inhalation: Inhalation of vapors or mists may cause mucous membrane and upper respiratory tract irritation and central nervous system depression. Symptoms may include burning sensation, coughing, wheezing, sore throat, shortness of breath, headache, dizziness, drowsiness, nausea, vomiting, depressed respiration and heart rate, heart rhythm irregularities and unconsciousness.

Ingestion: Ingestion is an unlikely route of exposure for aerosol products. Swallowing may cause gastrointestinal irritation with abdominal pain, nausea, vomiting and diarrhea and central nervous system depression with symptoms including headache, dizziness, intoxication, weakness, respiratory failure, convulsions, cardiovascular collapse and pulmonary edema. Aspiration into the lungs during ingestion or vomiting may cause lung damage.

Chronic Hazards: Prolonged or repeated exposure may cause damage to the central nervous system, blood, kidney and liver. This product contains chemicals that in animal studies caused harm to the developing fetus, but only at exposure levels that harm the pregnant animal. There is no evidence of adverse fetal or reproductive effects in humans.

Carcinogen Status: None of the components of this product at greater than 0.1% are listed as carcinogens by OSHA, IARC or NTP.

Medical Conditions Aggravated by Exposure: Pre-existing eye, skin, respiratory, heart, central nervous system, liver and kidney disorders.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	%
Severely Hydrotreated Petroleum Distillates	64742-52-5	30-50
Light Petroleum Distillates	64742-95-6/64742-88-7/ 64742-47-8	30-50
Aliphatic Alcohols	78-92-2/123-42-2	1-5
Glycol Ether	111-76-2	1-5
Proprietary Ingredients	Proprietary	5-15
Carbon Dioxide Propellant	124-38-9	1-15

SECTION 4: FIRST AID MEASURES

Eye: Rinse thoroughly with water for at least 15 minutes, holding the eyelids open to be sure the material is washed out. Get immediate medical attention.

Skin: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before re-use.

Inhalation: Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Ingestion: Ingestion is an unlikely route of exposure for aerosol products. DO NOT induce vomiting. Keep the victim calm and warm. Never give anything by mouth to an unconscious or drowsy person. Get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 124°F (51°C) COC (concentrate)

Flammable Limits: LEL: 0.9%
UEL: 10.6%

Autoignition Temperature: Not Determined
Aerosol Flame Extension: None
Aerosol Flashback: None
Aerosol Protection Level (NPPA 30B): Level 3
Extinguishing Media: Use carbon dioxide, dry chemical or foam. Water may be ineffective but can be used to cool containers and structures.

Special Fire Fighting Procedures: Wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water. Protect against bursting cans.

Unusual Fire Hazards: Contents under pressure. Keep away from heat and open flames. Container may rupture or explode in the heat of a fire. Prolonged exposure to temperatures above 120°F may cause cans to burst. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Never use welding or cutting torch on or near containers (even empty) because product can ignite explosively. Combustion products may be hazardous.

Hazardous Decomposition Products: Oxides of carbon, organic compounds, smoke and fumes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill: Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed (refer to Section 8 for specific recommendations). Ventilate area. Cover with an inert absorbent material and collect into an appropriate container for disposal. Report spills and releases as required to appropriate authorities.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wash exposed skin thoroughly with soap and water after use. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Do not cut, braze, solder, grind or weld on or near containers. Contents under pressure. Do not puncture or incinerate container.

Storage Store in a cool, well ventilated area at temperatures below 120°F. Do not store in direct sunlight. Store as a Level 3 aerosol.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Exposure Limits
Severely Hydrotreated Petroleum Distillates	5 mg/m3 OSHA PEL-TWA 5 mg/m3 ACGIH TLV-TWA 10 mg/m3 ACGIH TLV-STEL
Light Petroleum Distillates	100 ppm OSHA PEL-TWA 100 ppm ACGIH TLV-TWA
Aliphatic Alcohol	150 ppm OSHA PEL-TWA 100 ppm ACGIH TLV-TWA
Aliphatic Alcohol	50 ppm OSHA PEL-TWA 50 ppm ACGIH TLV-TWA
Glycol Ether	50 ppm OSHA PEL-TWA 20 ppm ACGIH TLV-TWA
Proprietary Ingredients	None Established
Carbon Dioxide Propellant	5000 ppm OSHA PEL-TWA 5000 ppm ACGIH TLV-TWA 30000 ppm ACGIH TLV-STEL

Ventilation: Use with adequate general or local exhaust ventilation to maintain concentrations below the occupational exposure limits. Use explosion proof electrical equipment and wiring where required.

Respiratory Protection: If needed, a NIOSH approved respirator with organic vapor cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Skin Protection Impervious gloves are recommended when needed to avoid skin contact. Based on available test data, 4H or Silver Shield gloves are suggested.

Eye Protection: Chemical safety goggles recommended.

Other Protective Equipment: Impervious clothing as required to prevent skin contact and contamination of personal clothing. Suitable eye wash and washing facilities should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Slightly reddish liquid with a refreshing odor packaged as an aerosol.
pH: 6-7
Specific Gravity: 0.87
Boiling Point: 258℉
Melting Point: Not applicable
Vapor Pressure: 12 mm Hg @ 20℃ (aliphatic alcohol)
Water Solubility: Negligible
Vapor Density (air =1): Greater than 1
Evaporation Rate (ether=1): Less than 1

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage or use.

Incompatibility/Conditions to Avoid: Avoid strong oxidizing agents, reducing agents, acids, bases, amines, alkanolamines, ammonia, chlorinated compounds. Avoid heat, sparks, flames and all other sources of ignition.

Hazardous Decomposition Products: Combustion will produce oxides of carbon, organic compounds, smoke and fumes.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological testing has not been performed on this product as a mixture.

The calculated acute toxicity values, as determined by the DOT and other agency standard formula are: Oral LD50 = 2270; Dermal LD50 = 1500 mg/kg. Aerokroil is not classified as toxic under workplace or transportation criteria.

SECTION 12: ECOLOGICAL INFORMATION

No data available.

SECTION 13: DISPOSAL INFORMATION

Dispose in accordance with all local, state and federal regulations. Do not puncture or incinerate containers. When contents are depleted, continue to depress button until all gas is expelled.

SECTION 14: TRANSPORT INFORMATION

DOT Ground	Consumer Commodity ORM-D	**or**	Limited Quantity
DOT/49CFR Air	Aerosol, Flammable, Limited Quantity, UN1950, 2.1		
IATA	Aerosol, Flammable, Limited Quantity, UN1950, 2.1		
IMDG	Aerosol, Flammable, UN1950, 2.1		

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Chronic Health, Fire Hazard, Sudden Release of Pressure

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Aliphatic Alcohol	78-92-2	1-5%
Glycol Ether	111-76-2	1-5%
1,2,4-Trimethylbenzene	95-63-6	.5 - < 5%

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

SECTION 16: OTHER INFORMATION

HMIS Ratings: Health - 1 Flammability - 2 Reactivity - 0
NFPA Ratings: Health - 1 Flammability - 2 Reactivity - 0

==========

The information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or the consequences of its use or misuse.

Page 561 of 1315

SAFETY DATA SHEET
Klean-Strip MEK Substitute

Printed: 04/23/2015
Revision: 04/23/2015
Supersedes Revision: 06/01/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Klean-Strip MEK Substitute	
Company Name:	W. M. Barr 2105 Channel Avenue Memphis, TN 38113	**Phone Number:** (901)775-0100
Web site address:	www.wmbarr.com	
Emergency Contact:	3E 24 Hour Emergency Contact	(800)451-8346
Information:	W.M. Barr Customer Service	(800)398-3892
Intended Use:	Paint, stain, and varnish thinning.	
Synonyms:	GME71SUB, QME71SUB, CME71SUB	
Additional Information	This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.	

2. HAZARDS IDENTIFICATION

Flammable Liquids, Category 2
Serious Eye Damage/Eye Irritation, Category 2
Specific Target Organ Toxicity (single exposure), Category 3

GHS Signal Word:	**Danger**
GHS Hazard Phrases:	H225: Highly flammable liquid and vapor. H319: Causes serious eye irritation. H335: May cause respiratory irritation.
GHS Precaution Phrases:	P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P233: Keep container tightly closed. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ventilating/lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P261: Avoid breathing gas/mist/vapors/spray. P264: Wash hands thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P280: Wear protective gloves/protective clothing/eye protection/face protection. P235: Keep cool.
GHS Response Phrases:	P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P337+313: If eye irritation persists, get medical advice/attention. P370+378: In case of fire, use dry chemical powder to extinguish.
GHS Storage and Disposal	P403+233: Store container tightly closed in well-ventilated place.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 562 of 1315

Phrases: P405: Store locked up.
P501: Dispose of contents/container according to local, state and federal regulations.

Hazard Rating System:

HMIS:

NFPA:

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic): Causes eye irritation.

High vapor concentrations may cause drowsiness and irritation of the eyes or respiratory tract.

Prolonged or repeated skin contact may cause drying, cracking, or irritation.

Medical Conditions Generally Aggravated By Exposure: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	RTECS #
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	100.0 %	AH5425000

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

Skin:
Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:
Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion:
If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 563 of 1315

5. FIRE FIGHTING MEASURES

Flammability Classification:	NFPA Class 1B
Flash Pt:	24.00 F Method Used: TAG Closed Cup
Explosive Limits:	LEL: 2.2 UEL: 9
Autoignition Pt:	485.00 C
Suitable Extinguishing Media:	Water spray, dry chemical, carbon dioxide or foam.
Unsuitable Extinguishing Media:	None known.
Fire Fighting Instructions:	Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Water spray may be ineffective in fighting the fire.
Flammable Properties and Hazards:	Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:

AVOID BREATHING VAPOR

Avoid prolonged or repeated contact with skin.

Use with adequate ventilation.

Wash thoroughly with soap and water after handling.

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 564 of 1315

Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms. Vapors can accumulate and explode if ignited.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Precautions To Be Taken in Storing: Keep away from heat, sparks and flame.

Keep container tightly closed.

Keep from contact with oxidizing materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	PEL: 400 ppm	TLV: 400 ppm	No data.

Respiratory Equipment (Specify Type): For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection: Safety glasses should be worn during normal handling of this material.

Where contact with the eyes or face is likely, a faceshield or chemical splash goggles should be worn to prevent eye contact.

Protective Gloves: Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile rubber may provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing: Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 565 of 1315

	enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.
Work/Hygienic/Maintenance Practices:	Clothing that becomes soiled with product should be removed as soon as possible and laundered separately. Wash hands thoroughly after use and before eating, drinking, or smoking. Do not eat, drink, or smoke in the work area. Discard any clothing or other protective equipment that cannot be decontaminated. Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	Clear liquid, sweet odor
Melting Point:	83.00 C
Boiling Point:	78.00 C
Autoignition Pt:	485.00 C
Flash Pt:	24.00 F Method Used: TAG Closed Cup
Explosive Limits:	LEL: 2.2 UEL: 9
Specific Gravity (Water = 1):	.8955 - .8985
Density:	7.44 - 7.468 LB/GL
Vapor Pressure (vs. Air or mm Hg):	75 MM HG at 68.0 F
Vapor Density (vs. Air = 1):	3.04 (Air=1)
Evaporation Rate:	4.1 (BuAC=1)
Solubility in Water:	64 g/l at 25.0 C
Viscosity:	.44 CP at 25.0 C
Octanol/Water Partition Coefficient:	0.73
Percent Volatile:	99.95 % by weight.
VOC / Volume:	898.9000 G/L

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 566 of 1315

10. STABILITY AND REACTIVITY

Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	No data available.
Incompatibility - Materials To Avoid:	Incompatible with strong oxidizing agents.
Hazardous Decomposition Or Byproducts:	No data available.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information: Refer to section 2 for acute and chronic health effects.

CAS# 141-78-6:
Standard Draize Test, Eyes, Human, 400.0 PPM.
Result:
Liver: Hepatitis (hepatocellular necrosis), zonal.
- Journal of Industrial Hygiene and Toxicology, Vol/p/yr: 25,282, 1943

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Ethyl acetate
DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: UN1173 **Packing Group:** II

Additional Transport Information: The shipper/supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 567 of 1315

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	No	Yes 5000 LB	No

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:	[X] Yes [ ] No	Acute (immediate) Health Hazard
	[ ] Yes [X] No	Chronic (delayed) Health Hazard
	[X] Yes [ ] No	Fire Hazard
	[ ] Yes [X] No	Sudden Release of Pressure Hazard
	[ ] Yes [X] No	Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
141-78-6	Acetic acid, ethyl ester {Ethyl acetate}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: No

16. OTHER INFORMATION

Revision Date: 04/23/2015

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Additional Information About This Product: No data available.

Company Policy or Disclaimer: The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 568 of 1315

SAFETY DATA SHEET

1. Identification

Product identifier	**Lectra-Motive® Electric Parts Cleaner**
Other means of identification	
Product Code	No. 05018 (Item# 1003634)
Recommended use	Energized electrical cleaner
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
	Sensitization, skin	Category 1B
	Carcinogenicity	Category 1B
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Contains gas under pressure; may explode if heated. Causes skin irritation. May cause an allergic skin reaction. Causes eye irritation. May cause drowsiness or dizziness. May cause cancer. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49°C/120°F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 569 of 1315

Response	If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Collect spillage.
Storage	Store locked up. Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

Supplemental information

When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
tetrachloroethylene	perchloroethylene	127-18-4	90 - 100
carbon dioxide		124-38-9	1 - 5

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes and mucous membranes. Exposed individuals may experience eye tearing, redness, and discomfort. Irritation of nose and throat. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Dry chemical, CO2, or water spray.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. During fire, gases hazardous to health may be formed. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
General fire hazards	Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 570 of 1315

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Collect spillage. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Avoid release to the environment. Do not empty into drains. Observe good industrial hygiene practices. For product usage instructions, see the product label.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Contents under pressure. Do not handle or store near an open flame, heat or other sources of ignition. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Protect from sunlight. Store in a well-ventilated place. Store in cool place. Exposure to high temperature may cause can to burst. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
carbon dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
tetrachloroethylene (CAS 127-18-4)	Ceiling	200 ppm
	TWA	100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 571 of 1315

US. ACGIH Threshold Limit Values

Components	Type	Value
tetrachloroethylene (CAS 127-18-4)	STEL	100 ppm
	TWA	25 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
tetrachloroethylene (CAS 127-18-4)	0.5 mg/l	Tetrachloroethylene	Blood	*
	3 ppm	Tetrachloroethylene	End-exhaled air	*

* - For sampling details, please see the source document.

Exposure guidelines

US - Minnesota Haz Subs: Skin designation applies

tetrachloroethylene (CAS 127-18-4) Skin designation applies.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower should be available when handling this product. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves such as: Nitrile. Viton/butyl. Polyvinyl alcohol (PVA). Silver Shield®

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Aerosol.

Color Colorless.

Odor Irritating.

Odor threshold 50 ppm

pH Not available.

Melting point/freezing point -8.1 °F (-22.3 °C) estimated

Initial boiling point and boiling range 250.3 °F (121.3 °C) estimated

Flash point None (Tag Closed Cup)

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 572 of 1315

Evaporation rate	Very fast.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	1230.2 hPa estimated
Vapor density	5.76 (air = 1)
Relative density	1.62
Solubility (water)	0.02 % (77 °F (25 °C))
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	97.9 % estimated
Other information	
Partition coefficient (oil/water)	2.88

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen chloride and possibly phosgene.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	Hydrogen chloride. Trace amounts of chlorine and phosgene. Carbon oxides. Halogenated materials. Carbonyl halides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes eye irritation.
Ingestion	Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Irritation of eyes and mucous membranes. Exposed individuals may experience eye tearing, redness, and discomfort. Irritation of nose and throat. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity None known.

Components	Species	Test Results
tetrachloroethylene (CAS 127-18-4)		
Acute		
Dermal		
LD50	Rabbit	> 3228 mg/kg

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 573 of 1315

Components	Species	Test Results
Oral		
LD50	Rat	2629 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

tetrachloroethylene (CAS 127-18-4) 2A Probably carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

tetrachloroethylene (CAS 127-18-4) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Components		Species	Test Results
tetrachloroethylene (CAS 127-18-4)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4.73 - 5.27 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

tetrachloroethylene 2.88

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This material and its container must be disposed of as hazardous waste. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Hazardous waste code D039: Waste Tetrachloroethylene
F001: Waste Halogenated Solvent - Spent Halogenated Solvent Used in Degreasing
F002: Waste Halogenated Solvent - Spent Halogenated Solvent

US RCRA Hazardous Waste U List: Reference

tetrachloroethylene (CAS 127-18-4) U210

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 574 of 1315

Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, poison, Limited Quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	6.1(PGIII)
Label(s)	2.2, 6.1
Packing group	Not applicable.
Special precautions for user	Forbidden from transportation by air.
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, containing substances in Division 6.1, Packing Group III
Transport hazard class(es)	
Class	2.2
Subsidiary risk	6.1
Packing group	Not applicable.
ERG Code	2P
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	
Class	2
Subsidiary risk	6.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

tetrachloroethylene (CAS 127-18-4)

CERCLA Hazardous Substance List (40 CFR 302.4)

tetrachloroethylene (CAS 127-18-4) Listed.

CERCLA Hazardous Substances: Reportable quantity

tetrachloroethylene (CAS 127-18-4) 100 LBS

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 575 of 1315

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

tetrachloroethylene (CAS 127-18-4)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - Yes Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

tetrachloroethylene (CAS 127-18-4)

US. New Jersey Worker and Community Right-to-Know Act

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)

US. Massachusetts RTK - Substance List

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)

US. Pennsylvania Worker and Community Right-to-Know Law

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)

US. Rhode Island RTK

carbon dioxide (CAS 124-38-9)
tetrachloroethylene (CAS 127-18-4)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

tetrachloroethylene (CAS 127-18-4) Listed: April 1, 1988

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	0 %
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	This product is regulated as an Energized Electrical Cleaner for the following states: California, Connecticut, Delaware, District of Columbia, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, Rhode Island and Virginia. It is for energized equipment use only. It is not to be used for motorized vehicle maintenance or their parts. This product is compliant for use in all 50 states.
VOC content (CA)	0 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 576 of 1315

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-20-2013

Revision date 10-25-2017

Prepared by Allison Yoon

Version # 04

Further information CRC # 491G/1002481

HMIS® ratings
Health: 2*
Flammability: 0
Physical hazard: 0
Personal protection: B

NFPA ratings
Health: 2
Flammability: 0
Instability: 0

NFPA ratings

Disclaimer The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..

Revision Information This document has undergone significant changes and should be reviewed in its entirety.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Nitrogen, refrigerated liquid

Safety Data Sheet P-4630

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979 Revision date: 08/31/2020 Supersedes: 10/21/2016

Version: 1.1

SECTION: 1. Product and company identification

1.1. Product identifier

Product form	:	Substance
Trade name	:	Nitrogen, Medipure Liquid Nitrogen
Chemical name	:	Nitrogen
CAS-No.	:	7727-37-9
Formula	:	N2
Other means of identification	:	Nitrogen (cryogenic liquid), Nitrogen, Medipure Liquid Nitrogen

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	:	Medical applications. Industrial use Food applications.

1.3. Details of the supplier of the safety data sheet

Linde Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-844-44LINDE (1-844-445-4633)
www.lindeus.com

1.4. Emergency telephone number

Emergency number	:	Onsite Emergency: 1-800-645-4633 CHEMTREC, 24hr/day 7days/week — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887 (collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS US classification

Press. Gas (Ref. Liq.) H281

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :

GHS04

Signal word (GHS US)	:	Warning
Hazard statements (GHS US)	:	H281 - CONTAINS REFRIGERATED GAS; MAY CAUSE CRYOGENIC BURNS OR INJURY OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
Precautionary statements (GHS US)	:	P202 - Do not handle until all safety precautions have been read and understood. P271+P403 - Use and store only outdoors or in a well-ventilated place. P282 - Wear cold insulating gloves/face shield/eye protection. cold insulating gloves, face shield, eye protection CGA-PG05 - Use a back flow preventive device in the piping. CGA-PG24 - DO NOT change or force fit connections. CGA-PG06 - Close valve after each use and when empty. CGA-PG23 - Always keep container in upright position.

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

2.3. Other hazards

Other hazards not contributing to the classification : Asphyxiant in high concentrations.

Contact with liquid may cause cold burns/frostbite.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%
Nitrogen, refrigerated liquid (Main constituent)	(CAS-No.) 7727-37-9	100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact : The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

Firefighting instructions : DANGER! Extremely cold liquid and gas under pressure. Take care not to direct spray onto vents on top of container. Do not discharge sprays directly into liquid; cryogenic liquid can freeze water rapidly.

Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Protection during firefighting : Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.

Special protective equipment for fire fighters : Use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

Specific methods	:	Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. Exposure to fire may cause containers to rupture/explode. Stop flow of product if safe to do so. Use water spray or fog to knock down fire fumes if possible. If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire.
Other information	:	Cryogenic liquid causes severe frostbite, a burn-like injury. Heat of fire can build pressure in a closed container and cause it to rupture. Venting vapors may obscure visibility. Air will condense on surfaces such as vaporizers or piping exposed to liquid or cold gas. Nitrogen, which has a lower boiling point than oxygen, evaporates first, leaving an oxygen-enriched condensate. Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g, wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods.

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Nitrogen, refrigerated liquid (7727-37-9)	
ACGIH	Not established
USA OSHA	Not established

8.2. Exposure controls

Appropriate engineering controls : Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.

Hand protection : Wear working gloves when handling gas containers.

Eye protection : Wear safety glasses with side shields. Wear goggles and a face shield when transfilling or breaking transfer connections.

Respiratory protection : Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.

Thermal hazard protection : Wear cold insulating gloves. Wear cold insulating gloves when transfilling or breaking transfer connections.

Environmental exposure controls : None necessary.

Other information : Wear safety shoes while handling containers.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas

Appearance : Colorless liquid.

Molecular mass : 28 g/mol

Color : Colorless liquid.

Odor : No odor warning properties.

Odor threshold : No data available

pH : Not applicable.

Relative evaporation rate (butyl acetate=1) : No data available

Relative evaporation rate (ether=1) : Not applicable.

Melting point : -210 °C

Freezing point : No data available

Boiling point : -195.8 °C

Flash point : No data available

Critical temperature : -149.9 °C

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

Auto-ignition temperature	:	Not applicable.
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not applicable.
Critical pressure	:	3390 kPa
Relative vapor density at 20 °C	:	No data available
Relative density	:	0.8
Density	:	808.5 kg/m³ Liquid density at boiling point and 1 atm
Relative gas density	:	0.97
Solubility	:	Water: 20 mg/l
Log Pow	:	Not applicable.
Log Kow	:	Not applicable.
Viscosity, kinematic	:	Not applicable.
Viscosity, dynamic	:	Not applicable.
Explosive properties	:	Not applicable.
Oxidizing properties	:	None.
Explosion limits	:	No data available

9.2. Other information

Gas group	:	Press. Gas (Ref. Liq.)
Additional information	:	Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Avoid high temperatures, exposure to Lithium (Li), Neodymium (Nd), Titanium (Ti), Magnesium.

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

Under certain conditions, nitrogen can react violently with lithium, neodymium, titanium (above 1472°F/800°C), and magnesium to form nitrides. At high temperature, it can also combine with oxygen and hydrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified
Skin corrosion/irritation	:	Not classified pH: Not applicable.
Serious eye damage/irritation	:	Not classified pH: Not applicable.
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : Not classified
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

12.2. Persistence and degradability

Nitrogen, refrigerated liquid (7727-37-9)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Nitrogen, refrigerated liquid (7727-37-9)	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4. Mobility in soil

Nitrogen, refrigerated liquid (7727-37-9)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Other adverse effects : Can cause frost damage to vegetation.
Effect on ozone layer : None.
Effect on the global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT
Transport document description : UN1977 NITROGEN, REFRIGERATED LIQUID (Cryogenic liquid), 2.2
UN-No.(DOT) : UN1977
Proper Shipping Name (DOT) : NITROGEN, REFRIGERATED LIQUID
Cryogenic liquid
Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT) : 2.2 - Non-flammable gas

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

DOT Special Provisions (49 CFR 172.102) : 345 - "Nitrogen, refrigerated liquid (cryogenic liquid), UN1977" transported in open cryogenic receptacles with a maximum capacity of 1 L are not subject to the requirements of this subchapter. The receptacles must be constructed with glass double walls having the space between the walls vacuum insulated and each receptacle must be transported in an outer packaging with sufficient cushioning and absorbent materials to protect the receptacle from damage.
346 - "Nitrogen, refrigerated liquid (cryogenic liquid), UN1977" transported in accordance with the requirements for open cryogenic receptacles in §173.320 and this special provision are not subject to any other requirements of this subchapter. The receptacle must contain no hazardous materials other than the liquid nitrogen which must be fully absorbed in a porous material in the receptacle.
T75 - When portable tank instruction T75 is referenced in Column (7) of the 172.101 Table, the applicable refrigerated liquefied gases are authorized to be transported in portable tanks in accordance with the requirements of 178.277 of this subchapter.
TP5 - For a portable tank used for the transport of flammable refrigerated liquefied gases or refrigerated liquefied oxygen, the maximum rate at which the portable tank may be filled must not exceed the liquid flow capacity of the primary pressure relief system rated at a pressure not exceeding 120 percent of the portable tank's design pressure. For portable tanks used for the transport of refrigerated liquefied helium and refrigerated liquefied atmospheric gas (except oxygen), the maximum rate at which the tank is filled must not exceed the liquid flow capacity of the pressure relief device rated at 130 percent of the portable tank's design pressure. Except for a portable tank containing refrigerated liquefied helium, a portable tank shall have an outage of at least two percent below the inlet of the pressure relief device or pressure control valve, under conditions of incipient opening, with the portable tank in a level attitude. No outage is required for helium.

Additional information

Emergency Response Guide (ERG) Number : 121 (UN1066);120 (UN1977)

Other information : No supplementary information available.

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1977

Proper Shipping Name (IMDG) : NITROGEN, REFRIGERATED LIQUID

Class (IMDG) : 2.2 - Non-flammable, non-toxic gases

MFAG-No : 120

Air transport

UN-No. (IATA) : 1977

Proper Shipping Name (IATA) : NITROGEN, REFRIGERATED LIQUID

Class (IATA) : 2

Civil Aeronautics Law : Gases under pressure/Gases nonflammable nontoxic under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Nitrogen, refrigerated liquid (7727-37-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Sudden release of pressure hazard

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

15.2. International regulations

CANADA

Nitrogen, refrigerated liquid (7727-37-9)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Nitrogen, refrigerated liquid (7727-37-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Nitrogen, refrigerated liquid (7727-37-9)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

Nitrogen, refrigerated liquid(7727-37-9)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

SECTION 16: Other information

Other information : When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Linde asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Linde Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Linde Inc, it is the user's obligation to determine the conditions of safe use of the product.

Linde SDSs are furnished on sale or delivery by Linde or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your sales representative, local distributor, or supplier, or download from www.lindeus.com. If you have questions regarding Linde SDSs, would like the document number and date of the latest SDS, or would like the names of the Linde suppliers in your area, phone or write the Linde Call Center (Phone: 1-800-772-9247; Address: Linde Call Center, Linde Inc, P.O. Box 44, Tonawanda, NY 14151-0044).

Linde, Praxair, the Linde wordmark and the Flowing Airstream design are trademarks or registered trademarks of Linde plc or its affiliates. The information contained herein is offered for use by technically qualified personnel at their discretion and risk without warranty of any kind.

Copyright © 2020, Linde plc.

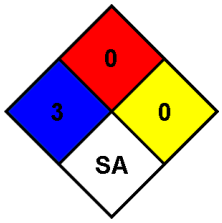
Revision date : 08/31/2020

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA instability : 0 - Material that in themselves are normally stable, even under fire conditions.

NFPA specific hazard : SA - This denotes gases which are simple asphyxiants.



Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard

Physical : 2 Moderate Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

This document is only controlled while on the Linde US website and a copy of this controlled version is available for download. Linde cannot assure the integrity or accuracy of any version of this document after it has been downloaded or removed from our website.

Safety Data Sheet

Revision Number: 004.0 **Issue date:** 08/28/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE LB 8150 SV A/S known as Silver Anti-Seize Lubricant
IDH number: 501001
Product type: Lubricant
Item number: 37566
Restriction of Use: None identified
Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
DANGER:	CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

HAZARD CLASS	HAZARD CATEGORY
SKIN CORROSION	1C
SERIOUS EYE DAMAGE	1

PICTOGRAM(S)

Precautionary Statements

Prevention: Do not breathe vapors, mist, or spray. Wash thoroughly after handling. Wear protective gloves, eye protection, and face protection.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Immediately call a poison control center or physician. Wash contaminated clothing before reuse.

Storage: Store locked up.

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*

Released to Imaging: 4/22/2025 3:42:03 PM

Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	30 - 60
Graphite	7782-42-5	10 - 30
Calcium oxide	1305-78-8	10 - 30
Petroleum distillates, hydrotreated, light naphthenic	64742-53-6	10 - 30
Aluminum not powder, dust or fume	7429-90-5	5 - 10
Distillates (petroleum), straight-run middle	64741-44-2	1 - 5
Quartz (SiO2)	14808-60-7	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin contact: Remove contaminated clothing and footwear. Immediately flush skin with plenty of water (using soap, if available). Get medical attention. Wash clothing before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.

Unusual fire or explosion hazards: None

Hazardous combustion products: Oxides of carbon. Oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up. For small spills wipe up with paper towel and place in container for disposal. For large spills absorb onto inert absorbent material and place in sealed container for disposal.

7. HANDLING AND STORAGE

Handling: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Keep container closed.

Storage: Keep in a cool, well ventilated area.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Distillates (petroleum), hydrotreated heavy naphthenic	5 mg/m3 TWA mist 10 mg/m3 STEL mist	5 mg/m3 TWA mist 500 ppm (2,000 mg/m3) PEL 5 mg/m3 PEL Mist.	None	None
Graphite	2 mg/m3 TWA Respirable fraction.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust. 15 MPPCF TWA	None	None
Calcium oxide	2 mg/m3 TWA	5 mg/m3 PEL	None	None
Petroleum distillates, hydrotreated, light naphthenic	None	500 ppm (2,000 mg/m3) PEL 5 mg/m3 PEL Mist.	None	None
Aluminum not powder, dust or fume	None	None	None	None
Distillates (petroleum), straight-run middle	5 mg/m3 TWA mist 10 mg/m3 STEL mist	5 mg/m3 TWA mist	None	None
Quartz (SiO2)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye/face protection: Safety goggles or safety glasses with side shields. Safety showers and eye wash stations should be available.

Skin protection: Neoprene or oil resistant gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Paste
Color: Silver
Odor: Hydrocarbon-like
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 5 mm hg
Boiling point/range: Not available.
Melting point/ range: Not available.
Specific gravity: 1.25
Vapor density: Not available.
Flash point: > 93 °C (> 199.4 °F)
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not determined
Evaporation rate: Not available.
Solubility in water: Insoluble
Partition coefficient (n-octanol/water): Not available.
VOC content: < 3 %
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: Will not occur.

Hazardous decomposition products: Irritating organic vapours. Oxides of carbon. Oxides of nitrogen.

Incompatible materials: Strong oxidizing agents.

Reactivity: Not available.

Conditions to avoid: Keep away from heat, ignition sources and incompatible materials.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: May cause respiratory tract irritation.
Skin contact: Causes skin burns. May cause skin irritation.
Eye contact: Causes serious eye damage. This product may cause irritation to the eyes.
Ingestion: May cause gastrointestinal disturbances.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Distillates (petroleum), hydrotreated heavy naphthenic	None	Irritant
Graphite	None	Lung
Calcium oxide	None	Irritant, Corrosive, Eyes
Petroleum distillates, hydrotreated, light naphthenic	None	Irritant
Aluminum not powder, dust or fume	None	Central nervous system, Irritant, Lung
Distillates (petroleum), straight-run middle	None	Irritant
Quartz (SiO2)	None	Immune system, Lung, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Distillates (petroleum), hydrotreated heavy naphthenic	No	No	No
Graphite	No	No	No
Calcium oxide	No	No	No
Petroleum distillates, hydrotreated, light naphthenic	No	No	No
Aluminum not powder, dust or fume	No	No	No
Distillates (petroleum), straight-run middle	No	No	No
Quartz (SiO2)	Known To Be Human Carcinogen.	Group 1	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

Released to Imaging: 4/22/2025 3:42:03 PM

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: None above reporting de minimis

California Proposition 65: This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Lou Fabrizio, Regulatory Affairs Specialist

Issue date: 08/28/2014

Released to Imaging: 4/22/2025 3:42:03 PM

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Page 592 of 1315

Safety Data Sheet

Revision Number: 009.0

Issue date: 03/10/2020

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE SI 596 RD known as LOCTITE SUPERFLEX RED RTV 80ML
Product type/use: Sealant
Restriction of Use: None identified
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 135507
Item number: 59630
Region: United States
Contact information:
Telephone: +1 (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: CAUSES SKIN IRRITATION.
CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A

PICTOGRAM(S)

Precautionary Statements

Prevention: Wash affected area thoroughly after handling. Wear protective gloves, eye protection, and face protection.
Response: IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.
Storage: Not prescribed
Disposal: Not prescribed

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Silicon dioxide	7631-86-9	5 - 10
Diiron trioxide	1309-37-1	1 - 5
Barium sulfate	7727-43-7	0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 593 of 1315

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms develop and persist, get medical attention.
Skin contact:	Wipe off paste with paper towel or cloth. Wash with soap and water. If skin irritation persists, call a physician.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
Ingestion:	Do not induce vomiting. If a person feels unwell or symptoms of skin irritation appear, consult a physician.
Symptoms:	See Section 11.
Notes to physician:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Foam, dry chemical or carbon dioxide.
Special firefighting procedures:	None
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Silica mist. Formaldehyde. Acrid smoke and fumes.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Maintain good ventilation for large spills. Store in a partly filled, closed container until disposal. Spilled material will solidify. Scrape up as much material as possible.

7. HANDLING AND STORAGE

Handling:	Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.
Storage:	Keep container closed. Store in a dry area below 90° F.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 594 of 1315

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Silicon dioxide	6 mg/m3 TWA	20 MPPCF TWA 0.8 mg/m3 TWA	None	3 mg/m3 TWA Respirable fraction.
Diiron trioxide	5 mg/m3 TWA Respirable fraction.	10 mg/m3 PEL Fume. 50 MPPCF TWA Total dust. 5 mg/m3 TWA Respirable fraction. 15 mg/m3 TWA Total dust. 15 MPPCF TWA Respirable fraction.	None	None
Barium sulfate	5 mg/m3 TWA Inhalable fraction.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust. 5 mg/m3 TWA Respirable fraction. 15 mg/m3 TWA Total dust. 15 MPPCF TWA Respirable fraction. 50 MPPCF TWA Total dust.	None	None

Engineering controls: Use only with adequate ventilation.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid, Paste
Color: Red
Odor: Acetic acid
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: 13 hPa (21 °C (69.8 °F))
Boiling point/range: Not available.
Melting point/ range: Not available.
Specific gravity: 1.01 at 20 °C (68°F)
Vapor density: Heavier than air.
Flash point: > 93 °C (> 199.4 °F)
Flammable/Explosive limits - lower: 4 % (acetic acid)
Flammable/Explosive limits - upper: 19.9 % (acetic acid)
Autoignition temperature: Not available.
Flammability: Not applicable
Evaporation rate: Not available.
Solubility in water: Not soluble. Polymerizes in presence of water.
Solubility in water: Not determined
Partition coefficient (n-octanol/water): Not available.
VOC content: 3.08 %; 32 g/l
Not available.
Viscosity: Not available.
Decomposition temperature: Not available.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 595 of 1315

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: Will not occur.

Hazardous decomposition products: Acetic acid is liberated slowly upon contact with moisture. Formaldehyde. Irritating vapors.

Incompatible materials: Acids. Water Bases. Oxidizing agents.

Reactivity: Not available.

Conditions to avoid: Exposure to moisture. Prolonged heating at temperatures above 150 °C.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation: Acetic acid produced during cure may irritate eyes, nose and throat. When heated to temperatures exceeding 300° F (150° C) in the presence of air, silicones may form formaldehyde vapors. Formaldehyde is a potential cancer hazard and a known skin and respiratory sensitizer. Vapors irritate the eyes, nose and throat. Safe handling conditions may be maintained by keeping formaldehyde vapor concentrations below the OSHA permissible limit.

Skin contact: Causes skin irritation.

Eye contact: Causes serious eye irritation.

Ingestion: Not expected under normal conditions of use. May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Silicon dioxide	Oral LD50 (Rat) = > 22,500 mg/kg Oral LD50 (Mouse) = > 15,000 mg/kg	Nuisance dust
Diiron trioxide	None	Allergen, Cardiac, Central nervous system, Irritant, Kidney, Liver, Lung
Barium sulfate	None	Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Silicon dioxide	No	No	No
Diiron trioxide	No	No	No
Barium sulfate	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 596 of 1315

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal:	Follow all local, state, federal and provincial regulations for disposal. Cured rubber can be incinerated or landfilled following EPA and local regulations.
Hazardous waste number:	D005. Barium. This product may contain traces of: D007. Chromium. However this product is only classifiable as hazardous waste if it exhibits the characteristics of toxicity as shown by the toxicity characteristic leaching procedure (TCLP). Under RCRA, it is the responsibility of the end user of this product to determine whether it meets this criteria at the time of disposal. 060204

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed as active or are exempt from listing on the Toxic Substances Control Act (TSCA) inventory.
TSCA 12 (b) Export Notification:	None above reporting de minimis
CERCLA/SARA Section 302 EHS:	None above reporting de minimis.
CERCLA/SARA Section 311/312:	Immediate Health
CERCLA/SARA Section 313:	None above reporting de minimis.
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: 2, 3, 8, 11

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 597 of 1315

Prepared by: Product Safety and Regulatory Affairs

Issue date: 03/10/2020

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

This Safety Data Sheet has been generated based on OSHA Hazard Communication Standard (29 CFR 1910.1200) and provides information in accordance with U.S. federal law only. No warranty or representation of any kind is given with respect to the substantive or export laws of any other jurisdiction or country. Please confirm that the information provided herein conforms to the substantive export or other law of any other jurisdiction prior to export. Please contact Henkel Product Safety and Regulatory Affairs for additional assistance.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: LPG (INLET GAS)
Product Description: Gas

Intended Use: Feedstock

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
810 Houston St.
Fort Worth, TX 76102 USA
24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable gas: Category 1. Gas under pressure: Compressed gas.
Acute inhalation toxicant: Category 2.
Simple Asphyxiant

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated. H330: Fatal if inhaled. May displace oxygen and cause rapid suffocation.

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P260: Do not breathe gas. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P284: Wear respiratory protection.P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P310: Immediately call a POISON CENTER or doctor/physician. P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.P403 + P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up. P410 + P403: Protect from sunlight. Store in a well-ventilated place.P501: Dispose of contents and container in accordance with local regulations.

Contains: HYDROGEN SULFIDE

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Hydrogen sulfide, a highly toxic gas, is expected to be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. May be irritating to the skin, nose, throat, and lungs. May cause central nervous system depression.

ENVIRONMENTAL HAZARDS

Expected to be toxic to aquatic organisms.

NFPA Hazard ID:	Health:	3	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	3	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
HYDROGEN SULFIDE	7783-06-4	<= 20%	H220, H280, H330(2), H400(M factor 1)
LIQUEFIED PETROLEUM GAS	68476-85-7	>= 80%	H220, H280

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BUTANE	106-97-8	< 3%	H220, H280
ETHANE	74-84-0	< 4%	H220, H280, H402
PROPANE	74-98-6	< 85%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

NOTE TO PHYSICIAN

This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Stop leak if you can do it without

risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Flammable Gas. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: <-100°C (-148°F) [Estimated]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of the spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that provide chemical resistance and, when necessary, heat-resistance and/or thermal insulation are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Small spills: normal work clothes are usually adequate. Large spills: full body suit of chemical and thermal resistant material is recommended. Chemical goggles and face shield are recommended if contact with liquefied gas is possible.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Allow liquid to evaporate from the surface. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not confine in area of spill. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. Allow liquid to evaporate from the surface. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid breathing mists or vapors. Avoid contact with eyes. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. H2S is present. The toxic and olfactory (sense of smell) fatigue properties of hydrogen sulfide require that air monitoring alarms and respiratory protection be used where the concentration might be expected to reach a harmful level, such as in an enclosed space, heated transport vessel, or in a spill or leak situation.

Material can accumulate static charges which may cause an electrical spark (ignition source).

Static Accumulator: This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BUTANE		STEL	1000 ppm		N/A	ACGIH
HYDROGEN SULFIDE		Ceiling	20 ppm		N/A	OSHA Z2
HYDROGEN SULFIDE		Maximum concentration	50 ppm		N/A	OSHA Z2
HYDROGEN SULFIDE		STEL	14 mg/m3	10 ppm	N/A	ExxonMobil
HYDROGEN SULFIDE		TWA	7 mg/m3	5 ppm	N/A	ExxonMobil
HYDROGEN SULFIDE		STEL	5 ppm		N/A	ACGIH
HYDROGEN SULFIDE		TWA	1 ppm		N/A	ACGIH

LIQUEFIED PETROLEUM GAS		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1
PROPANE		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Self-contained breathing apparatus

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Chemical goggles and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective

equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications.

GENERAL INFORMATION

Physical State: Gas
Form: Compressed or Liquified
Color: Colorless
Odor: Rotten Egg
Odor Threshold: N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.793
Flammability (Solid, Gas): N/D
Flash Point [Method]: <-100°C (-148°F) [Estimated]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: -42°C (-44°F) [Estimated]
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: 79.3 kPa (594.75 mm Hg) at 20 °C [Calculated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Metals, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Highly toxic. Based on assessment of the components.
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Based on assessment of the components.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: No end point data for material.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY

HYDROGEN SULFIDE	Inhalation Lethality: 4 hour(s) LC50 444 ppm (Gas) (Rat)

OTHER INFORMATION

For the product itself:

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

Contains:

HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. (Liquefied petroleum gas, hydrogen sulfide)
Hazard Class & Division: 2.3
ID Number: 1953
Packing Group: (N/A)
Poison Inhalation Hazard: Yes
Hazard Zone: A
ERG Number: 119
Label(s): 2.3 (2.1)
Transport Document Name: UN1953, COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. (Liquefied petroleum gas, hydrogen sulfide), 2.3 (2.1)

LAND (TDG)

Proper Shipping Name: COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. (Liquefied petroleum gas, hydrogen sulfide)
Hazard Class & Division: 2.3 (2.1)
UN Number: 1953
Packing Group: (N/A)
Special Provisions: 16, 38
ERAP Index Number: 0

SEA (IMDG)

Proper Shipping Name: COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. (Liquefied petroleum gas, hydrogen sulfide)
Hazard Class & Division: 2.3
EMS Number: F-D, S-U
UN Number: 1953
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.3 (2.1)
Transport Document Name: UN1953, COMPRESSED GAS, TOXIC, FLAMMABLE, N.O.S. (Liquefied petroleum gas, hydrogen sulfide), 2.3 (2.1), (-100°C c.c.)

AIR (IATA)

Proper Shipping Name: FORBIDDEN

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: DSL, TSCA

SARA 302

Chemical Name	CAS Number	Typical Value	Component TPQ
HYDROGEN SULFIDE	7783-06-4	20 %weight	500 LBS

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

NOTE: The gas concentration indicated above is in percent volume. Before the product RQ is calculated, percent volume is converted to percent weight.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Acute Toxicity (any route of exposure), Flammable (gases, aerosols, liquids, or solids), Gas under Pressure, Simple Asphyxiant

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
HYDROGEN SULFIDE	7783-06-4	<= 20%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BUTANE	106-97-8	1, 13, 16, 17, 19

ETHANE	74-84-0	13, 16, 17, 18, 19
HYDROGEN SULFIDE	7783-06-4	1, 4, 13, 14, 16, 17, 18, 19
LIQUEFIED PETROLEUM GAS	68476-85-7	4, 13, 16, 17, 18
PROPANE	74-98-6	4, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H330(2): Fatal if inhaled; Acute Tox Inh, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H402: Harmful to aquatic life; Acute Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Defined as statement (GHS) information was modified.
Section 01: Company Mailing Address information was modified.
Section 02: GHS Contains for LABEL_GHS codes information was modified.
Section 04: First Aid Notes information was modified.
Section 05: Hazardous Combustion Products information was modified.
Section 07: Handling and Storage - Handling information was modified.
Section 07: Handling and Storage - Storage Phrases information was modified.
Section 10: Materials to Avoid information was modified.
Section 11 Acute Toxicity data - Header information was added.
Section 11 Substance Name - Header information was added.
Section 11 Substance Toxicity table - Header information was added.
Section 11 Substance Toxicology table information was added.
Section 11: Eye Irritation Conclusion information was modified.
Section 11: Other Health Effects information was modified.
Section 11: Skin Irritation Conclusion information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.
Section 16: Code to MHCs information was modified.
Section 16: Standard phrases for California Proposition 65 information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 6, 0, 0, 1 PPEC: DF

DGN: 7133300VUS (1022390)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: LPG, SOUR (LIQUEFIED PETROLEUM GAS)
Product Description: Liquefied Hydrocarbon Gas

Intended Use: Fuel gas

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
810 Houston St.
Fort Worth, TX 76102 USA
24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable gas: Category 1. Gas under pressure: Compressed gas.
Simple Asphyxiant

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking.P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.P410 + P403: Protect from sunlight. Store in a well-ventilated place.

Contains: LIQUEFIED PETROLEUM GAS

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. Excessive exposure may result in eye, skin, or respiratory irritation. May cause central nervous system depression.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
LIQUEFIED PETROLEUM GAS	68476-85-7	100 %	H220, H280

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BUTANE	106-97-8	1.0 - 3.0%	H220, H280
ETHANE	74-84-0	3.0 - 5.0%	H220, H280, H402
PROPANE	74-98-6	95 - 98%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

NOTE: Hydrogen sulfide (H2S) may be present in the material in trace quantities (by weight) and, when present, may accumulate to toxic or flammable concentrations in enclosed spaces such as tanks or tanker/railcar headspaces.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and

exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

NOTE TO PHYSICIAN

This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Stop leak if you can do it without risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Flammable Gas. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: -103°C (-154°F)
Flammable Limits (Approximate volume % in air): LEL: 2.4 UEL: 9.5
Autoignition Temperature: 432°C (810°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of the spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that provide chemical resistance and, when necessary, heat-resistance and/or thermal insulation are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Small spills: normal work clothes are usually adequate. Large spills: full body suit of chemical and thermal resistant material is recommended. Chemical goggles and face shield are recommended if contact with liquefied gas is possible.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Allow liquid to evaporate from the surface. Use water spray to reduce vapors or divert vapor cloud drift. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. Isolate area until gas has dispersed. Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not confine in area of spill. Allow liquid to evaporate from the surface. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Do not enter storage areas or confined spaces unless adequately ventilated. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Material can accumulate static charges which may cause an electrical spark (ignition source).

Static Accumulator: This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BUTANE		STEL	1000 ppm		N/A	ACGIH
ETHANE		Limit value not established		0	Simple asphyxiant.	ACGIH
LIQUEFIED PETROLEUM GAS		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1
LIQUEFIED PETROLEUM GAS		Limit value not established		0	Simple asphyxiant.	ACGIH
PROPANE		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1
PROPANE		Limit value not established		0	Simple asphyxiant.	ACGIH
Hydrogen sulfide		Ceiling	20 ppm		N/A	OSHA Z2
Hydrogen sulfide		Maximum concentration	50 ppm		N/A	OSHA Z2
Hydrogen sulfide		STEL	14 mg/m3	10 ppm	N/A	ExxonMobil
Hydrogen sulfide		TWA	7 mg/m3	5 ppm	N/A	ExxonMobil
Hydrogen sulfide		STEL	5 ppm		N/A	ACGIH

Hydrogen sulfide		TWA	1 ppm		N/A	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Face shield is recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications.

GENERAL INFORMATION

Physical State: Gas
Form: Liquified
Color: Colorless
Odor: Odorless
Odor Threshold: N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at -162 °C): 0.51
Flammability (Solid, Gas): N/D
Flash Point [Method]: -103°C (-154°F)
Flammable Limits (Approximate volume % in air): LEL: 2.4 UEL: 9.5
Autoignition Temperature: 432°C (810°F)
Boiling Point / Range: -42°C (-44°F) [Estimated]
Decomposition Temperature: N/D
Vapor Density (Air = 1): 0.5 at 101 kPa
Vapor Pressure: [N/D at 20 °C] | 5.333 kPa (40 mm Hg) at -86.3°C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: -188°C (-306°F)
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen sulfide

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 5000 ppm (Gas)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test method unavailable.
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test method unavailable.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test method unavailable.

OTHER INFORMATION

For the product itself:

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental

confusion and blurred vision) and/or damage.
Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H2S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H2S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be readily biodegradable.

Atmospheric Oxidation:

Material -- Transformation due to atmospheric oxidation not expected to be significant.

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED
Hazard Class & Division: 2.1
ID Number: 1075
Packing Group: (N/A)
ERG Number: 115
Label(s): 2.1
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

LAND (TDG)

Proper Shipping Name: LIQUEFIED PETROLEUM GASES
Hazard Class & Division: 2.1
UN Number: 1075
Packing Group: (N/A)

SEA (IMDG)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED
Hazard Class & Division: 2.1
EMS Number: F-D, S-U

UN Number: 1075
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.1
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1, (-103°C c.c.)

AIR (IATA)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED
Hazard Class & Division: 2.1
UN Number: 1075
Packing Group: (N/A)
Label(s) / Mark(s): 2.1
Transportation Limitations: CARGO AIRCRAFT ONLY
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: DSL, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Flammable (gases, aerosols, liquids, or solids), Gas under Pressure, Simple Asphyxiant

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BUTANE	106-97-8	1, 13, 16, 17, 18, 19
ETHANE	74-84-0	1, 13, 16, 17, 18, 19
LIQUEFIED PETROLEUM GAS	68476-85-7	1, 4, 13, 16, 17, 18
PROPANE	74-98-6	1, 4, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL 6 = TSCA 5a2 11 = CA P65 REPRO 16 = MN RTK

2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H402: Harmful to aquatic life; Acute Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Footnotes information was added.
Hazard Identification: Health Hazards information was modified.
Section 01: Company Mailing Address information was modified.
Section 02: GHS Contains for LABEL_GHS codes information was added.
Section 04: First Aid Notes information was modified.
Section 05: Hazardous Combustion Products information was modified.
Section 07: Handling and Storage - Storage Phrases information was modified.
Section 08: Exposure Limits Table information was modified.
Section 11: Chronic Tox - Product information was added.
Section 11: Other Health Effects information was modified.
Section 15: List Citations Table information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.
Section 16: Standard phrases for California Proposition 65 information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0, 0, 0, 0 PPEC: DF

DGN: 7133289VUS (1022381)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: LPG, SWEET (LIQUEFIED PETROLEUM GAS)
Product Description: Liquefied Hydrocarbon Gas

Intended Use: Fuel gas

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable gas: Category 1. Gas under pressure: Compressed gas.
Simple Asphyxiant

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking.P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.P410 + P403: Protect from sunlight. Store in a well-ventilated place.

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation. May cause central nervous system depression.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
LIQUEFIED PETROLEUM GAS	68476-85-7	100 %	H220, H280

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BUTANE	106-97-8	1.0 - 3.0%	H220, H280
ETHANE	74-84-0	3.0 - 5.0%	H220, H280
PROPANE	74-98-6	95 - 98%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

NOTE TO PHYSICIAN

This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Stop leak if you can do it without risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Flammable Gas. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: -104°C (-155°F) [Estimated]
Flammable Limits (Approximate volume % in air): LEL: 1.6 UEL: 9.5 [Estimated]
Autoignition Temperature: 432°C (810°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of the spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that provide chemical resistance and, when necessary, heat-resistance and/or thermal insulation are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Small spills: normal work clothes are usually adequate. Large spills: full body suit of chemical and thermal resistant material is recommended. Chemical goggles and face shield are recommended if contact with liquefied gas is possible.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Allow liquid to evaporate from the surface. Use water spray to reduce vapors or divert vapor cloud drift. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. Isolate area until gas has dispersed. Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not confine in area of spill. Allow liquid to evaporate from the surface. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Do not enter storage areas or confined spaces unless adequately ventilated. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Material can accumulate static charges which may cause an electrical spark (ignition source).

Static Accumulator: This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BUTANE		STEL	1000 ppm		N/A	ACGIH
LIQUEFIED PETROLEUM GAS		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1
PROPANE		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Self-contained breathing apparatus

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Face shield is recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications.

GENERAL INFORMATION

Physical State: Gas
Form: Liquified
Color: Colorless
Odor: Odorless
Odor Threshold: N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at -162 °C): 0.51
Flammability (Solid, Gas): Flammable - Category 1
Flash Point [Method]: -104°C (-155°F) [Estimated]
Flammable Limits (Approximate volume % in air): LEL: 1.6 UEL: 9.5 [Estimated]
Autoignition Temperature: 432°C (810°F)
Boiling Point / Range: -42°C (-44°F) [Estimated]
Decomposition Temperature: N/D

Vapor Density (Air = 1): 0.5 at 101 kPa
Vapor Pressure: [N/D at 20 °C] | 5.333 kPa (40 mm Hg) at -86.3°C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: -190°C (-310°F) [Estimated]
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 15 minute(s) LC50 > 1443 mg/l (Gas)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes.
Sensitization	
Respiratory Sensitization: No end point data	Not expected to be a respiratory sensitizer.

for material.	
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: No end point data for material.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474 476 478
Carcinogenicity: Data available.	Not expected to cause cancer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 453
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 422
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 413 422 453

OTHER INFORMATION

For the product itself:

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be readily biodegradable.

Atmospheric Oxidation:

Material -- Transformation due to atmospheric oxidation not expected to be significant.

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED
Hazard Class & Division: 2.1
ID Number: 1075
Packing Group: (N/A)
ERG Number: 115
Label(s): 2.1
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

LAND (TDG)

Proper Shipping Name: LIQUEFIED PETROLEUM GASES
Hazard Class & Division: 2.1
UN Number: 1075
Packing Group: (N/A)

SEA (IMDG)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED
Hazard Class & Division: 2.1
EMS Number: F-D, S-U
UN Number: 1075
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.1
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1, (-104°C c.c.)

AIR (IATA)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED
Hazard Class & Division: 2.1
UN Number: 1075
Packing Group: (N/A)
Label(s) / Mark(s): 2.1
Transportation Limitations: CARGO AIRCRAFT ONLY
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive

Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Flammable (gases, aerosols, liquids, or solids), Gas under Pressure, Simple Asphyxiant

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BUTANE	106-97-8	1, 13, 16, 17, 18, 19
ETHANE	74-84-0	13, 16, 17, 18, 19
LIQUEFIED PETROLEUM GAS	68476-85-7	4, 13, 16, 17, 18
PROPANE	74-98-6	4, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

WARNING: Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.
Section 08: Respiratory Protection information was modified.
Section 09: Flammability (Solid, Gas) information was modified.
Section 09: Melting Point C(F) information was modified.
Section 11: Aspiration Test Data information was modified.

Section 11: Carcinogen Test Comment information was added.
Section 11: Carcinogen Test Data information was modified.
Section 11: Carcinogen Test Guideline information was added.
Section 11: Dermal Irritation Test Comment information was deleted.
Section 11: Dermal Irritation Test Data information was modified.
Section 11: Eye Irritation Test Comment information was deleted.
Section 11: Eye Irritation Test Data information was modified.
Section 11: Eye Irritation Test Guideline information was deleted.
Section 11: Inhalation Lethality Test Data information was modified.
Section 11: Mutagen Test Guideline information was modified.
Section 11: Reproductive Test Guideline information was modified.
Section 11: Skin Irritation Test Guideline information was deleted.
Section 11: Target Organ Toxicity - Repeat Test Guideline information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 16: HCode Key information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0, 0, 0, 0 PPEC: DF

DGN: 7132923VUS (1022366)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

1. Identification

Product identifier **LPS® Dry Film Silicone Lubricant**

Other means of identification

Part Number 01616

Recommended use A dry film industrial lubricant for rubber, plastic and metal parts.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name ITW Pro Brands

Address 4647 Hugh Howell Rd.
Tucker, GA 30084

Country (U.S.A.)

Tel: +1 770-243-8800

In Case of Emergency 1-800-424-9300 (inside U.S.)
+001 703-527-3887 (outside U.S.)

Website www.lpslabs.com

E-mail lpssds@itwprobrands.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Liquefied gas
Health hazards	Skin corrosion/irritation	Category 2
	Reproductive toxicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure (inhalation)	Category 2 (nervous system)

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs (nervous system) through prolonged or repeated exposure by inhalation.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Do not breathe gas. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

Released to Imaging: 4/22/2025 3:42:03 PM

Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
1,1-Difluoroethane (HFC-152a)		75-37-6	50 - 60
2-Methylpentane		107-83-5	10 - 20
2,3-Dimethylbutane		79-29-8	5 - 10
3-Methylpentane		96-14-0	5 - 10
2,2-Dimethylbutane		75-83-2	1 - 5
Isopropanol		67-63-0	1 - 5
Poly (Dimethylsiloxane)		63148-62-9	1 - 5
N-hexane		110-54-3	1 - 2

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Not likely, due to the form of the product. In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Extremely flammable aerosol. Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Do not breathe gas. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material .

Large Spills: Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Scoop up used absorbent into drums or other appropriate container. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not breathe gas. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Keep away from heat, sparks and open flame. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isopropanol (CAS 67-63-0)	PEL	980 mg/m3 400 ppm
N-hexane (CAS 110-54-3)	PEL	1800 mg/m3 500 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2,2-Dimethylbutane (CAS 75-83-2)	STEL	1000 ppm
	TWA	500 ppm
2,3-Dimethylbutane (CAS 79-29-8)	STEL	1000 ppm
	TWA	500 ppm
2-Methylpentane (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
3-Methylpentane (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
N-hexane (CAS 110-54-3)	TWA	50 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m3 500 ppm
	TWA	980 mg/m3 400 ppm
N-hexane (CAS 110-54-3)	TWA	180 mg/m3 50 ppm

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
1,1-Difluoroethane (HFC-152a) (CAS 75-37-6)	TWA	2700 mg/m3 1000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*
N-hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

N-hexane (CAS 110-54-3) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

N-hexane (CAS 110-54-3) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Gas.

Form Aerosol.

Released to Imaging: 4/22/2025 3:42:03 PM

Color	Colorless.
Odor	Isohexane.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	< 1.4 °F (< -17.0 °C) Tag Closed Cup
Evaporation rate	< 1 (Ethyl Ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	55 psig @ 25°C
Vapor density	~ 3 (air = 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	< 10 % w/w
Partition coefficient (n-octanol/water)	> 1
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	< 14 cSt @ 25°C
Other information	
Density	6.23
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	0.75
VOC	41 % per US State & Federal Consumer Product Regulations

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity Narcotic effects.

Components	Species	Test Results
1,1-Difluoroethane (HFC-152a) (CAS 75-37-6)		
Acute		
Inhalation		
Gas		
LC50	Rat	> 437500 ppm, 4 Hours
Isopropanol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	12800 mg/kg
		16.4 ml/kg, 24 Hours
Inhalation		
Vapor		
LC50	Rat	> 10000 ppm, 6 Hours
Oral		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
	Rabbit	5.03 g/kg
	Rat	5.84 g/kg
		4.7 g/kg
N-hexane (CAS 110-54-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 4 Hours
		> 5 ml/kg, 4 Hours
Inhalation		
LC50	Mouse	48000 ppm, 4 Hours
Vapor		
LC50	Rat	> 5000 ppm, 24 Hours
		> 31.86 mg/l
		73860 ppm, 4 Hours
Oral		
LD50	Rat	28710 mg/kg
		24 ml/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

ACGIH Carcinogens

Isopropanol (CAS 67-63-0) A4 Not classifiable as a human carcinogen.

Released to Imaging: 4/22/2025 3:42:03 PM

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs (nervous system) through prolonged or repeated exposure by inhalation.
Aspiration hazard	Not likely, due to the form of the product.
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.
Further information	None known.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Isopropanol (CAS 67-63-0)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
N-hexane (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Poly (Dimethylsiloxane) (CAS 63148-62-9)			
Aquatic			
Fish	LC50	Channel catfish (Ictalurus punctatus)	2.36 - 4.15 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

LPS® Dry Film Silicone Lubricant	> 1
1,1-Difluoroethane (HFC-152a)	0.75
2,2-Dimethylbutane	3.82
2,3-Dimethylbutane	3.42
2-Methylpentane	3.74
3-Methylpentane	3.6
Isopropanol	0.05
N-hexane	3.9

Mobility in soil	No data available.
Other adverse effects	None known.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company. D001: Waste Flammable material with a flash point <140 F D003: Waste Reactive material
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	304
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

DOT

Released to Imaging: 4/22/2025 3:42:03 PM

IATA; IMDG

General information Before transporting product containers: Ensure that containers are firmly secured. Ensure cylinder valve is closed and not leaking. Ensure valve outlet cap nut or plug (where provided) is correctly fitted. Ensure valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

N-hexane (CAS 110-54-3) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
N-HEXANE	110-54-3	1 - 2

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

N-hexane (CAS 110-54-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

1,1-Difluoroethane (HFC-152a) (CAS 75-37-6)

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Isopropanol (CAS 67-63-0) Low priority

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

US. Massachusetts RTK - Substance List

1,1-Difluoroethane (HFC-152a) (CAS 75-37-6)
2,2-Dimethylbutane (CAS 75-83-2)

2,3-Dimethylbutane (CAS 79-29-8)
2-Methylpentane (CAS 107-83-5)
3-Methylpentane (CAS 96-14-0)
Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

US. New Jersey Worker and Community Right-to-Know Act

1,1-Difluoroethane (HFC-152a) (CAS 75-37-6)
2,2-Dimethylbutane (CAS 75-83-2)
2,3-Dimethylbutane (CAS 79-29-8)
2-Methylpentane (CAS 107-83-5)
Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

US. Pennsylvania Worker and Community Right-to-Know Law

2,2-Dimethylbutane (CAS 75-83-2)
2,3-Dimethylbutane (CAS 79-29-8)
2-Methylpentane (CAS 107-83-5)
3-Methylpentane (CAS 96-14-0)
Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

US. Rhode Island RTK

1,1-Difluoroethane (HFC-152a) (CAS 75-37-6)
Isopropanol (CAS 67-63-0)
N-hexane (CAS 110-54-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 06-20-2016

Version # 01

Disclaimer ITW Pro Brands cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

MARVEL OIL CO., INC.
2250 W. Pinehurst Blvd., STE 150
Addison, IL 60101

SAFETY DATA SHEET

1. Product and Company Identification

1.1 Product Identifier

Product Name:	Marvel Mystery Oil
Product Code (SKU):	MM12R (50094), MM13R (50095), MM13RC (50096) MM14R (50097), MM018 (50092) - See section 15 for discontinued SKU's

1.2 Relevant Identified Uses Of The Substance

Product Use:	Engine Oil Additive – Fuel additive (EPA Registered)

1.3 Details of the Supplier of the SDS

Company Name:	Marvel Oil Company, Inc.
Street Address:	2250 W. Pinehurst Blvd., Suite 150
City, State, Zip Code:	Addison, IL 60101

1.4 Emergency Telephone Numbers

Phone Number:	1(630)455-3700
Fax Number:	1(630)455-3868
Transportation:	1(800)424-9300 (CHEMTREC)
Medical Assistance:	Call your local Poison Control Center

2. Hazard Identification:

2.1 Classification of the Substance or Mixture

Hazard Classification:	Flammable liquid 3 Skin irritation 2 Reproductive Toxicity 2 Aspiration toxicity 1

2.2 Label Elements

Pictogram:

Signal Word: Danger

Hazard Statement: Flammable liquid and vapor. Causes skin irritation. Suspected of damaging fertility of the un-born child. May be fatal if swallowed and enters airways.

Precautionary Statement: Keep away from heat, sparks, open flames or hot surfaces. Do not smoke. Keep containers tightly closed. Ground all containers and receiving equipment. Use explosion proof electrical, ventilation, and lighting equipment. Use only non-

sparking tools. Take precautionary measures against static discharge. Wear protective gloves, clothing, eye glasses and face shield. Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. If exposed, get medical attention. If on skin or hair, remove immediately all contaminated clothing and launder before re-use. Wash skin with soap and water. If skin irritation occurs, get medical attention. If swallowed, immediately call a poison control center or doctor. Do NOT induce vomiting. Store in a well ventilated place. Dispose of contents and container in accordance with all local, state, national and international regulations.

2.3 Other Hazards

Description of additional HNOC: None

3. Information on Ingredients:

3.1 Substance not applicable

3.2 Mixture

Component	CAS Number	Concentration (wt%)
Petroleum Distillates (Hydrotreated Heavy Naphthenic)	64742-52-5	60-100%
Petroleum Distillates (Stoddard Solvent)	8052-41-3	10-30%
Tricresyl Phosphate	1330-78-5	0.1-1.0%
Ortho Dichlorobenzene	95-50-1	0.1-1.0%
Para Dichlorobenzene	106-46-7	<0.1%

4. First Aid Measures:

4.1 Description of First Aid Measures

Inhalation: Remove to fresh air and promote deep breathing. Get medical attention if effects persist or you feel un-well.
Skin: In case of skin contact, wash thoroughly with soap and water. Remove contaminated clothing and footwear. Launder clothing before re-use. Call a physician if irritation develops or persists.
Eyes: In case of eye contact, immediately flush eyes with plenty of water. Remove contact lenses if worn. If irritation persists, get medical attention
Ingestion: If swallowed, do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a poison control center or physician.

4.2 Most important symptoms and effects – acute and chronic

Inhalation: May cause respiratory tract irritation. Vapors may cause drowsiness or dizziness.
Skin: Cause skin irritation. Symptoms may include redness, edema, drying, defatting, and cracking of skin.
Eyes: May cause temporary eye irritation. Symptoms may include discomfort or pain, excess blinking and tearing, with redness and swelling.
Ingestion: May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea, and vomiting.

4.3 Indication of any immediate medical attention and special treatment

Symptoms may not appear immediately. Seek medical attention if effects develop or persist and you feel un-well.

5. Fire Fighting Measures:

5.1 Extinguishing media

Carbon dioxide, dry chemical, and alcohol foam

5.2 Special hazards arising from the substance or mixture

CO_2, CO, and hydrocarbons

5.3 Advice for Fire Fighters

Keep up wind of fire. Wear full firefighting turn out gear (full bunker gear) and respiratory protection (SCBA). Cool closed containers exposed to fire with water. See Section 8 for personal protection.

6. Accidental Release Measures:

6.1 Personal precautions, protective equipment, and emergency procedures

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate all source of ignition.

6.2 Methods and materials for containment and clean up

For containment: Contain and absorb spill with inert material. Place in suitable container for disposal. Do not flush to sewer or allow to enter waterways. See section 8 for PPE.

For clean up: Take up material and place in a suitable container. Vapors may be heavier than air and may travel along the ground to a distant source of ignition. Provide adequate ventilation.

7. Handling and Storage

7.1 Precautions for safe handling

Keep away from source of ignition. Do not smoke. Take precaution to eliminate static discharge. Avoid contact with skin and eyes. Avoid breathing vapor or mist. Do not swallow. Do not eat or drink while handling. Wash hands with soap and water after handling. Use only non-sparking tools.

7.2 Conditions for safe storage including incompatibilities

Keep out of reach of children. Store in a well ventilated place. Do not store above 49°C (120°F).

7.3 Specific end uses

Shelf Life: Shelf life is considered to be 7 – 10 years when properly stored.

8. Exposure Control/Personal Protection:

8.1 Control parameters

Exposure Limits 8 hr TWA:	(OSHA PEL)	(ACGIH TWA)
Petroleum Distillates (Hydrotreated Heavy Naphthenic)	not applicable	not applicable
Petroleum Distillates (Stoddard Solvent)	500 ppm	100 ppm
Tricresyl Phosphate	not applicable	not applicable
Ortho Dichlorobenzene	50 ppm	25 ppm
Para Dichlorobenzene	75 ppm	10 ppm

8.2 Exposure controls

Use adequate ventilation to keep exposure below recommended limits. Ensure that eye wash station and safety shower are close to work station.

Hand Protection Equipment: Wear chemical resistant gloves to prevent skin contact.
Eye Protection Equipment: Wear safety glasses or splash goggles to prevent eye contact.
Skin and Body Protection: Wear suitable protective clothing.
Respiration/Ventilation Protection Requirements: Provide good ventilation.
Ingestion Protection Requirements: Do not eat, drink or smoke while handling. Wash hands with soap and water after handling. Launder all clothing and foot wear before re-use.

9. Physical And Chemical Properties:

9.1 Information of basic chemical and physical properties

Physical Form:	thin liquid
Color:	clear red
Odor:	oil of wintergreen - minty
Odor Threshold:	not available
pH:	not applicable – oil based product
Melting Point/Freeze Point:	-51^{0}C (-60^{0}F)
Initial Boiling Point:	not available
Flash Point (Seta Closed Cup):	53^{0}C (128^{0}F)
Flammability Limits:	**Explosive Limits:** **Upper:** not available **Lower:** not available
Evaporation Rate:	not available
Flammability Solid/Gas:	not applicable
Vapor Pressure:	not available
Vapor Density:	not available
Specific Gravity:	0.876
Solubility in Water:	insoluble
Auto Ignition Temperature:	not available
Partition coefficient (n/octonol/water):	not available
Viscosity (Kinematic @ 100^{0}C):	2.0 – 3.0 cSt

9. 2 Other information

% NVM by Weight:	75.0%
% VOC Content (California):	24.31%

10. Stability and Reactivity:

10.1 Reactivity
Does not react under normal conditions

10.2 Chemical stability
Stable

10.3 Possibility of hazardous reactions
Does not react under normal conditions

10.4 Conditions to avoid
Heat and incompatible materials

10.5 Incompatible materials
Strong oxidizers such as bleach and peroxides

10.6 Hazardous decomposition products
CO_2, CO and hydrocarbons

11. Toxicological Information:

11.1 Information on Toxicological effects

Marvel Mystery Oil

LD50 – Oral Rat	>2000 mg/Kg
LD50 – Dermal Rabbit	>2000 mg/Kg
LC50 – Inhalation Rat	>20 mg/L (4 hr)

Petroleum Distillates Hydrotreated Heavy Naphthenic (64742-52-5)

LD50 – Oral Rat	>5000 mg/Kg
LD50 – Dermal Rabbit	>5000 mg/Kg
LC50 – Inhalation Rat	>5 mg/L (4 hr)

Tricresyl Phosphate (1330-78-5)

LD50 – Oral Rat	3000 mg/Kg

o-Dichlorobenzene (95-50-1)

LD50 – Oral Rat	500 mg/Kg
LD50 – Dermal Rabbit	>10000 mg/Kg
LC50 – Inhalation Rat	8.15 mg/L (4 hr)

p-Dichlorobenzene (106-46-7)

LD50 – Oral Rat	>2000 mg/Kg
LD50 – Dermal Rabbit	>2000 mg/Kg

Skin corrosion/irritation	Cause skin irritation
Serious eye damage/irritation	Based on available data, classification data are not met
Respiratory or skin sensitization	Based on available data, classification data are not met
Germ cell mutagenicity	Based on available data, classification data are not met
Carcinogenicity	Based on available data, classification data are not met

o-Dichlorobenzene (95-50-1)	IARC Group 3 – Not Classified
p-dichlorobenzene (106-46-7)	IARC Group 2B – Possible carcinogen to humans.

	NTP 1-Evidence of Carcinogenicity 3, Reasonably anticipated to be a human Carcinogen
Reproductive toxicity	Suspected of damaging fertility of un-born child
Specific target organs – single exposure	Based on available data, classification data are not met
Specific target organs – repeated exposure	Based on available data, classification data are not met
Aspiration hazard	May be fatal if swallowed and enters air ways.
Symptoms/injuries after inhalation	May cause respiratory tract irritation. Vapors may cause drowsiness and dizziness.
Symptoms/injuries after skin contact	Cause skin irritation. Symptoms may include redness, edema, drying, defatting, and cracking of skin.
Symptoms/injuries after eye contact	May cause temporary eye irritation. Symptoms may include discomfort or pain, excess blinking and tearing, with redness and swelling.
Symptoms/injuries after ingestion	May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea, and vomiting.

12. Ecological Information:

12.1 Toxicity
Not recommended for release into aquatic systems without treatment

12.2 Persistence and degradability
Not established

12.3 Bioaccumulative potential
Not established

12.4 Mobility in soil
Not established

12.5 Other adverse effects
None known

13. Disposal Considerations:

13.1 Waste treatment methods

RCRA Hazardous Waste:	Regulated as a hazardous waste (D-001 Ignitable).
Waste Disposal Method:	Dispose of in accordance with local, state and federal regulations
Waste Disposal Vessel:	Metal drums are recommended.

14. Transportation Information:

14.1 UN number
1268

14.2 UN Proper shipping name
Petroleum Distillate n.o.s.

14.3 Transport Hazard class
3

14.4 Packaging group
III

14.5 Marine Pollutant
No

14.6 Transportation in Bulk
Not applicable

14.7 Special precautions
Use limited quantities

15. Regulatory Information:

15.1 US Federal Regulations

TSCA Status: All ingredients are commercially available and listed by the manufacturer under TSCA.

15.2 Foreign Regulations

Canadian Status: All materials contained in this product are listed on the Canadian Domestic Substance List (DSL). Consult Turtle Wax, Inc. regarding status of ingredients.

European Union: All materials contained in this product are listed on EINECS.

AICS: All materials are registered for AICS (Australia)

15.3 State Regulations

State Regulatory Information:

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements, contact the appropriate agency in your state.

California Prop 65:*
⚠**WARNING**: This product can expose you to chemicals including p-Dichlorobenzene (106-46-7), which is known to the state of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

CAS Number	Concentration	State Code
p-Dichlorobenzene (106-46-7)	<0.1%	Cancer

***Note:** These chemicals are considered impurities and may or may not exist in the product. They are not intentionally added to the product as ingredients.

15.4 HMIS & NFPA Classifications

HMIS Classification:	Health	2
	Flammability	2
	Reactivity	0
NFPA Classification:	Health	2
	Flammability	2
	Reactivity	0

15.5 Discontinued SKU's These all utilized the same formula:

MM003, MM007, MM08, MM010, MM011, MM012R, MM013R, MM014R, MM015, MM016, MM017, MM613, MM005

16. Other Information:

Reason For Issue	Update Section 15
Prepared By	Joseph Whitman
Preparer's Title	Senior Chemist/Regulatory Specialist
SDS Administrator	Jean Mayszak - Regulatory Compliance Manager
Approval Date	August 29, 2018
Supersedes Date	January 29, 2018
Revision Number	A-14

This information is, to the best of Turtle Wax, Inc.'s knowledge and belief, accurate and reliable. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy oneself as to the suitableness and completeness of such information for their own particular use.

BRENNTAG

SAFETY DATA SHEET

1. Identification

Product identifier METHANOL

Other means of identification

CAS number 67-56-1

Recommended use ALL PROPER AND LEGAL PURPOSES

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Brenntag / Coastal Chemical Co., LLC

Address 3520 Veterans Memorial Drive
Abbeville, LA 70510

Telephone 337-893-3862

E-mail Not available.

Emergency phone number 800-424-9300 CHEMTREC

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, inhalation	Category 3
	Serious eye damage/eye irritation	Category 2
	Reproductive toxicity	Category 1
	Specific target organ toxicity, single exposure	Category 1
	Specific target organ toxicity, single exposure	Category 3 narcotic effects

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Toxic if inhaled. Causes serious eye irritation. May cause drowsiness or dizziness. May damage fertility or the unborn child. Causes damage to organs.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information None.

Released to Imaging: 4/22/2025 3:42:03 PM

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
METHANOL		67-56-1	100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician.

Skin contact
Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. If swallowed, induce vomiting immediately as directed by medical personnel.

Most important symptoms/effects, acute and delayed
May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information
Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Use only outdoors or in a well-ventilated area. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS). Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value
METHANOL (CAS 67-56-1)	PEL	260 mg/m3 200 ppm

US. ACGIH Threshold Limit Values

Material	Type	Value
METHANOL (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Material	Type	Value
METHANOL (CAS 67-56-1)	STEL	325 mg/m3 250 ppm
	TWA	260 mg/m3 200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Material	Value	Determinant	Specimen	Sampling Time
METHANOL (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

METHANOL (CAS 67-56-1) Skin designation applies.

US - Tennessee OELs: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

The following are recommendations for Personnel Protective Equipment (PPE). The employer/user of this product must perform a Hazard Assessment of the workplace according to OSHA regulations 29 CFR 1910.132 to determine the appropriate PPE for use while performing any task involving potential exposure to this product.

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color CLEAR COLORLESS

Odor ALCOHOL

Odor threshold Not available.

pH Not available.

Melting point/freezing point -144 °F (-97.78 °C)

Initial boiling point and boiling range 148.46 °F (64.7 °C) 101.325 kPa

Flash point 52.0 °F (11.1 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	16.93 kPa at 25 °C
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Miscible
Partition coefficient (n-octanol/water)	-0.77
Auto-ignition temperature	464 °F (240 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	6.61 lbs/gal 0.79 g/ml
Dynamic viscosity	0.61 mPa.s
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Heat of combustion (NFPA 30B)	19 kJ/g
Molecular formula	C-H4-O
Molecular weight	32.04 g/mol
Oxidizing properties	Not oxidizing.
Percent volatile	100 %
Specific gravity	0.79
Surface tension	22.61 mN/m (68 °F (20 °C))
VOC	100 % 100 % EPA estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled. May cause damage to organs by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity Toxic if inhaled.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity May damage fertility or the unborn child.

Specific target organ toxicity - single exposure Causes damage to organs. May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
METHANOL (CAS 67-56-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

-0.77

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste U List: Reference

METHANOL (CAS 67-56-1) U154

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1230
UN proper shipping name	METHANOL
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	131

Transport information on packaging may be different from that listed. Transportation information on packaging may be different from that listed.

IATA

UN number	UN1230
UN proper shipping name	METHANOL
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	131
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

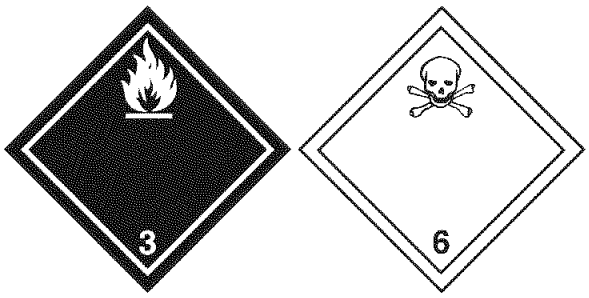
IMDG

UN number	UN1230
UN proper shipping name	METHANOL
Transport hazard class(es)	
Class	3
Subsidiary risk	6.1(PGI, II)
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

DOT

IATA

IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

METHANOL (CAS 67-56-1) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Hazard not otherwise classified (HNOC)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
METHANOL	67-56-1	100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

METHANOL (CAS 67-56-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Contaminate candidate list

US state regulations

California Proposition 65

WARNING: This product can expose you to METHANOL, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Developmental toxin

METHANOL (CAS 67-56-1) Listed: March 16, 2012

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

METHANOL (CAS 67-56-1)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Toxic Chemical Substances (TCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-09-2015

Revision date 07-11-2019

Version # 64

HMIS® ratings Health: 4*
Flammability: 3
Physical hazard: 0

NFPA ratings Health: 1
Flammability: 3
Instability: 0

Disclaimer While Brenntag believes the information contained herein to be accurate, Brenntag makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The Buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Brenntag's terms and conditions of sale.

Revision information Physical & Chemical Properties: Multiple Properties

SAFETY DATA SHEET

GLASS CLEANER

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	GLASS CLEANER
Other means of identification	:	Not applicable
Recommended use	:	Glass Cleaner
Restrictions on use	:	Reserved for industrial and professional use.
Product dilution information	:	3.125 % - 6.25 %
Company	:	Ecolab Inc. 370 N. Wabasha Street St. Paul, Minnesota USA 55102 1-800-352-5326
Emergency health information	:	1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)
Issuing date	:	10/12/2016

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD
Eye irritation : Category 2B

Product AT USE DILUTION
Not a hazardous substance or mixture.

GHS label elements

Product AS SOLD
Signal Word : Warning

Hazard Statements : Causes eye irritation.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling.
Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Product AT USE DILUTION
Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Product AS SOLD
Other hazards : None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD
Pure substance/mixture : Mixture

Chemical name	CAS-No.	Concentration (%)
d-glucopyranose, oligomeric, decyl octyl glycosides	68515-73-1	5 - 10
Fragrance	Proprietary Ingredient	0 - 1

Product AT USE DILUTION

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

Product AS SOLD

In case of eye contact	:	Rinse with plenty of water.
In case of skin contact	:	Rinse with plenty of water.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.
Protection of first-aiders	:	No special precautions are necessary for first aid responders.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Product AT USE DILUTION

In case of eye contact	:	Rinse with plenty of water.
In case of skin contact	:	Rinse with plenty of water.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.

SECTION 5. FIRE-FIGHTING MEASURES

Product AS SOLD

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Not flammable or combustible.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides Nitrogen oxides (NOx) Sulfur oxides Oxides of phosphorus

Special protective equipment for fire-fighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Product AT USE DILUTION

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling	:	Wash hands thoroughly after handling.
Conditions for safe storage	:	Keep out of reach of children. Store in suitable labeled containers.
Storage temperature	:	5 °C to 50 °C

Product AT USE DILUTION

Advice on safe handling	:	Wash hands after handling. For personal protection see section 8.
Conditions for safe storage	:	Keep out of reach of children. Store in suitable labeled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD
Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection	:	No special protective equipment required.
Hand protection	:	No special protective equipment required.
Skin protection	:	No special protective equipment required.
Respiratory protection	:	No personal respiratory protective equipment normally required.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice.

Product AT USE DILUTION

Engineering measures	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection	:	No special protective equipment required.
Hand protection	:	No special protective equipment required.
Skin protection	:	No special protective equipment required.
Respiratory protection	:	No personal respiratory protective equipment normally required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

		Product AS SOLD	Product AT USE DILUTION
Appearance	:	liquid	liquid
Color	:	blue	blue
Odor	:	Perfumes, fragrances	Perfumes, fragrances
pH	:	10.9, 100 %	7.2 - 7.9
Flash point	:	Not applicable, Does not sustain combustion.	
Odor Threshold	:	No data available	
Melting point/freezing point	:	No data available	
Initial boiling point and boiling range	:	100 °C	
Evaporation rate	:	No data available	
Flammability (solid, gas)	:	No data available	
Upper explosion limit	:	No data available	
Lower explosion limit	:	No data available	
Vapor pressure	:	No data available	
Relative vapor density	:	No data available	
Relative density	:	0.99 - 1.05	
Water solubility	:	soluble	

Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
VOC	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Product AS SOLD

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	None known.
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides Nitrogen oxides (NOx) Sulfur oxides Oxides of phosphorus

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Product AS SOLD

Eyes	:	Causes eye irritation.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes	:	Health injuries are not known or expected under normal use.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.

Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD

Eye contact	:	Redness, Irritation
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Product AT USE DILUTION

Eye contact	:	No symptoms known or expected.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product AS SOLD
Product

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg
Acute inhalation toxicity	:	No data available
Acute dermal toxicity	:	Acute toxicity estimate : > 5,000 mg/kg
Skin corrosion/irritation	:	No data available
Serious eye damage/eye irritation	:	Mild eye irritation
Respiratory or skin sensitization	:	No data available
Carcinogenicity	:	No data available
Reproductive effects	:	No data available
Germ cell mutagenicity	:	No data available
Teratogenicity	:	No data available
STOT-single exposure	:	No data available
STOT-repeated exposure	:	No data available
Aspiration toxicity	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Product AS SOLD
Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	No data available

Toxicity to daphnia and other aquatic invertebrates : No data available

Toxicity to algae : No data available

Ingredients

Toxicity to algae : d-glucopyranose, oligomeric, decyl octyl glycosides
72 h EC50: 18 mg/l

Persistence and degradability

Product AS SOLD
Readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Product AS SOLD
Disposal methods : Diluted product can be flushed to sanitary sewer.

Disposal considerations : Dispose of in accordance with local, state, and federal regulations.

Product AT USE DILUTION
Disposal methods : Diluted product can be flushed to sanitary sewer.

Disposal considerations : Dispose of in accordance with local, state, and federal regulations.

SECTION 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)
Not dangerous goods

Sea transport (IMDG/IMO)
Not dangerous goods

SECTION 15. REGULATORY INFORMATION

Product AS SOLD

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

Switzerland. New notified substances and declared preparations :
not determined

United States TSCA Inventory :
On TSCA Inventory

Canadian Domestic Substances List (DSL) :
All components of this product are on the Canadian DSL

Australia Inventory of Chemical Substances (AICS) :
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemical Substances :
On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory :
On the inventory, or in compliance with the inventory

Japan. ISHL - Inventory of Chemical Substances (METI) :
not determined

Korea. Korean Existing Chemicals Inventory (KECI) :
On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances in China (IECSC) :
On the inventory, or in compliance with the inventory

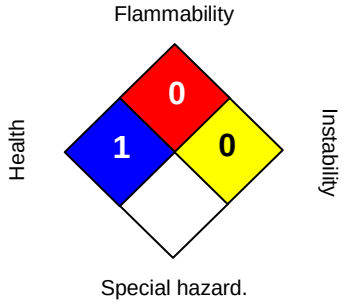
SECTION 16. OTHER INFORMATION

Product AS SOLD

SAFETY DATA SHEET

GLASS CLEANER

NFPA:



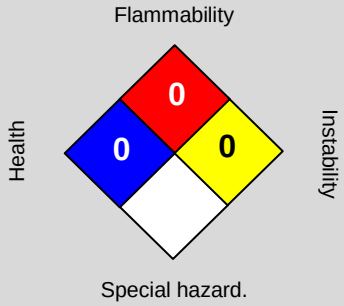
HMIS III:

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Product AT USE DILUTION

NFPA:



HMIS III:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Issuing date	:	10/12/2016
Version	:	1.1
Prepared by	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET: REGULAR MINERAL SPIRITS

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:
CHEMTREC:(800) 424-9300

ALL OTHER INQUIRIES:
(770) 904-7042 // www.ciscochem.com
266 Rue Cezzan Lavonia, GA 30553

1. IDENTIFICATION

CAS # 8052-41-3

SYNONYMS:
Naphtha, stoddard solvent, mineral spirits, white spirit

GENERIC CHEMICAL NAME:
Naphtha, high paraffinic, stoddard solvent, naphtha solvent

PRODUCT TYPE:
Substance

2. HAZARDS IDENTIFICATION

APPEARANCE:	COLORLESS LIQUID
ODOR:	PETROLEUM SOLVENT
SIGNAL WORD:	WARNING! FLAMMABLE LIQUID AND VAPOR STATIC ACCUMULATING LIQUID CAN BECOME ELECTROSTATIC ALLY IN BONDED AND GROUNDED EQUIPMENT; SPARKS MAY IGNITE LIQUID AND VAPOR MAY CAUSE FLASH FIRE HARMFUL IF SWALLOWED, CAN ENTER LUNGS AND CAUSE DAMAGE MAY CAUSE CHRONIC EFFECTS MAY CAUSE SKIN IRRITATION MAY CAUSE EYE IRRITATION MAY CAUSE RESPIRATORY TRACT IRRITATION PROLONGED SKIN CONTACT MAY CAUSE IRRITATION
EXPOSURE ROUTES:	INHALATION, INGESTION, SKIN AND/OR EYE CONTACT
PHYSICAL:	KEEP AWAY FROM HEAT, SPARKS AND FLAME. KEEP CONTAINER TIGHTLY CLOSED. USE ONLY WITH ADEQUATE VENTILATION. AVOID SPARK PROMOTERS. GROUND/BOND CONTAINER AND EQUIPMENT. THESE ALONE MAY BE INSUFFICIENT TO REMOVE STATIC ELECTRICITY
EYES:	AVOID CONTACT WITH EYES. WASH THOROUGHLY AFTER HANDLING

SKIN:	AVOID CONTACT WITH SKIN AND CLOTHING. WASH THOROUGHLY AFTER HANDLING
SYMPTOMS OF OVER EXPOSURE:	IRRITATION TO EYES, NOSE, THROAT; DIZZINESS; DERMATITIS; CHEMICAL PNEOMONITIS (aspiration liquid)
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:	PRE-EXISTING DISORDERS INVOLVING ANY TARGET ORGANS MENTIONED IN THIS MSDS ARE BEING AT RISK MAY BE AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT.
CHRONIC EFFECTS:	

3. COMPOSITION

CAS #	COMPONENT	PERCENT
8052-41-3	STODDARD SOLVENT	100

HAZARDOUS CONSTITUENT(S) CONTAINED IN COMPLEX SUBSTANCES

CAS #	COMPONENT	PERCENT
100-41-4	ETHYL BENZENE	0.1
111-84-2	NONANE	1.0-8.0
25551-13-7	TRIMETHYL BENZENE (mixed isomers)	0.5-5.0

Component Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Stoddard solvent, Ethyl Benzene, Nonane, Trimethyl Benzene (See Section 8)

4. FIRST AID MEASURES

EYES
Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

SKIN
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

INHALATION:
Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

INGESTION:
DO NOT INDUCE VOMITING. If conscious, rinse out mouth with water. Get medical attention immediately.

NOTE TO PHYSICIANS
No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. FIRE FIGHTING MEASURES

Flammable Properties
This product is a flammable static accumulating liquid. Static accumulating liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor may cause flash fire. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminates. Restrict flow velocity to avoid build-up of static charge. Refer to NFPA 77, API 2003, and CENELEC CLC/TR 50404 for further guidance.

Extinguishing Media
Use dry chemical, CO2, water spray (FOG) or foam

Specific Hazards Arising from Chemical
Elevated temperatures can lead to the formation of irritating fumes and vapors. Decomposition products may include the following materials: Carbon dioxide and Carbon monoxide.

Protective Equipment and Precautions for Firefighters
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental Precautions
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution.

Methods for Containment
Stop leak if without risk.

Methods for Cleanup
Move containers from spill area. Approach release from upwind. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. HANDLING AND STORAGE

Handling Procedures
Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Use non-sparking tools.

Shipping and Storing Procedures
Store in accordance with local regulations. Store in a segregated and approved area. Keep in the original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. Do not store in unlabeled containers. Store and use away from heat, sparks, open flame or any other ignition source. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers that retain product residue may be hazardous. Do not reuse container.

8. EXPOSURE CONTROLS AND PERSONAL PROECTION

Component Exposure Limits

Stoddard Solvent

ACGIH TLV:	TWA:	100ppm		
OSHA PEL:	TWA:	500 ppm	TWA:	2900 mg/m3

NIOSH REL:	TWA:	N/A ppm	TWA:	350 mg/m3
NIOSH Ceiling:	1800 mg/m3 [15 minute]			

Ethyl Benzene

ACGIH TLV:	TWA:	20 ppm	TWA:	N/A mg/m3
OSHA PEL:	TWA:	100 ppm	TWA:	435 mg/m3

Nonane

ACGIH TLV:	TWA:	200 ppm

Trimethyl Benzene (all isomers)

ACGIH TLV:	TWA:	25 ppm

N/A signifies not available.

ENGINEERING CONTROLS
This product is a static accumulating liquid. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Material should be handled in enclosed vessels and equipment. Use only in adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

EYE/FACE PROTECTION
Chemical goggles or face shield

SKIN PROTECTION
Chemical resistant, impervious gloves complying with an approved standard should be worn at all times. Coveralls, apron, and boots as necessary to minimize contact.

RESPIRATORY PROTECTION
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicated this is necessary. Respirator selection must be based on known or anticipated exposure levels.

GENERAL HYGIENE
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Please see the Product Specification Sheet for further information.

Appearance:	Colorless
Odor:	Petroleum solvent
Physical State:	Liquid
Flash Point (f):	105
Boiling Point (f):	>310
Vapor Pressure (mm Hg at 20°C):	0.62
Water Soluble:	NO

Specific Gravity (g/cc):	.77
Density (lbs/gal)	6.4
PH:	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions. If heated, product's static accumulation will rise and could cause flash fire.
Polymerization:	No polymerization
Incompatibility:	Strong acids and oxidizing materials
Conditions to Avoid:	High temperatures, sparks, flames
Hazardous Decomposition Products:	Does not decompose at ambient temperatures

11. TOXICOLOGICAL INFORMATION

Acute Exposure
Minimally toxic. Negligible hazards at ambient/normal handling temperatures.

Respiratory Irritation
If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components or similar materials.

Eye Irritation
May cause eye irritation. Vapors formed from heating may cause eye irritation.

Skin Irritation
May cause skin irritation

Sensitization
Not expected to cause skin or respiratory sensitization.

Component Analysis – LD50 / LC50
Acute Toxicity Estimate (ATE) Values for Product:

Inhalation LC50 Rat	21 mg/L 1 HR
Oral LD50 Rat	>7000 mg/kg
Dermal LD50 Rabbit	>2000 mg/kg

Chronic Exposure

Target Organ Effects
Vapor/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects including death. Prolonged or repeated direct exposure to the skin results in symptoms of irritation and redness, dermatitis or oil acne.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Carcinogenicity
Contains Ethyl Benzene which is considered a carcinogen under IARC. It has caused cancer in laboratory animal studies. The relevance of these findings to humans is uncertain.

Mutagenicity
No data available to indicate product or any components present at greater than .1% are mutagenic or genotoxic.

Reproductive Toxicity
No data available to indicate either product or components present at greater than .1% that may cause reproductive toxicity.

Teratogenicity
No data available to indicate product or any components contained at greater than .1% may cause birth defects.

12. ECOLOGICAL INFORMATION

Component Analysis- Ecotoxicity – Aquatic Life

Duration/T est/Species	Concentrations/Conditions
96 Hr LC50 Pimephals promelas	N/A mg/L

Degradability	Not determined
Bioaccumulation	Not determined
Soil Mobility	Not determined

13. DISPOSAL CONSIDERATIONS

Disposal Instructions
The generation of waste should be avoided or minimized wherever possible. Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

14. TRANSPORT INFORMATION

EMERGENCY RESPONSE GUIDE NUMBER: 128

U.S. DOT BULK (OVER 119 GALLONS)

UN 1268, PETROLEUM DISTILLATES , N.O.S. (Naphtha solvent), 3, PG III, combustible liquid

Bulk container must be labeled on two opposing sides

U.S. DOT Non-bulk (under 119 gallons)
Not regulated.....Exempt from labeling and placarding unless shipped via Air or Vessel

*Truck/Rail car must be placarded on all 4 sides if aggregate gross weight exceeds 1,000 pounds

15. REGULATORY INFORMATION

SARA Extremely Hazardous

Substances (Sections 302 & 304)
This product does not contain greater than 1% of any “extremely hazardous substances” listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

SARA Section 313
This product contains the following components in concentrations greater than 0.1% for carcinogenic substances and/or 1.0% of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
Ethyl Benzene (CASRN: 100-41-4): 0.1%
1,2,4 Trimethylbenzene (CASRN: 95-63-6): 2.7%

SARA Section 311 & 312 Classifications

Acute Hazard:	NO
Chronic Hazard:	YES
Fire Hazard:	YES
Reactivity Hazard:	NO

CERCLA
This product contains the following components listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4:
Ethyl Benzene (CASRN: 100-41-4): 0.1% RQ=1,000 lbs.

CALIFORNIA PROP 65
This product contains chemical(s) known to the state of California to cause cancer and/or birth defects.

Clean Water Act / Oil Pollution Act
This product may be subject to regulation by Section 311 of the Clean Water Act and the Oil Pollution Act. Releases of the product into or leading to surface waters must be reported to the National Response Center at 1-800-424- 8802.

PA RIGHT TO KNOW ACT
This product contains the following components listed under the Pennsylvania Right To Know Act:
Stoddard Solvent (CASRN: 8052-41-3)
N-Decane (CASRN: 124-18-5)
N-Nonane (CASRN: 111-84-2)
1,2,4 Trimethylbenzene (CASRN: 95-63-6)
Ethyl Benzene (CASRN: 100-41-4)

Global Chemical Inventories

INVENTORY	COMPONENT ALL COMPONENTS
US TSCA	Present*
EU	Present
JAPAN	Not available
AUSTRALIA	Present
NEW ZEALAND	Present
CANADA	Present
SWITZERLAND	Not Available
KOREA	Present
PHILIPPINES	Present
CHINA	Present
TAIWAN	Present

*May be subject to TSCA 12b export notification. Contains Nonane (CASRN: 111-84-2) at 7.85%.

16. OTHER INFORMATION

US NFPA Ratings

HEALTH	FIRE	INSTABILITY
1	2	0

HIMIS RATINGS

HEALTH	FIRE	PHYSICAL HAZARDS
1*	2	0

Precautionary Labels

Signal Word
WARNING!
Flammable liquid and vapor
Static accumulating liquid can become electrostatically charged even in bonded and grounded equipment; Sparks may ignite liquid and vapor may cause flash fire
Harmful if swallowed, can enter lungs and cause damage
May cause chronic effects
May cause skin irritation
May cause eye irritation
May cause respiratory tract irritation
Prolonged skin contact may cause irritation

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

Date Created: 4/7/2015
Date Updated: 4/7/2015

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL ATF D/M**
Product Description: Base Oil and Additives
Product Code: 201530202070, 525345-00, 97Z692
Intended Use: Automatic transmission fluid

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

Expected to be harmful to aquatic organisms.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
1H-IMIDAZOLE-1-ETHANOL, 2-(8-HEPTADECENYL)-4,5-DIHYDRO-	95-38-5	0.01 - < 0.025%	H302, H314(1C), H373, H400(M factor 10), H410(M factor 1)
BIS(2-HYDROXYETHYL) TALLOW AMINE	61791-44-4	< 0.25%	H290, H302, H314(1C), H400(M factor 10), H410(M factor 1)
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	64742-55-8	1 - < 5%	H304
METHACRYLATE COPOLYMER	176487-46-0	1 - < 5%	H319(2A)
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	30 - < 40%	H304
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	64742-65-0	60 - < 70%	H304

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >177°C (351°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material;

however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	Mist.	TWA	5 mg/m3		N/A	OSHA Z1
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	Inhalable fraction.	TWA	5 mg/m3		N/A	ACGIH
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3		N/A	OSHA Z1
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Inhalable fraction.	TWA	5 mg/m3		N/A	ACGIH
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3		N/A	OSHA Z1
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	Inhalable fraction.	TWA	5 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Red
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 °C): 0.85
Flammability (Solid, Gas): N/A
Flash Point [Method]: >177°C (351°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 34.2 cSt (34.2 mm2/sec) at 40 °C | 7.4 cSt (7.4 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -54°C (-65°F) [Typical]
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
1H-IMIDAZOLE-1-ETHANOL, 2-(8-HEPTADECENYL)-4,5-DIHYDRO-	Oral Lethality: LD50 1265 mg/kg (Rat)

OTHER INFORMATION

Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION.

THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	64742-55-8	1, 3, 4
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK

5 = TSCA 4 10 = CA P65 CARC 15 = MI 293

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H290: May be corrosive to metals; Corrosive to Metals
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H314(1C): Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1C
H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
Section 08: Exposure Limits Table information was added.
Section 09: Pour Point C(F) information was added.
Section 15: List Citations Table information was modified.
Section 16: HCode Key information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 7009565XUS (1023420)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Page 690 of 1315

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL DTE 26 ULTRA**
Product Description: Base Oil and Additives
Product Code: 20156010Q050
Intended Use: Hydraulic fluid

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS
No significant hazards.

HEALTH HAZARDS
High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS
No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 691 of 1315

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
ZINC, BIS[O,O-BIS(2-ETHYLHEXYL) PHOPSHORODITHIOATO-KS,KS']-, (T-4)-	4259-15-8	0.1 - < 1%	H318, H401, H411

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 692 of 1315

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Pressurized mists may form a flammable mixture.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200°C (392°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 693 of 1315

and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 694 of 1315

with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 °C): 0.874
Flammability (Solid, Gas): N/A
Flash Point [Method]: >200°C (392°F) [ASTM D-92]

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 695 of 1315

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 68 cSt (68 mm2/sec) at 40 °C | 8.9 cSt (8.9 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -18°C (0°F) [ASTM D97]
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 696 of 1315

Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 697 of 1315

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL
Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 698 of 1315

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD; This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

Special Cases:

Inventory	Status
NDSL	Restrictions Apply

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	17, 18, 19
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	19
ZINC, BIS[O,O-BIS(2-ETHYLHEXYL) PHOPSHORODITHIOATO-KS,KS']-, (T-4)-	4259-15-8	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 699 of 1315

5 = TSCA 4 10 = CA P65 CARC 15 = MI 293

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 09: Relative Density information was modified.
Section 09: Viscosity information was added.
Section 09: Viscosity information was modified.
Section 11: Other Health Effects Header information was modified.
Section 11: Other Health Effects information was added.
Section 15: National Chemical Inventory Listing information was modified.
Section 16: MSN, MAT ID information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 7172320XUS (1030060)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

As of the revision date above, this SDS meets the regulations in the United Kingdom & Ireland.

1.1. PRODUCT IDENTIFIER

Product Name: **MOBIL DTE 26**
Product Description: Base Oil and Additives
Product Code: 201560102030, 602649-60

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Intended Use: Hydraulic fluid

Uses advised against: None unless specified elsewhere in this SDS.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier:
EXXONMOBIL MARINE LIMITED
ERMYN HOUSE
MAILPOINT 31, ERMYN WAY
KT22 8UX LEATHERHEAD
United Kingdom

Supplier General Contact: (UK) (+44) (0) 1372 222 000
E-Mail: sds.uk@exxonmobil.com

1.4. EMERGENCY TELEPHONE NUMBER

24 Hour Emergency Telephone: (UK) (+44) (0) 23 8089 1558

SECTION 2 HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF SUBSTANCE OR MIXTURE

Classification according to Regulation (EC) No 1272/2008

Not Classified

2.2. LABEL ELEMENTS

No label elements according to Regulation (EC) No 1272/2008

Contains: NAPHTHALENESULFONIC ACID, DINONYL-, CALCIUM SALT May produce an allergic reaction.

2.3. OTHER HAZARDS

Physical / Chemical Hazards:
No significant hazards.

Health Hazards:
High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

Environmental Hazards:
No significant hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1. SUBSTANCES Not Applicable. This material is regulated as a mixture.

3.2. MIXTURES

This material is defined as a mixture.

Reportable hazardous substance(s) complying with the classification criteria and/or with an exposure limit (OEL)

Name	CAS#	EC#	Registration#	Concentration *	GHS/CLP classification
2,6-DI-TERT-BUTYL-P-CRESOL	128-37-0	204-881-4	01-2119565113-46	0.1 - < 1%	Aquatic Acute 1 H400 (M factor 1), Aquatic Chronic 1 H410 (M factor 1)
CALCIUM BIS(DI C8-C10, BRANCHED, C9 RICH, ALKYLNAPTHALENESULPHONATE)	57855-77-3	939-717-7	01-2119980985-16	0.1 - < 1%	Skin Irrit. 2 H315, Eye Irrit. 2 H319, Skin Sens. 1 H317
ZINC DITHIOPHOSPHATE	93819-94-4	298-577-9	01-2119543726-33	0.1 - < 1%	[Aquatic Acute 2 H401], Aquatic Chronic 2 H411, Skin Irrit. 2 H315, Eye Dam. 1 H318

Note - any classification in brackets is a GHS building block that was not adopted by the EU in the CLP regulation (No 1272/2008) and therefore is not applicable in the EU or in non-EU countries which have implemented the CLP regulation and is shown for informational purposes only.

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Note: See SDS Section 16 for full text of hazard statements.

SECTION 4 FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Local necrosis as evidenced by delayed onset of pain and tissue damage a few hours after injection.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

The need to have special means for providing specific and immediate medical treatment available in the workplace is not expected.

SECTION 5 FIRE FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Unsuitable Extinguishing Media: Straight streams of water

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

5.3. ADVICE FOR FIRE FIGHTERS

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in

enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Pressurised mists may form a flammable mixture.

FLAMMABILITY PROPERTIES

Flash Point [Method]: 204°C (399°F) [ASTM D-92]
Upper/Lower Flammable Limits (Approximate volume % in air): UEL: 7.0 LEL: 0.9 [Estimated]
Autoignition Temperature: No data available

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

6.2. ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

6.4. REFERENCES TO OTHER SECTIONS

See Sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

7.3. SPECIFIC END USES

Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
2,6-DI-TERT-BUTYL-P-CRESOL		TWA	10 mg/m3			UK EH40
2,6-DI-TERT-BUTYL-P-CRESOL	Inhalable fraction and vapour	TWA	2 mg/m3			ACGIH

UK EH40 Workplace Exposure Limits. Exposure limits for use with Control of Substances Hazardous to Health Regulations 2002 (as amended)

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following is recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction).

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

8.2. EXPOSURE CONTROLS

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Colour: Amber
Odour: Characteristic
Odour Threshold: No data available
pH: Not technically feasible
Melting Point: Not technically feasible
Freezing Point: No data available
Initial Boiling Point / and Boiling Range: > 316°C (600°F) [Estimated]
Flash Point [Method]: 204°C (399°F) [ASTM D-92]
Evaporation Rate (n-butyl acetate = 1): No data available
Flammability (Solid, Gas): Not technically feasible
Upper/Lower Flammable Limits (Approximate volume % in air): UEL: 7.0 LEL: 0.9 [Estimated]
Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
Vapour Density (Air = 1): > 2 at 101 kPa [Estimated]
Relative Density (at 15 °C): 0.871 [test method unavailable]
Solubility(ies): water Negligible
Partition coefficient (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: 68 cSt (68 mm2/sec) at 40ºC | 8.53 cSt (8.53 mm2/sec) at 100°C [test method unavailable]
Explosive Properties: None
Oxidizing Properties: None

9.2. OTHER INFORMATION

Pour Point: -18°C (0°F) [test method unavailable]
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

10.1. REACTIVITY: See sub-sections below.

10.2. CHEMICAL STABILITY: Material is stable under normal conditions.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

10.4. CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

10.5. INCOMPATIBLE MATERIALS: Strong oxidisers

10.6. HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the

components, this formulation, or similar formulations.
Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

12.1. TOXICITY

Material -- Not expected to be harmful to aquatic organisms.

12.2. PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

12.3. BIOACCUMULATIVE POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

12.4. MOBILITY IN SOIL

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

12.5. PERSISTENCE, BIOACCUMULATION AND TOXICITY FOR SUBSTANCE(S)

This product is not, or does not contain, a substance that is a PBT or a vPvB.

12.6. OTHER ADVERSE EFFECTS

No adverse effects are expected.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

13.1. WASTE TREATMENT METHODS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents,

brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 13 01 10*

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADR/RID): **14.1-14.6** Not Regulated for Land Transport

INLAND WATERWAYS (ADNR/ADN): **14.1-14.6** Not Regulated for Inland Waterways Transport

SEA (IMDG): **14.1-14.6** Not Regulated for Sea Transport according to IMDG-Code

SEA (MARPOL 73/78 Convention - Annex II):

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not classified according to Annex II

AIR (IATA): **14.1-14.6** Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA): AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Applicable EU Directives and Regulations:

1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]
1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

15.2. CHEMICAL SAFETY ASSESSMENT

REACH Information: A Chemical Safety Assessment has been carried out for one or more substances present in the material.

SECTION 16 OTHER INFORMATION

REFERENCES: Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym	Full text
N/A	Not applicable
N/D	Not determined
NE	Not established
VOC	Volatile Organic Compound
AICS	Australian Inventory of Chemical Substances
AIHA WEEL	American Industrial Hygiene Association Workplace Environmental Exposure Limits
ASTM	ASTM International, originally known as the American Society for Testing and Materials (ASTM)
DSL	Domestic Substance List (Canada)
EINECS	European Inventory of Existing Commercial Substances
ELINCS	European List of Notified Chemical Substances
ENCS	Existing and new Chemical Substances (Japanese inventory)
IECSC	Inventory of Existing Chemical Substances in China
KECI	Korean Existing Chemicals Inventory
NDSL	Non-Domestic Substances List (Canada)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
TLV	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
TSCA	Toxic Substances Control Act (U.S. inventory)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials

LC	Lethal Concentration
LD	Lethal Dose
LL	Lethal Loading
EC	Effective Concentration
EL	Effective Loading
NOEC	No Observable Effect Concentration
NOELR	No Observable Effect Loading Rate

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
Skin Irrit. 2 H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
Skin Sens. 1 H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
Eye Dam. 1 H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1
Eye Irrit. 2 H319: Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2
Aquatic Acute 1 H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
[Aquatic Acute 2 H401]: Toxic to aquatic life; Acute Env Tox, Cat 2
Aquatic Chronic 1 H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
Aquatic Chronic 2 H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2007821QGB (546756)

This product is not classified for human health and environmental hazards, and an exposure scenario is not required. This SDS conveys the appropriate risk management measures.

ANNEX

Annex not required for this material.

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL GARGOYLE ARCTIC SHC 230**
Product Description: Synthetic Base Stocks and Additives
Product Code: 201560250530, 601633
Intended Use: Compressor oil

COMPANY IDENTIFICATION

Supplier: **AMPOL AUSTRALIA PETROLEUM PTY LTD**
ABN 17 000 032 128
29-33 Bourke Rd
Alexandria
New South Wales 2015 Australia

24 Hour Emergency Telephone	1800 033 111
Product Technical Information	1300364169
Supplier General Contact	+612 9250-5000
FAX	+612 9250-5742

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

Physical / Chemical Hazards:
No significant hazards.

Health Hazards:
High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

Environmental Hazards:
No significant hazards.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

No Hazardous Substance(s) or Complex Substance(s) required for disclosure.
Other ingredients determined not to be hazardous up to 100%.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

NOTE TO PHYSICIAN

None

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >218°C (424°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

This material is not intended for use in air compressors for breathing applications. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

Material is defined under the National Standard [NOHSC:1015] Storage and Handling of Workplace Dangerous Goods.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product:

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
Particulate
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Nitrile,Viton
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practise good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Colour: Pale Yellow
Odour: Characteristic
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.846
Flammability (Solid, Gas): N/A
Flash Point [Method]: >218°C (424°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F) [Estimated]
Decomposition Temperature: N/D
Vapour Density (Air = 1): > 2 at 101 kPa [Estimated]
Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 ºC [Estimated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
Solubility in Water: Negligible
Viscosity: 220 cSt (220 mm2/sec) at 40 ºC | 25 cSt (25 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -39°C (-38°F)

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

INCOMPATIBLE MATERIALS: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

Contains:
Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitising in test animals and humans.

IARC Classification:
The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--
1 = IARC 1 2 = IARC 2A 3 = IARC 2B

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADG) : Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

This material is not considered hazardous according to Australia Model Work Health and Safety Regulations.

Product is not regulated according to Australian Dangerous Goods Code.

No Poison Schedule number allocated by the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act.

AS1940 COMBUSTIBLE CLASS: C2

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories : AIIC, DSL, IECSC, KECI, PICCS, TCSI, TSCA

Special Cases:

Inventory	Status
ENCS	Restrictions Apply

SECTION 16 OTHER INFORMATION

KEY TO ABBREVIATIONS AND ACRONYMS:

N/D = Not determined, N/A = Not applicable, STEL = Short-Term Exposure Limit, TWA = Time-Weighted Average

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly of indirectly hold any interest.

DGN: 7077497DAU (547855)

Prepared by: Exxon Mobil Corporation
EMBSI, Clinton NJ USA
Contact Point: See Section 1 for Local Contact number

End of (M)SDS

Page 722 of 1315

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBILGEAR 600 XP 220**
Product Description: Base Oil and Additives
Product Code: 201560401220, 613638-00, 97AE99
Intended Use: Gear oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 723 of 1315

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
AMINES, C12-14-TERT-ALKYL	68955-53-3	0.1 - < 0.25%	H302, H311, H317, H330(2), H314(1B), H400(M factor 1), H410(M factor 1)
LONG-CHAIN ALKENYL AMINE	112-90-3	< 0.1%	H302, H304, H335, H314(1B), H373, H400(M factor 10), H410(M factor 10)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 724 of 1315

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200°C (392°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 725 of 1315

before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 726 of 1315

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 727 of 1315

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 °C): 0.894
Flammability (Solid, Gas): N/A
Flash Point [Method]: >200°C (392°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 220 cSt (220 mm2/sec) at 40 °C | 19 cSt (19 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -9°C (16°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 728 of 1315

material.	
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
AMINES, C12-14-TERT-ALKYL	Dermal Lethality: LD50 251 mg/kg (Rat); Inhalation Lethality: 4 hour(s) LC50 1.19 mg/l (Vapor) (Rat); Oral Lethality: LD50 612 mg/kg (Rat)

OTHER INFORMATION

For the product itself:

Repeated and/or prolonged exposure may cause irritation to the skin, eyes, or respiratory tract. Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
3 = IARC 1
5 = IARC 2B

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 729 of 1315

2 = NTP SUS 4 = IARC 2A 6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

NOTE: Material classification based on test data for the components.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 730 of 1315

taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 731 of 1315

5 = TSCA 4 10 = CA P65 CARC 15 = MI 293

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H311: Toxic in contact with skin; Acute Tox Dermal, Cat 3
H314(1B): Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1B
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
H330(2): Fatal if inhaled; Acute Tox Inh, Cat 2
H335: May cause respiratory irritation; Target Organ Single, Resp Irr
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
GHS Health Classification information was deleted.
GHS Health Hazards information was deleted.
GHS Health Symbol information was deleted.
GHS Precautionary Statements - Disposal information was deleted.
GHS Precautionary Statements - Prevention information was deleted.
GHS Precautionary Statements - Response information was deleted.
GHS Precautionary Statements - Storage information was deleted.
GHS Signal Word information was deleted.
Hazard Identification: HMIS Health information was modified.
Hazard Identification: US - Hazards Statement - GHS information was added.
Hazard Identification: US - Hazards Statement - GHS information was deleted.
Section 02: GHS Contains for LABEL_GHS codes information was deleted.
Section 04: First Aid Inhalation information was modified.
Section 04: First Aid Skin information was modified.
Section 07: Handling and Storage - Handling information was modified.
Section 08: Hand Protection information was modified.
Section 08: Skin and Body Protection information was modified.
Section 09: Vapor Pressure information was added.
Section 11: Chronic Tox - Component information was modified.
Section 11: Reproductive Conclusion information was modified.
Section 12: information was modified.
Section 15: List Citations Table information was deleted.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was modified.
Section 15: United States Hazard Statement information was modified.
Section 16: Code to PPEs information was modified.
Section 16: HCode Key information was modified.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 732 of 1315

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 7077874XUS (1012017)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBILGREASE XHP 222**
Product Description: Base Oil and Additives
Product Code: 2015A0202530, 530436-00, 97E898
Intended Use: Grease

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
SDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

Expected to be harmful to aquatic organisms.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
1H-BENZOTRIAZOLE-1-METHANAMINE, N,N-BIS(2-ETHYLHEXYL)-AR-METHYL-	94270-86-7	0.1 - < 0.25%	H303, H317, H315, H400(M factor 1), H411
BENZENAMINE, N-PHENYL-, REACTION PRODUCTS WITH 2,4,4-TRIMETHYLPENTENE	68411-46-1	1 - < 5%	H316, H402, H412
NAPHTHALENESULFONIC ACID, DINONYL-, CALCIUM SALT	57855-77-3	0.1 - < 1%	H315, H319(2A), H317
NAPHTHENIC ACIDS, ZINC SALTS	12001-85-3	0.1 - < 1%	H317, H319(2A), H401, H411
ZINC DIALKYL DITHIOPHOSPHATE	68457-79-4	1 - < 2.5%	H315, H318, H401, H411

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200°C (392°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Scrape up spilled material with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or

manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Solid
Form: Semi-fluid
Color: Dark Blue
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.88
Flammability (Solid, Gas): N/A
Flash Point [Method]: >200°C (392°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 220 cSt (220 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/D
DMSO Extract (mineral oil only), IP-346: < 3 %wt

NOTE: Most physical properties above are for the oil component in the material.

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
1H-BENZOTRIAZOLE-1-METHANAMINE, N,N-BIS(2-ETHYLHEXYL)-AR-METHYL-	Oral Lethality: LD50 3313 mg/kg (Rat)

OTHER INFORMATION

For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

C.I. Solvent blue: Positive in the Ames and Mouse Lymphoma mutagenicity assay.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, ENCS, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
ZINC DIALKYL DITHIOPHOSPHATE	68457-79-4	1 - < 2.5%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHENIC ACIDS, ZINC SALTS	12001-85-3	15
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	17, 18, 19
ZINC DIALKYL DITHIOPHOSPHATE	68457-79-4	13, 15, 17, 18, 19
ZINC NEODECANOATE	27253-29-8	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H303: May be harmful if swallowed; Acute Tox Oral, Cat 5
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H316: Causes mild skin irritation; Skin Corr/Irritation, Cat 3
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1
H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H402: Harmful to aquatic life; Acute Env Tox, Cat 3
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
Hazard Identification: Physical/Chemical Hazard information was added.
Hazard Identification: Physical/Chemical Hazard information was deleted.

Section 01: Company Contact Methods information was modified.
Section 11 Substance Toxicology table information was added.
Section 12: Ecological Information - Acute Aquatic Toxicity information was added.
Section 12: Ecological Information - Acute Aquatic Toxicity information was deleted.
Section 15: List Citations Table information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 16: HCode Key information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2006153XUS (1027429)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL POLYREX EM**
Product Description: Base Oil and Additives
Product Code: 2010A020Q010, 2015A020G010, 641688-00, 97Y278
Intended Use: Grease

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
1H-IMIDAZOLE-1-ETHANOL, 2-(8-HEPTADECENYL)-4,5-DIHYDRO-	95-38-5	0.1 - < 0.25%	H302, H314(1C), H373, H400(M factor 10), H410(M factor 1)
AMINES, C12-14-ALKYL, ISOOCTYL PHOSPHATES	68187-67-7	1 - < 2.5%	H302, H312, H314(1C), H400(M factor 1), H410(M factor 1)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces

and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >204°C (399°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Scrape up spilled material with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Solid
Form: Semi-fluid
Color: Blue
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.884
Flammability (Solid, Gas): N/A
Flash Point [Method]: >204°C (399°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: > 330°C (626°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 95 cSt (95 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: >250°C (482°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

NOTE: Most physical properties above are for the oil component in the material.

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 437 492
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
1H-IMIDAZOLE-1-ETHANOL, 2-(8-HEPTADECENYL)-4,5-DIHYDRO-	Oral Lethality: LD50 1265 mg/kg (Rat)

OTHER INFORMATION

Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, ENCS, IECSC, ISHL, KECI, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	18

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H312: Harmful in contact with skin; Acute Tox Dermal, Cat 4
H314(1C): Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1C
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Product Code information was modified.
Section 15: National Chemical Inventory Listing information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2031547XUS (1008419)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL RARUS 827**
Product Description: Synthetic Base Stocks and Additives
Product Code: 201560203010, 606244-00, 970973, 97M465
Intended Use: Air compressor oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
1,2-BENZENE DICARBOXYLIC ACID, DI-C11-14-ALKYL ESTERS, BRANCHED.	68515-47-9	10 - < 20%	None
1-NAPHTHYLAMINE, N-PHENYL-	90-30-2	0.1 - < 1%	H302, H317, H373, H400(M factor 1), H410(M factor 1)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering

streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >220°C (428°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from

static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
1,2-BENZENE DICARBOXYLIC ACID, DI-C11-14-ALKYL ESTERS, BRANCHED.	Aerosol.	TWA	5 mg/m3		N/A	ExxonMobil

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.956
Flammability (Solid, Gas): N/A
Flash Point [Method]: >220°C (428°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: 105.3 cSt (105.3 mm2/sec) at 40 °C | 10 cSt (10 mm2/sec) at 100°C

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -36°C (-33°F)

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.

Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
1-NAPHTHYLAMINE, N-PHENYL-	Oral Lethality: LD50 1625 mg/kg (Rat)

OTHER INFORMATION

For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

Contains:

Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

N-phenyl-1-naphthylamine (PAN): A single oral overexposure may result in clinical signs/symptoms of cyanosis, headache, shallow respiration, dizziness, confusion, low blood pressure, convulsions, coma, or jaundice. Hematuria may occur due to bladder and kidney irritation, and anemia may develop later. Repeated exposure in laboratory animals caused liver and kidney damage and depressed bone marrow activity. Undiluted PAN is a skin sensitizer. Human testing of lubricants containing 1.0% PAN resulted in no reactions indicative of sensitization.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Chronic Toxicity	21 day(s)	Daphnia magna	LOELR 1 mg/l

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with

OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
1,2-BENZENE DICARBOXYLIC ACID, DI-C11-14-ALKYL ESTERS, BRANCHED.	68515-47-9	13, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 15: National Chemical Inventory Listing information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer

repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2008439XUS (547554)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Page 763 of 1315

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL SHC 624**
Product Description: Synthetic Base Stocks and Additives
Product Code: 201560500510, 602920-00, 970382
Intended Use: Circulating/gear oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 764 of 1315

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
1-DECENE, TETRAMER AND TRIMER HYDROGENATED	68649-12-7	60 - < 70%	H304
PHOSPHORIC ACID, METHYLPHENYL DIPHENYL ESTER	26444-49-5	0.1 - < 0.25%	H400(M factor 1), H410(M factor 1)
TRIPHENYL PHOSPHATE	115-86-6	0.1 - < 0.25%	H400(M factor 1), H411

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 765 of 1315

enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >210°C (410°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 766 of 1315

Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
1-DECENE, TETRAMER AND TRIMER HYDROGENATED	Aerosols (thoracic fraction)	TWA	5 mg/m3		N/A	ExxonMobil
TRIPHENYL PHOSPHATE		TWA	3 mg/m3		N/A	OSHA Z1
TRIPHENYL PHOSPHATE		TWA	3 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate,

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 767 of 1315

gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Orange
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 °C): 0.842
Flammability (Solid, Gas): N/A
Flash Point [Method]: >210°C (410°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 768 of 1315

Viscosity: 32 cSt (32 mm2/sec) at 40 °C | 6 cSt (6 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -48°C (-54°F)

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for	Not expected to cause cancer. Based on assessment of the

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 769 of 1315

material.	components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Repeated and/or prolonged exposure may cause irritation to the skin, eyes, or respiratory tract.

Contains:

Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.
Material -- Not expected to demonstrate chronic toxicity to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	96 hour(s)	Oncorhynchus mykiss	LL50 1003 mg/l: data for similar materials
Aquatic - Chronic Toxicity	21 day(s)	Daphnia magna	NOELR 1 mg/l: data for similar materials

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 770 of 1315

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

Special Cases:

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 771 of 1315

Inventory	Status
ENCS	Restrictions Apply

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	19
TRIPHENYL PHOSPHATE	115-86-6	1, 4

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
Section 08: Exposure Limits Table information was modified.
Section 09: Color information was modified.
Section 11: Other Health Effects information was added.
Section 12: Ecological Information - Acute Aquatic Toxicity information was added.
Section 15: List Citations Table information was modified.
Section 15: Special Cases Table information was added.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 772 of 1315

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2007950XUS (1013326)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 773 of 1315

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL SHC 625**
Product Description: Synthetic Base Stocks and Additives
Product Code: 201560500520, 603431-00, 97E661
Intended Use: Circulating/gear oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS
No significant hazards.

HEALTH HAZARDS
High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS
No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 774 of 1315

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
1-DECENE, TETRAMER AND TRIMER HYDROGENATED	68649-12-7	50 - < 60%	H304
PHOSPHORIC ACID, METHYLPHENYL DIPHENYL ESTER	26444-49-5	0.1 - < 0.25%	H400(M factor 1), H410(M factor 1)
TRIPHENYL PHOSPHATE	115-86-6	0.1 - < 0.25%	H400(M factor 1), H411

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 775 of 1315

enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >210°C (410°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 776 of 1315

Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
1-DECENE, TETRAMER AND TRIMER HYDROGENATED	Aerosols (thoracic fraction)	TWA	5 mg/m3		N/A	ExxonMobil
TRIPHENYL PHOSPHATE		TWA	3 mg/m3		N/A	OSHA Z1
TRIPHENYL PHOSPHATE		TWA	3 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate,

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 777 of 1315

gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Orange
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.845
Flammability (Solid, Gas): N/A
Flash Point [Method]: >210°C (410°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 778 of 1315

Viscosity: 46 cSt (46 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: -48°C (-54°F)

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for	Not expected to cause cancer. Based on assessment of the

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 779 of 1315

material.	components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

Contains:
Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.
Material -- Not expected to demonstrate chronic toxicity to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	96 hour(s)	Oncorhynchus mykiss	LL50 1003 mg/l: data for similar materials
Aquatic - Chronic Toxicity	21 day(s)	Daphnia magna	NOELR 1 mg/l: data for similar materials

SECTION 13 DISPOSAL CONSIDERATIONS

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 780 of 1315

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

Special Cases:

Inventory	Status
ENCS	Restrictions Apply

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 781 of 1315

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	19
TRIPHENYL PHOSPHATE	115-86-6	1, 4

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
Section 08: Exposure Limits Table information was modified.
Section 15: List Citations Table information was modified.
Section 16: Standard phrases for California Proposition 65 information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 782 of 1315

repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2008098XUS (547924)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL SHC RARUS 32**
Product Description: Synthetic Base Stocks and Additives
Product Code: 201560201055, 608752-00, 97AV54
Intended Use: Air compressor oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

No Hazardous Substance(s) or Complex Substance(s) required for disclosure.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >210°C (410°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

This material is not intended for use in air compressors for breathing applications. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Orange
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.878 [ASTM D1298]
Flammability (Solid, Gas): N/A
Flash Point [Method]: >210°C (410°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (601°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 30.6 cSt (30.6 mm2/sec) at 40 °C | 5.6 cSt (5.6 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -33°C (-27°F) [ASTM D5950]

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

Contains:
Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, IECSC, KECI, TCSI, TSCA

Special Cases:

Inventory	Status
PICCS	Restrictions Apply

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
NAPHTHALENE	91-20-3	10

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

WARNING: Cancer - www.P65Warnings.ca.gov.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was deleted.
Composition: Concentration Footnote information was deleted.
Composition: No components information was modified.
Composition: US GHS Footnote information was deleted.
Section 16: HCode Key information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 7082660XUS (1019838)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

Mystik® JT-6® Hi-Temp Grease NLGI No. 2

Section 1. Identification

GHS product identifier : Mystik® JT-6® Hi-Temp Grease NLGI No. 2

Synonyms : Lubricating grease;
CITGO® Material Code: 665005002

Material uses : Lubricating grease

Code : 665005002

MSDS # : 665005002

Supplier's details : CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210
sdsvend@citgo.com

Emergency telephone number (with hours of operation) : Technical Contact: (800) 248-4684
Medical Emergency: (832) 486-4700
CHEMTREC Emergency: (800) 424-9300
(United States Only)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : AQUATIC HAZARD (LONG-TERM) - Category 4

GHS label elements

Signal word : Warning

Hazard statements : May cause long lasting harmful effects to aquatic life.
Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.

Precautionary statements

General : Avoid contact with eyes, skin and clothing. Thoroughly wash exposed areas and clothing with soap and water. IF IN EYES: Rinse cautiously with water for several minutes. IF SWALLOWED: Do not induce vomiting. If you feel unwell, seek medical attention and show the label when possible. Keep out of reach of children.

Prevention : Avoid release to the environment.

Response : Not applicable.

Storage : Store in a dry place and/or in closed container. Store in accordance with all local, regional, national and international regulations.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : Injection of petroleum hydrocarbons requires immediate medical attention.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Lubricating grease;
CITGO® Material Code: 665005002

CAS number/other identifiers

CAS number : Not applicable.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Distillates (petroleum), hydrotreated heavy naphthenic	≥50 - ≤75	64742-52-5
Distillates (petroleum), hydrotreated heavy paraffinic	≥10 - ≤25	64742-54-7
Residual oils (petroleum), solvent-dewaxed	≤10	64742-62-7
Lithium, 12-hydroxyoctadecanoate sebacate complexes	≤10	68815-49-6
Distillates (petroleum), solvent-refined heavy paraffinic	≤3	64741-88-4

Any concentration shown as a range is to protect confidentiality or is due to process variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene. Early symptoms may be minimal.

Specific treatments : Treat symptomatically and supportively.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 4. First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : This material may cause long lasting harmful effects to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Bulk Storage Conditions: Do not apply heat or flame to stockpiled material. Rotate stock to reduce the potential for hot spots. Do not store with oxidizers. Minimize dust creation by keeping material moist and/or covered.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Distillates (petroleum), hydrotreated heavy naphthenic	**ACGIH TLV (United States, 3/2018).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2016).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours.
Distillates (petroleum), hydrotreated heavy paraffinic	**ACGIH TLV (United States, 3/2018).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2016).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 5/2018).** TWA: 5 mg/m³ 8 hours.
Residual oils (petroleum), solvent-dewaxed	**ACGIH TLV (United States, 6/2013).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 4/2013).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours.
Lithium, 12-hydroxyoctadecanoate sebacate complexes	**ACGIH TLV (United States).** TWA: 10 mg/m³ 8 hours.
Distillates (petroleum), solvent-refined heavy paraffinic	**ACGIH TLV (United States, 3/2018).** TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction **NIOSH REL (United States, 10/2016).** TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **OSHA PEL (United States, 5/2018).**

Released to Imaging: 4/22/2025 3:42:03 PM

Section 8. Exposure controls/personal protection

TWA: 5 mg/m³ 8 hours.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, vapor controls, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Smooth texture]

Color : Red.

Odor : Mild petroleum odor

pH : Not available.

Boiling point : Not available.

Flash point : Open cup: >150°C (>302°F) [Estimated]

Evaporation rate : <1 (n-butyl acetate. = 1)

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 7%

Vapor pressure : <0.0013 kPa (<0.01 mm Hg) [room temperature]

Vapor density : >10 [Air = 1]

Relative density : 0.93

Density lbs/gal : Estimated 7.75 lbs/gal

Density gm/cm³ : Not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 9. Physical and chemical properties

Gravity, °API : Estimated 21 @ 60 F

Solubility : Insoluble in the following materials: cold water.

Auto-ignition temperature : 390.56°C (735°F)

Flow time (ISO 2431) : Not available.

NLGI Grade : 2

Section 10. Stability and reactivity

Reactivity : Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), hydrotreated heavy paraffinic	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), solvent-refined heavy paraffinic	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

Conclusion/Summary : **Distillates (petroleum), hydrotreated heavy naphthenic**: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. **Distillates (petroleum), hydrotreated heavy paraffinic**: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. **Distillates (petroleum), solvent-refined heavy paraffinic**: Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or

Released to Imaging: 4/22/2025 3:42:03 PM

Section 11. Toxicological information

near current work place exposure levels produced no significant toxicological effects.

Irritation/Corrosion

Not available.

Skin : No additional information.

Eyes : No additional information.

Respiratory : No additional information.

Sensitization

Not available.

Skin : No additional information.

Respiratory : No additional information.

Mutagenicity

Not available.

Conclusion/Summary : No additional information.

Carcinogenicity

Not available.

Conclusion/Summary : **Distillates (petroleum), solvent-refined heavy paraffinic**: In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Classification

Product/ingredient name	OSHA	IARC	NTP
Distillates (petroleum), solvent-refined heavy paraffinic	-	4	-

Reproductive toxicity

Not available.

Conclusion/Summary : No additional information.

Teratogenicity

Not available.

Conclusion/Summary : No additional information.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Released to Imaging: 4/22/2025 3:42:03 PM

Section 11. Toxicological information

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Section 12. Ecological information

Toxicity

Not available.

Conclusion/Summary : Not available.

Persistence and degradability

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Distillates (petroleum), hydrotreated heavy naphthenic	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Distillates (petroleum), hydrotreated heavy naphthenic	>6	-	high
Distillates (petroleum), solvent-refined heavy paraffinic	3.9 to 6	-	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: zinc bis(dipentyldithiocarbamate)

Clean Water Act (CWA) 311: xylene

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

SARA 302/304

Composition/information on ingredients

Released to Imaging: 4/22/2025 3:42:03 PM

Section 15. Regulatory information

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65 Clear and Reasonable Warnings (2018)

⚠ **WARNING**: This product can expose you to Cumene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

International regulations

Inventory list

United States : All components are listed or exempted.

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

Japan : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.

Malaysia : Not determined.

New Zealand : All components are listed or exempted.

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Taiwan : Not determined.

Thailand : Not determined.

Turkey : Not determined.

Viet Nam : Not determined.

Section 16. Other information

National Fire Protection Association (U.S.A.)

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Released to Imaging: 4/22/2025 3:42:03 PM

Section 16. Other information

Classification	Justification
AQUATIC HAZARD (LONG-TERM) - Category 4	Calculation method

History

Date of printing : 5/16/2019

Date of issue/Date of revision : 5/16/2019

Date of previous issue : 11/6/2018

Version : 2

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

THE INFORMATION IN THIS SAFETY DATA SHEET (SDS) WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED REGARDING ITS CORRECTNESS OR ACCURACY. SOME INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE SUBSTANCE ITSELF. THIS SDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS SDS INFORMATION MAY NOT BE APPLICABLE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE OR APPLICATION.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE, AND/OR DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR ANY LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

Mystik is a registered trademark of CITGO Petroleum Corporation

Released to Imaging: 4/22/2025 3:42:03 PM

NAPA Windshield Wash and Deicer Fluid 0 ºF

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 10/01/2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : NAPA Windshield Wash and Deicer Fluid 0 ºF

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Windshield washer fluid

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
3100 Sanders Road
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : 800 424 9300 (United States); 00 1 703 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids, Category 3	H226	Flammable liquid and vapor
Acute toxicity (oral), Category 4	H302	Harmful if swallowed.
Acute toxicity (dermal), Category 4	H312	Harmful in contact with skin.
Acute toxicity (inhalation:dust,mist) Category 4	H332	Harmful if inhaled.
Specific target organ toxicity — single exposure, Category 1	H370	Causes damage to organs (May cause blindness if swallowed)

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS02 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H226 - Flammable liquid and vapor
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H370 - Causes damage to organs (May cause blindness if swallowed)

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, open flames, sparks
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe mist, spray, vapors
P264 - Wash affected areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.

Precautionary statements (GHS-US) *continued* : P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear personal protective equipment as required.
P301+P310 - If swallowed: Immediately call doctor/physician or poison center. Rinse Mouth
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call doctor/physician or poison center if you feel unwell
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use Foam, Sand, Dry powder, carbon dioxide (CO2) to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% by wt	GHS-US classification
water	(CAS-No.) 7732-18-5	<= 77	Not classified
methanol	(CAS-No.) 67-56-1	<= 23	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice. Allow the victim to rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Remove clothing before washing. Consult a doctor/medical service.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Obtain emergency medical attention. Rinse mouth. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : May cause irritation of the nose and throat. High concentrations may cause central nervous system characterized by severe headaches, dizziness, nausea and confusion.

Symptoms/effects after skin contact : Prolonged exposure to skin may cause skin irritation experienced as burning, dryness, cracking and redness.

Symptoms/effects after eye contact : May cause severe irritation.

Symptoms/effects after ingestion : May cause nausea, abdominal pain, headache, shortness of breath, visual impairment and blindness. Severe poisoning can lead to coma and death.

Chronic symptoms : Repeated or prolonged skin contact. Red skin. Dry skin. Skin rash/inflammation. Headache. Feeling of weakness. Disturbed tactile sensibility. Visual disturbances. Sleeplessness. Gastrointestinal complaints. Cardiac and blood circulation effects.

4.3. Indication of any immediate medical attention and special treatment needed

This product contains methanol which can cause intoxication and depression of the central nervous system. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion.

NAPA Windshield Wash and Deicer Fluid 0 ºF

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : ABC powder. Foam. Dry powder. Carbon dioxide. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapor. Vapors are heavier than air and may travel along the ground or may be moved by ventilation.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. Avoid breathing vapors, mist. If exposed to levels above exposure limits wear appropriate respiratory protection.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. Keep upwind. Mark the danger area.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product. Contain released product, pump into suitable containers. Dam up the liquid spill. Plug the leak, cut off the supply. Try to reduce evaporation. Dilute combustible/toxic gases/vapors with water spray. Take account of toxic/corrosive precipitation water.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : In use, may form flammable vapor-air mixture.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures : Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Use explosion-proof electrical, ventilating, lighting equipment. Ground/bond container and receiving equipment. Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.

Incompatible materials : Sources of ignition.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

methanol (67-56-1)		
ACGIH	Local name	Methanol
ACGIH	ACGIH TWA (ppm)	200 ppm (Skin)
ACGIH	ACGIH STEL (ppm)	250 ppm (Skin)
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³ (Skin)
OSHA	OSHA PEL (TWA) (ppm)	200 ppm (Skin)

water (7732-18-5)
Not applicable

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear
respiratory protection. Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Blue
Odor	:	alcohol
Odor threshold	:	No data available
Relative evaporation rate (butylacetate=1)	:	Greater then n-butyl acetate
Freezing point	:	-17.8 °C (0 ºF)
Boiling point	:	85.6 °C (186 ºF)
Flash point	:	40 °C (104 ºF) Method Used: TCC
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	37.2 mm Hg @ 20 ºC
Relative vapor density at 20 °C	:	Heavier than air

Specific Gravity	:	0.97 @ 20 ºC
Solubility	:	Water: Complete
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive limits	:	6 - 36 vol %
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

VOC content : 23 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Keep away from any flames or sparking source.

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

methanol (67-56-1)	
LD50 oral rat	1187 - 2769 mg/kg bodyweight (BASF test, Rat, Male / female, Weight of evidence, Aqueous solution, Oral, 7 day(s))
LD50 dermal rabbit	17100 mg/kg (Rabbit, Inconclusive, insufficient data, Dermal)
LC50 inhalation rat (mg/l)	128.2 mg/l/4h (BASF test, 4 h, Rat, Male/female, Weight of evidence)
ATE US (oral)	100 mg/kg bodyweight
ATE US (dermal)	300 mg/kg bodyweight
ATE US (gases)	700 ppmv/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust,mist)	0.5 mg/l/4h

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Causes damage to organs (May cause blindness if swallowed) .
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified
Symptoms/effects after inhalation	:	May cause irritation of the nose and throat. High concentrations may cause central nervous system characterized by severe headaches, dizziness, nausea and confusion.

Symptoms/effects after skin contact	:	Prolonged exposure to skin may cause skin irritation experienced as burning, dryness, cracking and redness.
Symptoms/effects after eye contact	:	May cause severe irritation.
Symptoms/effects after ingestion	:	May cause nausea, abdominal pain, headache, shortness of breath, visual impairment and blindness. Severe poisoning can lead to coma and death.
Chronic symptoms	:	Repeated or prolonged skin contact. Red skin. Dry skin. Skin rash/inflammation. Headache. Feeling of weakness. Disturbed tactile sensibility. Visual disturbances. Sleeplessness. Gastrointestinal complaints. Cardiac and blood circulation effects.

SECTION 12: Ecological information

12.1. Toxicity

methanol (67-56-1)	
LC50 fish 1	15,400.00 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 Daphnia 1	18,260.00 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect)
ErC50 (algae)	22,000.00 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value)

12.2. Persistence and degradability

methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O_2/g substance
Chemical oxygen demand (COD)	1.42 g O_2/g substance
ThOD	1.50 g O_2/g substance

12.3. Bioaccumulative potential

methanol (67-56-1)	
BCF fish 1	1 - 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)
Log Pow	-0.77 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

methanol (67-56-1)	
Surface tension	0.02 N/m (20 °C)
Log Koc	0.09 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Effect on the ozone layer	:	No known effect on the ozone layer
Other information	:	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	:	Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.
Ecology - waste materials	:	Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Other information	:	Not regulated according to 49 CFR 173.150 (e) when shipping domestically.

Transportation of Dangerous Goods

Refer to current TDG Canada for further Canadian regulations

Transport by sea

In accordance with IMDG / IMO

Transport document description (IMDG)	:	UN 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (Methanol Solution), 3 (6.1), III
UN-No. (IMDG)	:	1992
Proper Shipping Name (IMDG)	:	FLAMMABLE LIQUID, TOXIC, N.O.S.
Class (IMDG)	:	3 - Flammable liquids
Packing group (IMDG)	:	III - substances presenting low danger
Subsidiary risk (IMDG)	:	6.1 - Toxic substances
Limited quantities (IMDG)	:	Limited Quantites of Class 3 (This must be notated on Shipper's Declaration).
Limited quantities (IMDG)	:	LQC3

Air transport

In accordance with IATA / ICAO

Transport document description (IATA)	:	UN 1992 Flammable liquid, toxic, n.o.s. (Methanol Solution), 3 (6.1), III
UN-No. (IATA)	:	1992
Proper Shipping Name (IATA)	:	Flammable liquid, toxic, n.o.s.
Class (IATA)	:	3 - Flammable Liquids
Packing group (IATA)	:	III - Minor Danger
Subsidiary risks (IATA)	:	6.1 - Toxic substances
Instruction "passenger" - Limited quantities (ICAO)	:	Y343 (Max qty. per package 10L). Special Provision A3

SECTION 15: Regulatory information

15.1. US Federal regulations

NAPA Windshield Wash and Deicer Fluid 0 ºF	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard
SARA Section 313 - Emission Reporting	23 % (Methanol CAS # 67-56-1)

methanol (67-56-1)	
CERCLA RQ	5000 lb(s) (2270 kg)

water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

NAPA Windshield Wash and Deicer Fluid 0 ºF	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

15.3. US State regulations

⚠ **WARNING:** This product can expose you to methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

NAPA Windshield Wash and Deicer Fluid 0 ºF

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

methanol (67-56-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		47000 µg/day (inhalation); 23,000 µg/day (oral)

methanol (67-56-1)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 10/01/2019

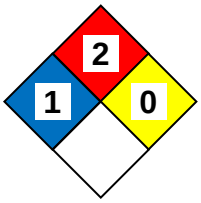
Full text of H-statements:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H370	Causes damage to organs

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Released to Imaging: 4/22/2025 3:42:03 PM

NAPA Extended Life Concentrate Antifreeze & Coolant

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : NAPA Extended Life Concentrate Antifreeze & Coolant

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Antifreeze & Coolant

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : (800) 424-9300; (703) 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Oral)	H302
Repr. 2	H361
STOT RE 2	H373

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07 GHS08

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) :
H302 - Harmful if swallowed
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral)

Precautionary statements (GHS-US) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe mist, spray, vapors
P264 - Wash affected areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear personal protective equipment as required
P301+P310 - If swallowed: Immediately call doctor/physician or poison center
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P308+P313 - If exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/container, in a safe manner, to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

NAPA Extended Life Concentrate Antifreeze & Coolant

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	% by wt	GHS-US classification
ethylene glycol	(CAS No) 107-21-1	90 - 97	Acute Tox. 4 (Oral), H302
diethylene glycol	(CAS No) 111-46-6	< 5	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
water	(CAS No) 7732-18-5	< 4	Not classified
potassium 2-ethylhexanoate	(CAS No) 3164-85-0	< 3	Repr. 2, H361
denatonium benzoate	(CAS No) 3734-33-6	30 - 50 ppm	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice. Allow the victim to rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

First-aid measures after skin contact : Remove contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Rinse immediately with plenty of water (for at least 15 minutes). Get medical advice/attention.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. If eye irritation persists: Rinse immediately with plenty of water. Get medical advice/attention.

First-aid measures after ingestion : Obtain emergency medical attention. Rinse mouth. If the person is fully conscious, make him/her drink two glasses of water. Never give an unconscious person anything to drink. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whiskey. For children, give proportionally less liquor, according to weight.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes damage to organs (kidneys) Oral. Suspected of damaging fertility or the unborn child.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

4.3. Indication of any immediate medical attention and special treatment needed

A more effective intravenous antidote for physician uses is 4-methylpyrazaole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occured.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Fine water spray. Dry powder. Alcohol-resistant foam. Foam. Carbon dioxide. Sand. Water fog.

Unsuitable extinguishing media : Do not use a heavy water stream. May spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Special protective equipment for fire fighters : Wear positive pressure self-contained breathing apparatus (SCBA). Protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Refer to section 8.2.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use. Product may become solid at temperatures below -18 ºC (0 ºF). Do not cut, drill, weld, use a blowtorch on, etc. containers even when empty. Do not store near food, foodstuffs, drugs or potable water supplies.

Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.

Incompatible materials : Sources of ignition.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ethylene glycol (107-21-1)		
USA ACGIH	ACGIH Ceiling (mg/m³)	100.00 mg/m³
USA ACGIH	Remark (ACGIH)	Upper Respiratory Tract (URT) & Eye irritant

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : If exposed to levels above exposure limits wear appropriate respiratory protection.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color	:	Yellow;Green
Odor	:	Mild
Odor threshold	:	No data available
pH 50% water solution	:	8
Relative evaporation rate (butylacetate=1)	:	Nil
Freezing point	:	-18 °C (0 ºF)
Boiling point	:	158 °C (317 ºF)
Flash point	:	116 °C (241 ºF) [100% Ethylene Glycol] *ASTM D56*
Auto-ignition temperature	:	400 °C (752 ºF) [100% Ethylene Glycol] *Literature*
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	< 0.1 @ 20 ºC
Relative vapor density at 20 °C	:	No data available
Specific Gravity	:	1.12
Density	:	1.12 g/l (9.3 lbs/gal)
Solubility	:	Water: Complete
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	Not applicable.
Oxidizing properties	:	Not applicable.
Explosive limits	:	3.2 - 15.3 vol %

9.2. Other information

VOC content : 0.00 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Extremely high or low temperatures. Keep away from any flames or sparking source.

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Fume. alcohols. Aldehydes. Ethers.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

denatonium benzoate (3734-33-6)	
LD50 oral rat	584 mg/kg (Rat)
LD50 dermal rabbit	> 2,000 mg/kg (Rabbit)
ATE US (oral)	584 mg/kg bodyweight
ethylene glycol (107-21-1)	
LD50 oral rat	> 5,000 mg/kg (Rat)
ATE US (oral)	500 mg/kg bodyweight

diethylene glycol (111-46-6)	
LD50 oral rat	12,565 mg/kg (Rat)
LD50 dermal rabbit	11,890 mg/kg (Rabbit)
ATE US (oral)	500 mg/kg bodyweight
ATE US (dermal)	11,890 mg/kg bodyweight

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).
Aspiration hazard : Not classified
Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after eye contact : Causes serious eye damage.
Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

SECTION 12: Ecological information

12.1. Toxicity

denatonium benzoate (3734-33-6)	
LC50 fish 1	> 1,000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	13 mg/l (48 h; Daphnia magna)
ethylene glycol (107-21-1)	
LC50 fish 1	53,000 mg/l (96 h; Pimephales promelas; Static system)
EC50 Daphnia 1	> 10,000 mg/l (24 h; Daphnia magna)
LC50 fish 2	40,761 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Static system)
Threshold limit algae 1	> 10,000 mg/l (168 h; Scenedesmus quadricauda)
Threshold limit algae 2	2,000 mg/l (192 h; Microcystis aeruginosa)
diethylene glycol (111-46-6)	
LC50 fish 1	> 5,000 ppm (24 h; Carassius auratus)
LC50 other aquatic organisms 1	1,174 mg/l (Xenopus laevis)
EC50 Daphnia 1	> 10,000 mg/l (24 h; Daphnia magna)
LC50 fish 2	61,072 ppm (168 h; Poecilia reticulata)
TLM fish 1	> 32,000 mg/l (96 h; Gambusia affinis)
TLM other aquatic organisms 1	> 1,000 ppm (96 h)
Threshold limit other aquatic organisms 1	1,174 mg/l (72 h; Xenopus laevis; Toxicity test)
Threshold limit other aquatic organisms 2	10,745 mg/l (16 h; Protozoa; Toxicity test)
Threshold limit algae 1	2,700 mg/l (168 h; Scenedesmus quadricauda)
Threshold limit algae 2	100 mg/l (Selenastrum capricornutum)

12.2. Persistence and degradability

denatonium benzoate (3734-33-6)	
Persistence and degradability	Biodegradability in water: no data available. No (test) data on mobility of the substance available.
ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.47 g O_2/g substance
Chemical oxygen demand (COD)	1.24 g O_2/g substance
ThOD	1.29 g O_2/g substance
BOD (% of ThOD)	0.36 % ThOD

NAPA Extended Life Concentrate Antifreeze & Coolant

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

diethylene glycol (111-46-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	0.02 g O_2/g substance
Chemical oxygen demand (COD)	1.51 g O_2/g substance
ThOD	1.51 g O_2/g substance
BOD (% of ThOD)	0.015 % ThOD

12.3. Bioaccumulative potential

denatonium benzoate (3734-33-6)	
Log Pow	1.78 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
ethylene glycol (107-21-1)	
BCF fish 1	10 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	0.21 - 0.6 (Procambarus sp.; Chronic)
BCF other aquatic organisms 2	190 (24 h; Algae)
Log Pow	-1.34 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
diethylene glycol (111-46-6)	
Log Pow	-1.98
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

ethylene glycol (107-21-1)	
Surface tension	0.048 N/m (20 °C / 68 °F)
diethylene glycol (111-46-6)	
Surface tension	0.0485 N/m

12.5. Other adverse effects

Effect on ozone layer : No known effect on the ozone layer

Effect on global warming : No known ecological damage caused by this product.

Effect on global warming : No additional information available

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container, in a safe manner, to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s., 9, III

UN-No.(DOT) : 3082

DOT NA no. : UN3082

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.

Department of Transportation (DOT) Hazard Classes : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)

DOT Symbols : G - Identifies PSN requiring a technical name

Packing group (DOT) : III - Minor Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : 155

DOT Packaging Non Bulk (49 CFR 173.xxx)	:	203
DOT Packaging Bulk (49 CFR 173.xxx)	:	241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	No limit
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
Other information	:	Non Bulk: Not regulated by the US D.O.T. (in quantities under 5,000 lbs in any one inner package).

ADR

No additional information available

Transport by sea

Proper Shipping Name (IMDG)	:	Not regulated by IMDG (in quantities under 5,000 lbs in any one inner package)

Air transport

Proper Shipping Name (IATA)	:	Not regulated by IATA (in quantities under 5,000 lbs in any one inner package)

SECTION 15: Regulatory information

15.1. US Federal regulations

NAPA Extended Life Concentrate Antifreeze & Coolant	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed

denatonium benzoate (3734-33-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

ethylene glycol (107-21-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb(s)
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.
SARA Section 313 - Emission Reporting	Ethylene glycol is subject to Form R Reporting requirements.

diethylene glycol (111-46-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

potassium 2-ethylhexanoate (3164-85-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

NAPA Extended Life Concentrate Antifreeze & Coolant	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

WHMIS Classification

Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

15.2.2. National regulations

NAPA Extended Life Concentrate Antifreeze & Coolant
DSL (Canada): The intentional ingredients of this product are listed ECL (South Korea): The intentional ingredients of this product are listed. EINECS (Europe): The intentional ingredients of this product are listed ENCS (Japan): The intentional ingredients of this product are listed

15.3. US State regulations

ethylene glycol (107-21-1)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

diethylene glycol (111-46-6)
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

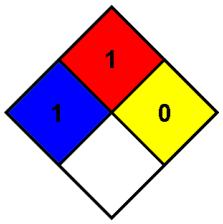
Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard

Physical : 0 Minimal Hazard

Personal Protection : B

SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

NAPA Extended Life Concentrate Antifreeze & Coolant

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Received by OCD: 4/14/2025 11:49:46 AM

Valvoline		Page: 1
SAFETY DATA SHEET		Revision Date: 07/31/2016
		Print Date: 9/27/2016
		SDS Number: R0172013
NAPA® PREMIUM CONVENTIONAL SAE 5W-30 MOTOR OIL NP75050		Version: 1.1

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : NAPA® PREMIUM CONVENTIONAL SAE 5W-30 MOTOR OIL

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number** 1-800-VALVOLINE
Valvoline LLC 3499 Blazer Parkway Lexington, KY 40509 United States of America SDS@valvoline.com	**Regulatory Information Number** 1-800-TEAMVAL **Product Information** 1-800-TEAMVAL

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

GHS Label element

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
HEAVY PARAFFINIC DISTILLATE	64742-54-7	Asp. Tox. 1; H304	36.00

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	Asp. Tox. 1; H304	6.88
Benzenesulfonic acid, C10-60-alkyl derivs., sodium salts	90194-32-4	Eye Irrit. 2A; H319	6.21
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC	64742-65-0	Asp. Tox. 1; H304	1.88

SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : If breathed in, move person into fresh air.
If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

In case of eye contact : Remove contact lenses.
Protect unharmed eye.

If swallowed : Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Acute aspiration of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Repeated aspiration of small quantities of mineral oil can produce chronic inflammation of the lungs (i.e. lipoid pneumonia) that may progress to pulmonary fibrosis. Symptoms are often subtle and radiological changes appear worse than clinical abnormalities. Occasionally, persistent cough, irritation of the upper respiratory tract, shortness of breath with exertion, fever, and bloody sputum occur. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

Signs and symptoms of exposure to this material through

Released to Imaging: 4/22/2025 3:42:03 PM

breathing, swallowing, and/or passage of the material through the skin may include:
acne
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide
Hydrocarbons

Specific extinguishing methods :

Product is compatible with standard fire-fighting agents.

Further information : Standard procedure for chemical fires.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions : Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

Other information : Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.

Conditions for safe storage : Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	REL	5 mg/m3 Mist.	NIOSH/GUIDE
		STEL	10 mg/m3 Mist.	NIOSH/GUIDE
		PEL	5 mg/m3 Mist.	OSHA_TRANS
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC	64742-65-0	PEL	500 ppm 2,000 mg/m3	OSHA_TRANS
		REL	5 mg/m3 Mist.	NIOSH/GUIDE
		STEL	10 mg/m3 Mist.	NIOSH/GUIDE
		PEL	5 mg/m3 Mist.	OSHA_TRANS
		TWA	5 mg/m3 Mist.	Z1A
		TWA	400 ppm 1,600 mg/m3	Z1A

Engineering measures : General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally

required.

Eye protection	:	Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.
Skin and body protection	:	Wear as appropriate: Safety shoes Wear resistant gloves (consult your safety equipment supplier).
Hygiene measures	:	General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 390 °F / > 199 °C Method: Cleveland open cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	6 %(V) Calculated Explosive Limit
Lower explosion limit	:	1 %(V) Calculated Explosive Limit
Vapour pressure	:	1.3333333 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	0.876 (15.6 °C)
Density	:	0.8599 g/cm3 (15.6 °C)
Solubility(ies)		

Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	63 mm2/s (40 °C)
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	excessive heat
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products		carbon dioxide and carbon monoxide Hydrocarbons

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Components:
HEAVY PARAFFINIC DISTILLATE:

Acute oral toxicity : LD 50 (Rat): > 15 g/kg

Acute dermal toxicity : LD 50 (Rabbit): > 5 g/kg

DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC:
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD 50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
HEAVY PARAFFINIC DISTILLATE:
Result: Mildly irritating to skin

HYDROTREATED LIGHT PARAFFINIC DISTILLATE:
Result: Mildly irritating to skin

Benzenesulfonic acid, C10-60-alkyl derivs., sodium salts:
Result: Not irritating to skin

DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC:
Result: Mildly irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Unlikely to cause eye irritation or injury.

Components:
HEAVY PARAFFINIC DISTILLATE:
Result: Not irritating to eyes

HYDROTREATED LIGHT PARAFFINIC DISTILLATE:
Result: Mildly irritating to eyes

Benzenesulfonic acid, C10-60-alkyl derivs., sodium salts:
Result: Irritating to eyes

DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC:
Result: Mildly irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.
Reproductive toxicity
Not classified based on available information.
STOT - single exposure
Not classified based on available information.
STOT - repeated exposure
Not classified based on available information.
Aspiration toxicity
Not classified based on available information.
Product:
No aspiration toxicity classification

Components:
HEAVY PARAFFINIC DISTILLATE:
May be fatal if swallowed and enters airways.

HYDROTREATED LIGHT PARAFFINIC DISTILLATE:
May be fatal if swallowed and enters airways.

DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC:
May be fatal if swallowed and enters airways.

Further information
Product:
Remarks: No data available

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
HEAVY PARAFFINIC DISTILLATE:

Toxicity to fish	:	LL50 (Fish): > 100 mg/l
Toxicity to daphnia and other	:	EL50 (Aquatic invertebrates): > 10,000 mg/l

aquatic invertebrates

Toxicity to algae : EL50 (Algae, algal mat (Algae)): > 100 mg/l

Toxicity to fish (Chronic toxicity) : NOEC (Fish): 10 mg/l

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Aquatic invertebrates): 10 mg/l

Persistence and degradability

Components:

No data available

Bioaccumulative potential

Components:

No data available

Mobility in soil

Components:

No data available

Other adverse effects

No data available

Product:

Additional ecological information : No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TDG_ROAD_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_INWT_C

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MX_DG

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards

SARA 313
Component(s)SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Right To Know

HEAVY PARAFFINIC DISTILLATE	64742-54-7	50.00 - 70.00 %
HEAVY PARAFFINIC DISTILLATE	64742-54-7	30.00 - 50.00 %
HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	5.00 - 10.00 %
Benzenesulfonic acid, C10-60-alkyl derivs., sodium salts	90194-32-4	5.00 - 10.00 %
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC	64742-65-0	1.00 - 5.00 %

New Jersey Right To Know

HEAVY PARAFFINIC DISTILLATE	64742-54-7	50.00 - 70.00 %
HEAVY PARAFFINIC DISTILLATE	64742-54-7	30.00 - 50.00 %
HYDROTREATED LIGHT PARAFFINIC DISTILLATE	64742-55-8	5.00 - 10.00 %
Benzenesulfonic acid, C10-60-alkyl derivs., sodium salts	90194-32-4	5.00 - 10.00 %
POLYOLEFIN AMIDE ALKENEAMINE	Not Assigned	1.00 - 5.00 %
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC	64742-65-0	1.00 - 5.00 %

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AUSTR : On the inventory, or in compliance with the inventory

KECL : On the inventory, or in compliance with the inventory

Released to Imaging: 4/22/2025 3:42:03 PM

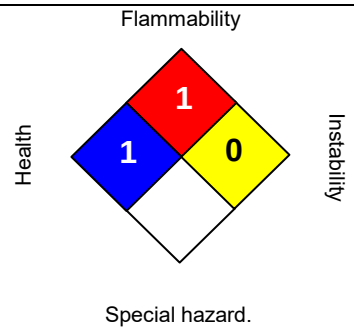
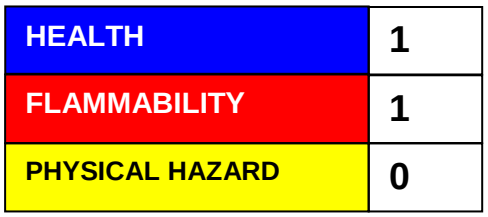
PICCS : On the inventory, or in compliance with the inventory

IECSC : q (quantity restricted)

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 07/31/2016

NFPA:	HMIS III:
	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB

Full text of H-Statements referred to under sections 2 and 3.

H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.

Sources of key data used to compile the Safety Data Sheet
Valvoline internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Valvoline's Environmental Health and Safety Department (1-800-825-8654).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

Received by OCD: 4/14/2025 11:49:46 AM

Valvoline		Page: 1
SAFETY DATA SHEET		Revision Date: 07/31/2016
		Print Date: 9/27/2016
		SDS Number: R0169702
NAPA® PREM PERF NON-DETERGENT SAE 30 MOTOR OIL NP75115		Version: 1.2

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : NAPA® PREM PERF NON-DETERGENT SAE 30 MOTOR OIL

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet	**Emergency telephone number** 1-800-VALVOLINE
Valvoline LLC 3499 Blazer Parkway Lexington, KY 40509 United States of America SDS@valvoline.com	**Regulatory Information Number** 1-800-TEAMVAL **Product Information** 1-800-TEAMVAL

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

GHS Label element

This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Defatter

Hazardous components

Chemical Name	CAS-No.	Classification	Concentration (%)
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED	64742-62-7	Not a hazardous substance or mixture.	15.05

Released to Imaging: 4/22/2025 3:42:03 PM

SECTION 4. FIRST AID MEASURES

General advice	:	No hazards which require special first aid measures.
If inhaled	:	If breathed in, move person into fresh air. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye.
If swallowed	:	Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) Dizziness
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Carbon dioxide (CO2) Dry chemical
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	carbon dioxide and carbon monoxide Hydrocarbons

Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents.
Further information	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.
Other information	:	Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.
Conditions for safe storage	:	Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
RESIDUAL OILS (PETROLEUM), SOLVENT-	64742-62-7	PEL	500 ppm 2,000 mg/m3	OSHA_TRANS

DEWAXED				
		REL	5 mg/m3 Mist.	NIOSH/GUIDE
		STEL	10 mg/m3 Mist.	NIOSH/GUIDE
		PEL	5 mg/m3 Mist.	OSHA_TRANS

Engineering measures : General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection : Wear as appropriate:
Safety shoes
Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Colour : amber

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Boiling point/boiling range : 424.99 °F / 218.33 °C
(1,013.333333 hPa)
Calculated Phase Transition Liquid/Gas

Flash point : > 390 °F / > 199 °C
Method: Cleveland open cup

Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	6 %(V) GLP: Calculated Explosive Limit
Lower explosion limit	:	1 %(V) GLP: Calculated Explosive Limit
Vapour pressure	:	1.3333333 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	:	< 1AIR=1
Relative density	:	0.888 (15.6 °C)
Density	:	0.8890 g/cm3 (15.56 °C)
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products : carbon dioxide and carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Eye Contact
Ingestion

Acute toxicity
Not classified based on available information.
Components:
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED:
Acute oral toxicity : LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.58 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: Not classified as acutely toxic by inhalation under GHS.
Remarks: No mortality observed at this dose.

Acute dermal toxicity : LD 50 (Rabbit): > 5,000 mg/kg
Remarks: No mortality observed at this dose.

LD 50 (Rabbit): > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.

Skin corrosion/irritation
Not classified based on available information.
Product:
Result: Repeated exposure may cause skin dryness or cracking.

Components:
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED:
Species: Rabbit
Result: Not irritating to skin

Serious eye damage/eye irritation
Not classified based on available information.
Product:
Remarks: Unlikely to cause eye irritation or injury.

Components:
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED:

Species: Rabbit
Result: Not irritating to eyes

Respiratory or skin sensitisation
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.
Components:
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED:
Test Type: Buehler Test
Species: Guinea pig
Assessment: Does not cause skin sensitisation.

Germ cell mutagenicity
Not classified based on available information.
Carcinogenicity
Not classified based on available information.
Reproductive toxicity
Not classified based on available information.
STOT - single exposure
Not classified based on available information.
STOT - repeated exposure
Not classified based on available information.
Aspiration toxicity
Not classified based on available information.
Components:
RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED:
No aspiration toxicity classification

Further information
Product:
Remarks: No data available

Carcinogenicity:

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED:

Toxicity to fish	:	LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Test Type: static test Test substance: WAF Method: OECD Test Guideline 203 Remarks: No toxicity at the limit of solubility
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test Type: static test Test substance: WAF Method: OECD Test Guideline 202
Toxicity to algae	:	NOEL (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l End point: Growth inhibition Exposure time: 72 h Test Type: static test Test substance: WAF Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOELR (Oncorhynchus mykiss (rainbow trout)): Calculated >= 1,000 mg/l Exposure time: 14 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEL (Daphnia (water flea)): 10 mg/l Exposure time: 21 d Test substance: WAF Method: OECD Test Guideline 211

Persistence and degradability

Components:

RESIDUAL OILS (PETROLEUM), SOLVENT-DEWAXED:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 2 - 4 % Exposure time: 28 d Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

No data available

Mobility in soil

Components:
No data available

Other adverse effects

No data available

Product:

Additional ecological information : No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice : Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.

U.S. DOT - ROAD

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TDG_ROAD_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_INWT_C

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MX_DG

Not dangerous goods

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Marine pollutant		no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards

SARA 313
Component(s)SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

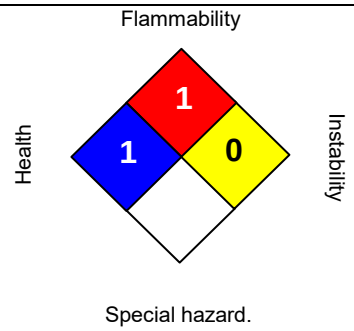
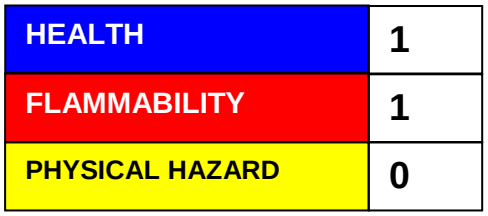
AUSTR : On the inventory, or in compliance with the inventory

ENCS	:	On the inventory, or in compliance with the inventory
KECL	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 07/31/2016

NFPA:	HMIS III:
	 0 = not significant, 1 =Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Combustible Liquid Class IIIB

Full text of H-Statements referred to under sections 2 and 3.
H315 Causes skin irritation.

Further information

Sources of key data used to compile the Safety Data Sheet
Valvoline internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Valvoline's Environmental Health and Safety Department (1-800-825-8654).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System

Safety Data Sheet

Issue Date: 20-Apr-2012 **Revision Date:** 28-May-2015 **Version** 1

1. IDENTIFICATION

Product Identifier
Product Name NAPA TO-4 Drive Train Oil

Other means of identification SAE 10W, SAE 30W, SAE 50W
SDS # NAP-004

Recommended use of the chemical and restrictions on use
Recommended Use Transmission fluid.

Details of the supplier of the safety data sheet
Supplier Address
Warren Oil Company
915 E. Jefferson Ave.
West Memphis, AR 72301

Emergency Telephone Number
Company Phone Number 1-800-428-9284
Emergency Telephone (24 hr) CHEMTREC 1-800-424-9300 (North America) 1-703-527-3887 (International)

2. HAZARDS IDENTIFICATION

Appearance Amber liquid **Physical State** Liquid **Odor** Petroleum

Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Petroleum distillates, hydrotreated heavy paraffinic	64742-54-7	85-90

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Received by OCD: 4/14/2025 11:49:46 AM

General Advice	Provide this SDS to medical personnel for treatment. If exposed or concerned: Get medical advice/attention.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes.
Inhalation	Remove to fresh air.
Ingestion	Clean mouth with water and drink afterwards plenty of water. DO NOT induce vomiting because of danger of aspirating liquid into lungs.

Most important symptoms and effects

Symptoms	Irritating to eyes. May be irritating to skin. Ingestion may cause symptoms of gastrointestinal irritation including abdominal discomfort, nausea, vomiting, and diarrhea.

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Dry chemical. Foam. Carbon dioxide (CO2). Water fog.

Unsuitable Extinguishing Media A solid stream of water directed into hot, burning liquid would cause frothing and scattering of burning material.

Specific Hazards Arising from the Chemical
Product is a non-flammable hydrocarbon mixture. Liquid can burn upon heating to temperatures at or above the flash point. Mist or sprays may be flammable below the products normal flash point.

Hazardous Combustion Products Upon decomposition this product may yield oxides of boron, calcium, magnesium, phosphorous, zinc, sulfur including hydrogen sulfide and nitrogen as well as carbon monoxide, carbon dioxide and/or other low molecular weight hydrocarbons.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Persons not wearing proper personal protective equipment should be excluded from area of spill. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Remove all sources of ignition. Spilled material is slippery.
Environmental Precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Methods for Clean-Up	Absorb with non-flammable suitable absorbent such as sand or earth. Scoop up used absorbent into drums or other appropriate container.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Use personal protective equipment as required. Wash face, hands, and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed and store in a cool, dry and well-ventilated place. Do not store near heat, sparks, open flame or strong oxidizing agents. Do not store this material in open or unlabeled containers. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode.
Incompatible Materials	Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls	Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations. Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Wear safety glasses with side shields (or goggles).
Skin and Body Protection	Wear protective gloves and protective clothing.
Respiratory Protection	If mist is generated (heating, spraying) and engineering controls are not sufficient, wear approved organic vapor respirator suitable for oil mist.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid		
Appearance	Amber liquid	**Odor**	Petroleum
Color	Amber	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	Not determined	

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not determined	
Flash Point	> 204 °C / 400 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid- Not applicable	
Upper Flammability Limits	Not determined	
Property	**Values**	**Remarks • Method**
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	Typical 0.86	@ 60°F
Water Solubility	Negligible	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Avoid formation of mists.

Incompatible Materials
Strong oxidizing agents.

Hazardous Decomposition Products
Decomposition of this product may yield oxides of boron, calcium, magnesium, nitrogen, phosphorus, sulfur including hydrogen sulfide and zinc as well as carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact Avoid contact with skin.

Inhalation Do not inhale.

Ingestion Do not ingest.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Phenol, dodecyl, sulfurized, calcium salts 68855-45-8	= 10000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-
Phosphorodithioic acid, -alkyl esters, zinc salts 68457-79-4	= 1830 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity The component below belongs to the petroleum family, which has been shown to contain carcinogenic substances depending on the level of refinement. The carcinogen classification need not apply if it can be shown that the substance contains less than 3% dimethyl sulfoxide extract.

Chemical Name	ACGIH	IARC	NTP	OSHA
Petroleum distillates, hydrotreated heavy paraffinic 64742-54-7	A2	Group 1		X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Petroleum distillates, hydrotreated heavy paraffinic 64742-54-7		5000: 96 h Oncorhynchus mykiss mg/L LC50		1000: 48 h Daphnia magna mg/L EC50
Phenol, dodecyl, sulfurized, calcium salts 68855-45-8		1000: 96 h Pimephales promelas mg/L LC50 semi-static 1000: 96 h Pimephales promelas mg/L LC50 static		1000: 48 h Daphnia magna mg/L EC50
Phosphorodithioic acid, -alkyl esters, zinc salts 68457-79-4	1.0 - 5.0: 96 h Pseudokirchneriella subcapitata mg/L EC50	100: 96 h Pimephales promelas mg/L LC50 semi-static 25 - 50: 96 h Pimephales promelas mg/L LC50 static		4.0 - 6.0: 48 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Bioaccumulation
Not determined.

Mobility
Not determined

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Phosphorodithioic acid, -alkyl esters, zinc salts 68457-79-4	Toxic

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Petroleum distillates, hydrotreated heavy paraffinic	Present	X		Present		Present	X	Present	X	X

Legend:

TSCA *- United States Toxic Substances Control Act Section 8(b) Inventory*

DSL/NDSL *- Canadian Domestic Substances List/Non-Domestic Substances List*

EINECS/ELINCS *- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

ENCS *- Japan Existing and New Chemical Substances*

IECSC *- China Inventory of Existing Chemical Substances*

KECL *- Korean Existing and Evaluated Chemical Substances*

PICCS *- Philippines Inventory of Chemicals and Chemical Substances*

AICS *- Australian Inventory of Chemical Substances*

US Federal Regulations

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Phosphorodithioic acid, -alkyl esters, zinc salts - 68457-79-4	68457-79-4	1-5	1.0

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Phosphorodithioic acid, -alkyl esters, zinc salts		X		

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Phosphorodithioic acid, -alkyl esters, zinc salts 68457-79-4	X		X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	1	1	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	1	1	0	Not determined

Issue Date: 20-Apr-2012
Revision Date: 28-May-2015
Revision Note: New format

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: NATURAL GAS SWEET
Product Description: Gas or Liquefied Gas

Intended Use: Fuel gas, Process stream

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable gas: Category 1. Gas under pressure: Compressed gas.
Simple Asphyxiant

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements:
P101: If medical advice is needed, have product container or label at hand. P102: Keep out of reach of children.
P103: Read label before use.P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking.P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.P501: Dispose of contents and container in accordance with local regulations.

Contains: GAS, NATURAL

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Continued exposure to odorized gas may reduce or eliminate ability to smell the odorant. People with impaired ability to detect odor due to colds, allergies, injuries, etc. must be especially cautious. Odor must not be used exclusively as a safety measure. Proper respiratory protection and fire/explosion precautions should be utilized when odor is first detected. Exposure to concentrations above 10% of the LEL may cause a general central nervous system (CNS) depression typical of anesthetic gases or intoxicants. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
GAS, NATURAL	8006-14-2	> 99 %	H220, H280

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BUTANE	106-97-8	0 - 1%	H220, H280
ETHANE	74-84-0	0 - 2%	H220, H280
METHANE	74-82-8	> 95 %	H220, H280
PROPANE	74-98-6	0 - 2%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

NOTE TO PHYSICIAN

This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Stop leak if you can do it without risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Flammable Gas. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: <-180°C (-292°F) [Closed Cup]
Flammable Limits (Approximate volume % in air): LEL: 5.0 UEL: 15
Autoignition Temperature: 537°C (999°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Allow liquid to evaporate from the surface. Use water spray to reduce vapors or divert vapor cloud drift. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. Isolate area until gas has dispersed. Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not confine in area of spill. Allow liquid to evaporate from the surface. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Do not enter storage areas or confined spaces unless adequately ventilated. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Material may contain trace amounts of naturally occurring radioactive material (NORM), which will accumulate in process equipment and storage vessels. Material can accumulate static charges which may cause an electrical spark (ignition source).

Static Accumulator: This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BUTANE		STEL	1000 ppm		N/A	ACGIH
PROPANE		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Self-contained breathing apparatus

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Face shield is recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Gas
Form: Compressed or Liquified
Color: Colorless
Odor: Odorless (may be odorized)
Odor Threshold: N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density: N/A
Flammability (Solid, Gas): Flammable - Category 1
Flash Point [Method]: <-180°C (-292°F) [Closed Cup]
Flammable Limits (Approximate volume % in air): LEL: 5.0 UEL: 15
Autoignition Temperature: 537°C (999°F)
Boiling Point / Range: < -160°C (-256°F)
Decomposition Temperature: N/D

Vapor Density (Air = 1): 0.7 at 101 kPa - 1.1 at 101 kPa
Vapor Pressure: > 133 kPa (1000 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 20 mg/l (Gas)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data for material.	N/A
Eye	
Serious Eye Damage/Irritation: No end point data for material.	N/A
Sensitization	
Respiratory Sensitization: No end point data	Not expected to be a respiratory sensitizer.

for material.	
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: No end point data for material.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 422
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 412 413 422

OTHER INFORMATION

For the product itself:

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.
Material -- Not expected to demonstrate chronic toxicity to aquatic organisms.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Material -- Transformation due to atmospheric oxidation not expected to be significant.

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: NATURAL GAS, COMPRESSED
Hazard Class & Division: 2.1
ID Number: 1971
Packing Group: (N/A)
ERG Number: 115
Label(s): 2.1
Transport Document Name: UN1971, NATURAL GAS, COMPRESSED, 2.1

LAND (TDG)

Proper Shipping Name: NATURAL GAS, COMPRESSED
Hazard Class & Division: 2.1
UN Number: 1971
Packing Group: (N/A)

SEA (IMDG)

Proper Shipping Name: NATURAL GAS, COMPRESSED
Hazard Class & Division: 2.1
EMS Number: F-D, S-U
UN Number: 1971
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.1
Transport Document Name: UN1971, NATURAL GAS, COMPRESSED, 2.1, (-180°C c.c.)

AIR (IATA)

Proper Shipping Name: NATURAL GAS, COMPRESSED
Hazard Class & Division: 2.1
UN Number: 1971
Packing Group: (N/A)
Label(s) / Mark(s): 2.1
Transportation Limitations: CARGO AIRCRAFT ONLY
Transport Document Name: UN1971, NATURAL GAS, COMPRESSED, 2.1

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive

Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Flammable (gases, aerosols, liquids, or solids), Gas under Pressure, Simple Asphyxiant

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BUTANE	106-97-8	1, 13, 16, 17, 19
ETHANE	74-84-0	13, 16, 17, 19
GAS, NATURAL	8006-14-2	16, 18
METHANE	74-82-8	13, 16, 17, 18, 19
PROPANE	74-98-6	4, 13, 16, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

WARNING: Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.
Section 01: Product Description information was modified.
Section 05: Hazardous Combustion Products information was modified.

Section 08: Respiratory Protection information was modified.
Section 09: Flammability (Solid, Gas) information was modified.
Section 16: HCode Key information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0, 0 PPEC: DF

DGN: 7135499VUS (1013161)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **NGL PRODUCT**
Product Description: Liquefied Hydrocarbon Gas

Intended Use: Process stream

Trade Names	Trade Names
NATURAL GAS LIQUIDS	NGL
Y-GRADE	

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable liquid: Category 1.

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H224: Extremely flammable liquid and vapor.

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P233: Keep container tightly closed.

P240: Ground / bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating, and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P261: Avoid breathing mist / vapours. P273: Avoid release to the environment. P280: Wear protective gloves and eye / face protection.P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish.P403 + P235: Store in a well-ventilated place. Keep cool.P501: Dispose of contents and container in accordance with local regulations.

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Frostbite hazard - rapidly expanding gas or liquid may cause frostbite. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Exposure to concentrations above 10% of the LEL may cause a general central nervous system (CNS) depression typical of anesthetic gases or intoxicants. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BUTANE	106-97-8	< 30%	H220, H280
ETHANE	74-84-0	< 5%	H220, H280
ISOBUTANE	75-28-5	< 10%	H220, H280
ISOPENTANE	78-78-4	< 5%	H224, H304, H336, H401, H411
METHANE	74-82-8	< 5%	H220, H280
PENTANE	109-66-0	< 5%	H224, H304, H336, H401,

			H411
PROPANE	74-98-6	< 60%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters

should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Extremely Flammable. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Exposure to fire can generate toxic fumes. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: -135°C (-211°F) - 13°C (55°F)
Flammable Limits (Approximate volume % in air): LEL: 1.0 UEL: 13
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of the spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that provide chemical resistance and, when necessary, heat-resistance and/or thermal insulation are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Small spills: normal work clothes are usually adequate. Large spills: full body suit of chemical and thermal resistant material is recommended. Chemical goggles and face shield are recommended if contact with liquefied gas is possible.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Allow liquid to evaporate from the surface. Use water spray to reduce vapors or divert vapor cloud drift. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not confine in area of spill. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Allow liquid to evaporate from the surface. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Do not enter storage areas or confined spaces unless adequately ventilated. Material may contain trace amounts of naturally occurring radioactive material (NORM), which will accumulate in process equipment and storage vessels. Prevent small spills and leakage to avoid slip hazard. Auto-refrigeration: Drains can be plugged and valves may become inoperable because of the formation of ice when expanding vapors or vaporizing liquids cause temperatures to drop below the freezing point of water. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BUTANE		STEL	1000 ppm		N/A	ACGIH
ISOBUTANE		STEL	1000 ppm		N/A	ACGIH
ISOPENTANE		TWA	1000 ppm		N/A	ACGIH
PENTANE		TWA	2950 mg/m3	1000 ppm	N/A	OSHA Z1
PENTANE		TWA	1000 ppm		N/A	ACGIH
PROPANE		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Face shield is recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or

manufacturer data. The types of clothing to be considered for this material include:
Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Form: Liquified
Color: Colorless
Odor: Odorless
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.4 °C): 0.56
Flammability (Solid, Gas): N/A
Flash Point [Method]: -135°C (-211°F) - 13°C (55°F)
Flammable Limits (Approximate volume % in air): LEL: 1.0 UEL: 13
Autoignition Temperature: N/D
Boiling Point / Range: -88°C (-126°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: [N/D at 20 °C] | 0.03 kPa (0.23 mm Hg) at 37.8 °C - 0.25 kPa (1.88 mm Hg) at 37.8°C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: 0.48 cSt (0.48 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 15 minute(s) LC50 1443 mg/l (Gas)	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: No end point data for material.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 471
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 422
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated

	exposure. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 422

OTHER INFORMATION

For the product itself:

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Material -- Transformation due to atmospheric oxidation not expected to be significant.

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable

laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED (Isopentane, Pentane)
Hazard Class & Division: 2.1
ID Number: 1075
Packing Group: (N/A)
Marine Pollutant: No
ERG Number: 115
Label(s): 2.1
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED (Isopentane, Pentane), 2.1

SEA (IMDG)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED (Isopentane, Pentane)
Hazard Class & Division: 2.1
EMS Number: F-D, S-U
UN Number: 1075
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.1
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED (Isopentane, Pentane), 2.1, (-135°C c.c.)

AIR (IATA)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED (Isopentane, Pentane)
Hazard Class & Division: 2.1
UN Number: 1075
Packing Group: (N/A)
Label(s) / Mark(s): 2.1
Transportation Limitations: CARGO AIRCRAFT ONLY

Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED (Isopentane, Pentane), 2.1

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, ENCS, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Flammable (gases, aerosols, liquids, or solids)

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BUTANE	106-97-8	1, 13, 16, 17, 18, 19
ETHANE	74-84-0	13, 17, 19
ISOBUTANE	75-28-5	1, 13, 16, 17, 18, 19
ISOPENTANE	78-78-4	1, 13, 17, 18, 19
METHANE	74-82-8	13, 17, 19
PENTANE	109-66-0	1, 4, 13, 16, 17, 18, 19
PROPANE	74-98-6	4, 13, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

WARNING: Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H220: Extremely flammable gas; Flammable Gas, Cat 1
H224: Extremely flammable liquid and vapor; Flammable Liquid, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
GHS Physical/Chemical Symbol information was modified.
Section 09: VAPOR PRESSURE information was modified.
Section 14: IATA Technical Name - All information was modified.
Section 14: IMO Technical Name - All information was modified.
Section 15: List Citations Table information was modified.
Section 15: National Chemical Inventory Listing information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0, 0, 0, 0 PPEC: DF

DGN: 7202843VUS (1030102)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Page 877 of 1315

Latest revision date: 04/29/2015
Version: 1.3

United States

Material Safety Data Sheet

The Ortho Group
P.O. Box 190
Marysville, Ohio 43040
United States

ORTHO HOME DEFENSE MAX INSECT KILLER FOR INDOOR & PERIMETER 1

Section 1. Identification

GHS product identifier	:	ORTHO HOME DEFENSE MAX INSECT KILLER FOR INDOOR & PERIMETER 1
Product type	:	Pesticide
SDS #	:	320000005718
EPA Registration Number:	:	279-9534-239

Relevant identified uses of the substance or mixture and uses advised against
Use only in accordance with label directions.

Section 2. Hazards identification

This product is regulated by the Environmental Protection Agency (EPA) for label precautionary text see Section 15.

OSHA/HCS status	:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	:	ACUTE TOXICITY (oral) - Category 4 EYE DAMAGE/IRRITATION - Category 2B SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : Harmful if swallowed.

1000202849-04 | Released - 04/29/2015 by , Workflow

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 878 of 1315

Causes eye irritation.
May cause an allergic skin reaction.

Precautionary statements

General	:	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention	:	Wear protective gloves. Wear eye or face protection. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.
Response	:	IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Storage	:	Not applicable.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:	None known.
Hazards not otherwise classified	:	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Chemical name	:	Not available.
Other means of identification	:	Not available.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
Inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact	:	Wash with plenty of soap and water. Remove contaminated clothing

Received by OCD: 4/14/2025 11:49:46 AM
1000202849-04 | Released - 04/29/2015 by , Workflow
Released to Imaging: 4/22/2025 3:42:03 PM

Page 879 of 1315

and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : May cause an allergic skin reaction.
Ingestion : Harmful if swallowed. May be irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

1000202849-04 | Released - 04/29/2015 by , Workflow
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 880 of 1315

Unsuitable extinguishing media	:	None known.
Specific hazards arising from the chemical	:	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	:	No specific data.
Special protective actions for fire-fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	:	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Spill	:	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

1000202849-04 | Released - 04/29/2015 by , Workflow

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 881 of 1315

Protective measures	:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls	:	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Environmental exposure controls	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	:	Protective eyewear is not required, but may be used in situations were contact is expected.

Received by OCD: 4/14/2025 11:49:46 AM
1000202849-04 | Released - 04/29/2015 by , Workflow
Released to Imaging: 4/22/2025 3:42:03 PM

Page 882 of 1315

Skin protection

Hand protection	:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	:	No special protective clothing is required.
Other skin protection	:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	:	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	:	liquid [microemulsion]
Color	:	Translucent.
Odor	:	Not available.
Odor threshold	:	Not available.
pH	:	4.5
Melting point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Not available.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	**Lower:** Not available. **Upper:** Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	Not available.
Solubility	:	Not available.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	**Dynamic:** Not available.

1000202849-04 | Released - 04/29/2015 by , Workflow

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 883 of 1315

Kinematic: Not available

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	No specific data.
Incompatible materials	:	No specific data.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
	LD50 Oral	Rat	2,000 mg/kg	-
	LC50 Inhalation	Rat	> 5 mg/l	-
	LD50 Dermal	Rat	> 5,000 mg/kg	-

Conclusion/Summary : Very low toxicity to humans or animals.Hazards to humans and domestic animals

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
	Eyes - Redness of the conjunctivae	Rabbit	> 2.0		-
	Skin - Erythema/Eschar	Rabbit	< 1.5		-

Conclusion/Summary

Skin	:	Slight
Eyes	:	Moderate
Respiratory	:	May cause respiratory irritation

Sensitization

Conclusion/Summary

Received by OCD: 4/14/2025 11:49:46 AM
1000202849-04 | Released - 04/29/2015 by , Workflow
Released to Imaging: 4/22/2025 3:42:03 PM

Page 884 of 1315

Skin	:	Sensitizing
Respiratory	:	Not available.

Mutagenicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Velcro Closure

Information on the likely routes of exposure	:	Not available.

Potential chronic health effects

Conclusion/Summary	:	No known significant effects or critical hazards.No additional remark.
General	:	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	:	No known significant effects or critical hazards.
Mutagenicity	:	No known significant effects or critical hazards.
Teratogenicity	:	No known significant effects or critical hazards.
Developmental effects	:	No known significant effects or critical hazards.
Fertility effects	:	No known significant effects or critical hazards.

Section 12. Ecological information

Toxicity

Conclusion/Summary	:	Not available.

1000202849-04 | Released - 04/29/2015 by , Workflow

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 885 of 1315

Persistence and degradability

Conclusion/Summary : No known significant effects or critical hazards.

Mobility in soil

Soil/water partition coefficient (KOC) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulatory information	UN no.	Proper shipping name	Class	PG*	Note
DOT		Not Regulated			

PG* : Packing group

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Received by OCD: 4/14/2025 11:49:46 AM

1000202849-04 | Released - 04/29/2015 by , Workflow

Released to Imaging: 4/22/2025 3:42:03 PM

Page 886 of 1315

Section 15. Regulatory information

Precautionary statements

Signal word : CAUTION!

Emergency Overview : Keep out of reach of children.
Harmful if swallowed.
Causes moderate eye irritation.
Avoid contact with skin, eyes or clothing.
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Wash throughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

U.S. Federal regulations : **United States inventory (TSCA 8b):**
Not determined.

State regulations

California Prop. 65
Not available.

International lists

National inventory

Australia	:	At least one component is not listed.
Canada	:	At least one component is not listed.
China	:	At least one component is not listed.
Europe	:	At least one component is not listed.
Japan	:	At least one component is not listed.
Malaysia	:	Not determined.
New Zealand	:	At least one component is not listed.
Philippines	:	At least one component is not listed.
Republic of Korea	:	At least one component is not listed.
Taiwan	:	Not determined.

Section 16. Other information

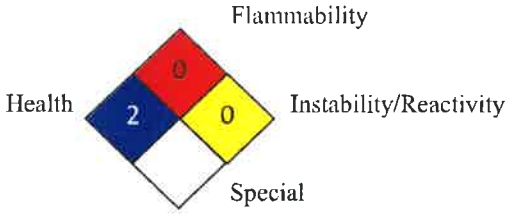
1000202849-04 | Released - 04/29/2015 by , Workflow

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 887 of 1315

National Fire Protection Association (U.S.A.):



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.
Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of issue/Date of revision	:	Validity date***.
Version	:	Report version.Report version

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

1000202849-04 | Released - 04/29/2015 by , Workflow

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 888 of 1315

Sullivan Palatek

Safety Data Sheet
PALASYN 45

SDS Revision Date: 05/02/2015

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Identity PALASYN 45

Alternate Names

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use See Technical Data Sheet.

Application Method See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name

Sullivan-Palatek, Inc.
1201 West US Highway 20
Michigan City, IN 46360
USA

Emergency

CHEMTREC (USA) (800) 424-9300

Customer Service: Sullivan-Palatek
Phone: (800) 438-6203
Fax: (219) 809-0203

2. Hazard identification of the product

2.1. Classification of the substance or mixture

No applicable GHS categories.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

No applicable GHS categories.

[Prevention]:

No GHS prevention statements

[Response]:

No GHS response statements

[Storage]:

No GHS storage statements

[Disposal]:

No GHS disposal statements

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 889 of 1315

3. Composition/information on ingredients

This product is considered a mixture.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Dec-1-ene, homopolymer, hydrogenated CAS Number: 0068037-01-4	25 - 50	Not classified	
1-Octene Homopolymer, Hydrogenated CAS Number: 0070693-43-5	1.0 - 10	Not classified	

[1] Substance classified with a health or environmental hazard.
[2] Substance with a workplace exposure limit.
[3] PBT-substance or vPvB-substance.
*The full texts of the phrases are shown in Section 16.

This formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Trade secrets are allowable per paragraph (i) of 29 CFR 1910.1200 as long as specific chemical identity and exact percentage composition are available and will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

4. First aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eyes Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview See section 2 for further details.

5. Fire-fighting measures

5.1. Extinguishing media

Dry chemical, foam, carbon dioxide or water spray.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: None under normal use.

Avoid breathing dust / fume / gas / mist / vapors / spray.

5.3. Advice for fire-fighters

In the event of fire, wear full protective clothing and NIOSH Approved Self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Move container from fire area if it can be done without risk. Use water to keep fire exposed containers cool and disperse vapors.

ERG Guide No. ----

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 890 of 1315

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Use personal protective equipment.

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Use a non-combustible material like vermiculite, sand or earth to soak up product and place in a container for later disposal.

Dike for disposal and cover with wet sand or earth.

7. Handling and storage

7.1. Precautions for safe handling

See section 2 for further details.

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Store in a cool dry place.

Keep containers tightly closed.

Incompatible materials: Incompatible with strong oxidizing agents

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0068037-01-4	Dec-1-ene, homopolymer, hydrogenated	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
0070693-43-5	1-Octene Homopolymer, Hydrogenated	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 891 of 1315

0068037-01-4	Dec-1-ene, homopolymer, hydrogenated	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0070693-43-5	1-Octene Homopolymer, Hydrogenated	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

8.2. Exposure controls

Respiratory	If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.
Eyes	Safety glasses with side shields
Skin	Overalls which cover the body, arms and legs should be worn. Skin should not be exposed. All parts of the body should be washed after contact.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance	Clear and bright Liquid
Odor	Odorous
Odor threshold	Not Measured
pH	Not Measured
Melting point / freezing point	Pour Point -51C
Initial boiling point and boiling range	Not Measured
Flash Point	251C
Evaporation rate (Ether = 1)	Not Measured
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** Not Measured **Upper Explosive Limit:** Not Measured
Vapor pressure (Pa)	Not Measured
Vapor Density	Not Measured
Specific Gravity	0.86
Solubility in Water	Not Measured
Partition coefficient n-octanol/water (Log Kow)	Not Measured
Auto-ignition temperature	Not Measured
Decomposition temperature	Not Measured
Viscosity (cSt)	46 cSt @ 40 C

9.2. Other information

None

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 892 of 1315

10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.
10.2. Chemical stability
Stable under normal circumstances.
10.3. Possibility of hazardous reactions
No data available.
10.4. Conditions to avoid
None known
10.5. Incompatible materials
Incompatible with strong oxidizing agents
10.6. Hazardous decomposition products
None under normal use.

11. Toxicological information

Acute toxicity

Product is safe for intended use based on the formulation, testing results and the long history of safe consumer use.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Dec-1-ene, homopolymer, hydrogenated - (68037-01-4)	> 5,000.00, Rat - Category: NA	3,000.00, Rabbit - Category: 5	No data available	4,800.00, Rat - Category: NA	No data available
1-Octene Homopolymer, Hydrogenated - (70693-43-5)	No data available	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 893 of 1315

Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

12.1. Toxicity

Toxic to aquatic life

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Dec-1-ene, homopolymer, hydrogenated - (68037-01-4)	Not Available	Not Available	Not Available
1-Octene Homopolymer, Hydrogenated - (70693-43-5)	Not Available	Not Available	Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	Not Applicable	Not Regulated	Not Regulated
14.2. UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
14.3. Transport hazard class(es)	**DOT Hazard Class:** Not Applicable **DOT Label:** ---	**IMDG:** Not Applicable **Sub Class:** Not Applicable	**Air Class:** Not Applicable

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 894 of 1315

14.4. Packing group	Not Applicable	Not Applicable	Not Applicable

14.5. Environmental hazards

IMDG Marine Pollutant: No

14.6. Special precautions for user

No further information

15. Regulatory information

Regulatory Overview	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.
Toxic Substance Control Act (TSCA)	All components of this material are either listed or exempt from listing on the TSCA Inventory.
WHMIS Classification	Not Regulated

US EPA Tier II Hazards

Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): Yes
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous :
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

N.J. RTK Substances (>1%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Penn RTK Substances (>1%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 895 of 1315

We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is: None

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

The information provided on the SDS is a correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Document

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

NALCO Champion
An Ecolab Company

SAFETY DATA SHEET

PARA10145A

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	PARA10145A
Other means of identification	:	Not applicable.
Recommended use	:	SURFACTANT
Restrictions on use	:	Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.
Company	:	Nalco Champion Company 7705 Highway 90-A Sugar Land, Texas 77478 USA TEL: (281) 263-7000
Emergency telephone number	:	(800) 424-9300 (24 Hours) CHEMTREC
Issuing date	:	07/11/2016

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 2
Acute toxicity (Oral)	:	Category 4
Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Germ cell mutagenicity	:	Category 1B
Carcinogenicity	:	Category 1B
Reproductive toxicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system, Central Nervous System)
Specific target organ toxicity - repeated exposure	:	Category 2 (Nervous system)
Aspiration hazard	:	Category 1

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Highly flammable liquid and vapour.
Harmful if swallowed.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.

May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs (Nervous system) through prolonged or repeated exposure.

Precautionary Statements : **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.Do NOT induce vomiting.

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Light Aliphatic Naphtha	64742-89-8	10 - 30
Xylene	1330-20-7	10 - 30
2-Ethylhexanol	104-76-7	10 - 30
Toluene	108-88-3	10 - 30
Distillates (Petroleum), Catalytic Reformer Fractionator Residue, Low Boiling	68477-31-6	1 - 5
Ethylbenzene	100-41-4	1 - 5
Isopropanol	67-63-0	1 - 5
Heavy Aromatic Naphtha	64742-94-5	1 - 5
Naphthalene	91-20-3	0.1 - 1

Section: 4. FIRST AID MEASURES

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Get medical attention if irritation develops and persists.

If swallowed : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed - can enter lungs and cause damage. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders	:	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Section: 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Foam Carbon dioxide Dry powder Other extinguishing agent suitable for Class B fires For large fires, use water spray or fog, thoroughly drenching the burning material.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Section: 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Remove all sources of ignition. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Do not flush into surface water or sanitary sewer system.

Section: 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. Open drum carefully as content may be under pressure. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Do not ingest. Keep away from fire, sparks and heated surfaces. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Use only with adequate ventilation.
Conditions for safe storage	:	Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
Suitable material	:	Keep in properly labelled containers.
Unsuitable material	:	not determined

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Light Aliphatic Naphtha	64742-89-8	TWA	500 ppm 2,000 mg/m3	OSHA Z1
Xylene	1330-20-7	TWA	100 ppm 435 mg/m3	OSHA Z1
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
Toluene	108-88-3	TWA	20 ppm	ACGIH
		TWA	100 ppm 375 mg/m3	NIOSH REL
		STEL	150 ppm 560 mg/m3	NIOSH REL
		TWA	200 ppm	OSHA/Z2
		CEIL	300 ppm	OSHA/Z2
		Peak	500 ppm	OSHA/Z2
Ethylbenzene	100-41-4	TWA	20 ppm	ACGIH
		TWA	100 ppm 435 mg/m3	NIOSH REL
		STEL	125 ppm 545 mg/m3	NIOSH REL
		TWA	100 ppm 435 mg/m3	OSHA Z1
Isopropanol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m3	NIOSH REL
		STEL	500 ppm 1,225 mg/m3	NIOSH REL
		TWA	400 ppm 980 mg/m3	OSHA Z1
Heavy Aromatic Naphtha	64742-94-5	TWA	500 ppm 2,000 mg/m3	OSHA Z1
		TWA	200 mg/m3 (as	ACGIH

			total hydrocarbon vapor)	
Naphthalene	91-20-3	TWA	10 ppm	ACGIH
		TWA	10 ppm 50 mg/m3	NIOSH REL
		STEL	15 ppm 75 mg/m3	NIOSH REL
		TWA	10 ppm 50 mg/m3	OSHA Z1

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Wear suitable protective clothing.

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Colour : amber
Odour : hydrocarbon-like
Flash point : -1 °C
pH : Not applicable.
Odour Threshold : no data available
Melting point/freezing point : pour point: -40 °C
Initial boiling point and boiling range : no data available
Evaporation rate : no data available
Flammability (solid, gas) : no data available
Upper explosion limit : no data available
Lower explosion limit : no data available
Vapour pressure : no data available

Relative vapour density	:	no data available
Relative density	:	0.8366 - 0.8766, (15.6 °C),
Density	:	0.8332 - 0.8731 g/cm3
Water solubility	:	insoluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition temperature	:	no data available
Viscosity, dynamic	:	1 - 5 mPa.s (23.9 °C)
Viscosity, kinematic	:	2.3 mm2/s (40 °C)
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	:	Causes serious eye irritation.
Skin	:	Causes skin irritation.
Ingestion	:	Harmful if swallowed. May be fatal if swallowed and enters airways.
Inhalation	:	May cause respiratory tract irritation. May cause nose, throat, and lung irritation. Inhalation may cause central nervous system effects.
Chronic Exposure	:	May cause cancer. Suspected of damaging fertility or the unborn child. May cause genetic defects.

Experience with human exposure

Eye contact	:	Redness, Pain, Irritation
Skin contact	:	Redness, Irritation
Ingestion	:	Vomiting
Inhalation	:	Respiratory irritation, Cough, Dizziness, Drowsiness

Toxicity

Product

Acute oral toxicity	:	Acute toxicity estimate: 1,824 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 6.87 mg/l Exposure time: 4 h
Acute dermal toxicity	:	Acute toxicity estimate: 4,543 mg/kg
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available

Carcinogenicity

IARC

Group 2B: Possibly carcinogenic to humans

Ethylbenzene	100-41-4
Naphthalene	91-20-3

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

Reasonably anticipated to be a human carcinogen

Naphthalene	91-20-3

Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Ecotoxicity

Environmental Effects	:	Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Components

Toxicity to fish : Toluene
LC50 Oncorhynchus kisutch (coho salmon): 5.5 mg/l
Exposure time: 96 h

Isopropanol
LC50 Pimephales promelas (fathead minnow): 9,640 mg/l
Exposure time: 96 h

Heavy Aromatic Naphtha
LC50 Oncorhynchus mykiss (rainbow trout): 3.5 mg/l
Exposure time: 96 h

Components

Toxicity to daphnia and other aquatic invertebrates : Toluene
LC50 Ceriodaphnia dubia (water flea): 3.78 mg/l
Exposure time: 48 h

Ethylbenzene
EC50 Daphnia: 1.81 mg/l
Exposure time: 48 h

Isopropanol
LC50 Daphnia magna (Water flea): > 10,000 mg/l

Components

Toxicity to algae : 2-Ethylhexanol
EC50 : 11.5 mg/l
Exposure time: 72 h

Toluene
EC50 Chlorella vulgaris (Fresh water algae): 134 mg/l
Exposure time: 72 h

Components

Toxicity to bacteria : Toluene
84 mg/l
EC50 Nitrosomonas Sp.: 84 mg/l
Exposure time: 24 h

Isopropanol
1,050 mg/l

Components

Toxicity to fish (Chronic toxicity) : Toluene
NOEC: 1.39 mg/l
Exposure time: 40 d
Species: Oncorhynchus kisutch (coho salmon)

Components

Toxicity to daphnia and other aquatic invertebrates : Toluene
NOEC: 0.74 mg/l

(Chronic toxicity)	Exposure time: 7 d Species: Ceriodaphnia dubia

Persistence and degradability

no data available

Mobility

no data available

Bioaccumulative potential

no data available

Other information

no data available

Section: 13. DISPOSAL CONSIDERATIONS

The information presented only applies to the material as supplied. The classification or waste code may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated at the time of disposal to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Disposal methods	:	The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Proper shipping name	:	FLAMMABLE LIQUID, N.O.S.
Technical name(s)	:	Light Aliphatic Naphtha, Toluene
UN/ID No.	:	UN 1993
Transport hazard class(es)	:	3
Packing group	:	II
Reportable Quantity (per package)	:	564 lbs
RQ Component	:	Xylene

Air transport (IATA)

The presence of an RQ component (Reportable Quantity for U.S. DOT) in this product causes it to be regulated with an additional description of RQ for road, or as Environmentally hazardous for road and air, ONLY when the net weight in the package exceeds the calculated RQ for the product.

Proper shipping name	:	FLAMMABLE LIQUID, N.O.S.
Technical name(s)	:	Light Aliphatic Naphtha, Toluene
UN/ID No.	:	UN 1993
Transport hazard class(es)	:	3
Packing group	:	II
Reportable Quantity (per package)	:	564 lbs
RQ Component	:	Xylene

Sea transport (IMDG/IMO)

Proper shipping name	:	FLAMMABLE LIQUID, N.O.S.
Technical name(s)	:	Light Aliphatic Naphtha, Toluene
UN/ID No.	:	UN 1993
Transport hazard class(es)	:	3
Packing group	:	II

Section: 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Xylene	1330-20-7	100	564

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Xylene	1330-20-7	10 - 30 %
Toluene	108-88-3	10 - 30 %
Ethylbenzene	100-41-4	1 - 5 %
Naphthalene	91-20-3	0.1 - 1 %

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

Ethylbenzene	100-41-4
Naphthalene	91-20-3

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Toluene	108-88-3

INTERNATIONAL CHEMICAL CONTROL LAWS :

TOXIC SUBSTANCES CONTROL ACT (TSCA)
On TSCA Inventory

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)
All components of this product are on the Canadian DSL.

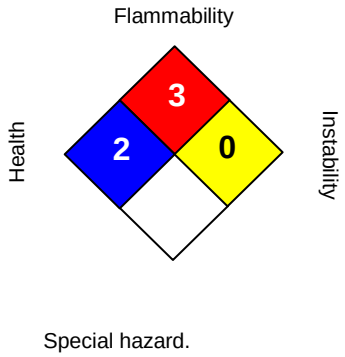
AUSTRALIA
not determined

CHINA
Not in compliance with the inventory

NEW ZEALAND
Not in compliance with the inventory

Section: 16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date	:	07/11/2016
Version Number	:	1.1
Prepared By	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality

specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
For additional copies of an SDS visit www.nalco.com and request access.

Page 908 of 1315

PB Penetrating Catalyst

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Date of issue: 11/09/2016 Revision date: 06/26/2017 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product name : PB Penetrating Catalyst

Product code : 16-PB, 8-PB, 8-PBS, PB-TS, 20-PB, 26-PB

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Penetrant

1.3. Details of the supplier of the safety data sheet

Manufacturer
The Blaster Corporation
8500 Sweet Valley Drive
Valley View, Ohio 44125 - USA
T (216) 901-5800 - F (216) 901-5801
www.blastercorp.com

1.4. Emergency telephone number

Emergency number : ChemTel 800-255-3924

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Aerosol 2

Dissolved gas

Asp. Tox. 1

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS02 GHS04 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : Flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways.

Precautionary statements (GHS-US) : Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. Store locked up. Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Dispose of contents/container in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

NEXREG

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 909 of 1315

3.2. Mixtures

Name	Product identifier	%
Petroleum distillates, hydrotreated light	(CAS No) 64742-47-8	50 - 60
Solvent naphtha, petroleum, heavy aromatic	(CAS No) 64742-94-5	20 - 30
Distillates, petroleum, hydrotreated heavy naphthenic	(CAS No) 64742-52-5	20 - 30
Carbon dioxide	(CAS No) 124-38-9	1 - 4

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If irritation occurs, flush skin with plenty of water. Get medical attention if irritation persists. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Direct contact with the eyes is likely to be irritating.

First-aid measures after ingestion : IF SWALLOWED: immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide, dry chemical, halons or foam.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable aerosol. Products of combustion may include, and are not limited to: oxides of carbon and oxides of nitrogen.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity : No dangerous reaction known under conditions of normal use.

5.3. Advice for firefighters

Firefighting instructions : DO NOT fight fire when fire reaches explosives. Evacuate area. Exercise caution when fighting any chemical fire.

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Use water spray to keep fire-exposed containers cool.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Isolate from fire, if possible, without unnecessary risk. Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

NEXREG
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 910 of 1315

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Eliminate sources of ignition. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Scoop up material and place in a disposal container. Provide ventilation.

6.4. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not spray on an open flame or other ignition source. Keep away from sources of ignition - No smoking. Use non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharge. Avoid contact with skin and eyes. Do not swallow. Do not breathe gas, fumes, vapour or spray. When using do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Do not pierce or burn, even after use.

Hygiene measures : Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep locked up and out of reach of children. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store away from direct sunlight or other heat sources. Keep in fireproof place.

Storage area : Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Petroleum distillates, hydrotreated light (64742-47-8)

Not applicable

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

Not applicable

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

Not applicable

Carbon dioxide (124-38-9)

ACGIH	ACGIH TWA (ppm)	5000 ppm
ACGIH	ACGIH STEL (ppm)	30000 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	9000 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	5000 ppm

8.2. Exposure controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection : Wear chemically resistant protective gloves.

Eye protection : Safety glasses or goggles are recommended when using product.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Maintain levels below Community environmental protection thresholds.

Other information : Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

NEXREG
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 911 of 1315

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear. Aerosol.
Colour	:	Orange
Odour	:	Characteristic
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	356 °F (180 °C)
Flash point	:	> 141 °F (> 61 °C)
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability (solid, gas)	:	Flammable aerosol.
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	0.9
Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive limits	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

Heat of Combustion	:	45.8 kJ/g
Flame Projection	:	0 inches
Flashback	:	None

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions. Flammable aerosol. Contents under pressure. Container may explode if heated. Do not puncture. Do not burn. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Sources of ignition. Heat. Incompatible materials.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon and oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified.

NEXREG

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 912 of 1315

PB Penetreating Catalyst	
LD50 oral rat	> 2000 mg/kg (Calculated Acute Toxicity Estimate)
LD50 dermal rabbit	> 2000 mg/kg (Calculated Acute Toxicity Estimate)
LC50 inhalation rat	> 5 mg/l/4h (Calculated Acute Toxicity Estimate)

Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 5.2 mg/l/4h

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2 ml/kg
LC50 inhalation rat	> 590 mg/m³ (Exposure time: 4 h)

Skin corrosion/irritation : Not classified.

Serious eye damage/irritation : Not classified.

Respiratory or skin sensitisation : Not classified.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified.

Reproductive toxicity : Not classified.

Specific target organ toxicity (single exposure) : Not classified.

Specific target organ toxicity (repeated exposure) : Not classified.

Aspiration hazard : May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. This product may be aspirated into the lungs and cause chemical pneumonitis. May cause stomach distress, nausea or vomiting.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Petroleum distillates, hydrotreated light (64742-47-8)	
LC50 fish 1	45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	2.2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
LC50 fish 1	19 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	0.95 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	2.34 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)	
LC50 fish 1	> 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

PB Penetreating Catalyst	
Persistence and degradability	Not established.

NEXREG

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 913 of 1315

12.3. Bioaccumulative potential

PB Penetreating Catalyst	
Bioaccumulative potential	Not established.

Petroleum distillates, hydrotreated light (64742-47-8)	
BCF fish 1	61 - 159

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
BCF fish 1	61 - 159
Partition coefficient n-octanol/water	2.9 - 6.1

Carbon dioxide (124-38-9)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1950 Aerosols (flammable, (each not exceeding 1 L capacity)), 2.1

UN-No.(DOT) : UN1950

Proper Shipping Name (DOT) : Aerosols
flammable, (each not exceeding 1 L capacity)

Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115

Hazard labels (DOT) : 2.1 - Flammable gas

Other information : No supplementary information available.

Special transport precautions : Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm

NEXREG
Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 914 of 1315

Naphthalene (91-20-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	5.8 µg/day

Carbon dioxide (124-38-9)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Date of issue : 11/09/2016

Revision date : 06/26/2017

Other information : None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

BlueDEF Diesel Exhaust Fluid

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 04/21/2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : BlueDEF Diesel Exhaust Fluid

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Solution for NOx reduction in SCR systems

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : (800) 424-9300; (703) 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

Signal word (GHS-US) : None

Hazard statements (GHS-US) : None

Precautionary statements (GHS-US) : None

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% by wt	GHS-US classification
water	(CAS-No.) 7732-18-5	67.5	Not classified
urea	(CAS-No.) 57-13-6	32.5	Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : The EPA has no established reportable quantity for spills for this material, secondary containment is not specified.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. For minor spillages wash down with excess of water. Mop up small spills.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective goggles.

Hand protection:

Wear protective gloves

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Odor	:	characteristic ammonia odor
Odor threshold	:	No data available
pH	:	9 - 10
Relative evaporation rate (butylacetate=1)	:	< 1
Freezing point	:	-11 °C (12 ºF)
Boiling point	:	> 100 °C (212 ºF)
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not Applicable
Relative vapor density at 20 °C	:	0.6 H2O, >1
Specific Gravity	:	1.09
Solubility	:	Soluble in water. Water: 100 %
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Strong bases. oxidizing agents (peroxides, chromates, dichromates).

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Fume.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

urea (57-13-6)	
LD50 oral rat	8,471.00 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 14300 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 3,200.00 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 21,000.00 mg/kg (Rabbit; Literature study)
ATE US (oral)	8,471.00 mg/kg bodyweight

Skin corrosion/irritation : Not classified
pH: 9 - 10

Serious eye damage/irritation : Not classified
pH: 9 - 10

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

urea (57-13-6)	
LC50 fish 1	> 6,810.00 mg/l (LC50; 96 h; Leuciscus idus; Static system)
EC50 Daphnia 1	> 10,000.00 mg/l (EC50; 48 h; Daphnia magna)
Threshold limit algae 1	> 10000 mg/l (EC0; 168 h; Scenedesmus quadricauda; Static system; Fresh water)

12.2. Persistence and degradability

urea (57-13-6)	
Persistence and degradability	Inherently biodegradable. Hydrolysis in water. Highly mobile in soil.
ThOD	0.27 g O_2/g substance

12.3. Bioaccumulative potential

urea (57-13-6)	
BCF fish 1	1.00 (BCF; 72 h; Brachydanio rerio)
BCF other aquatic organisms 1	11,700.00 (BCF)
Log Pow	< -1.73 (Experimental value; EU Method A.8: Partition Coefficient)
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

urea (57-13-6)	
Mobility in soil	Not applicable
Log Koc	Koc,0.037-0.064; Experimental value

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on global warming : No known effects from this product.
No additional information available

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : As a non-hazardous liquid waste, it should be solidified with stabilizing agents such as sand, fly ash, or clay absorbent, so that no free liquid remains before disposal to an industrial waste landfill.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Refer to current TDG Canada for further Canadian regulations

ADR

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

BlueDEF Diesel Exhaust Fluid	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
CERCLA RQ	None. This material is not classified as hazardous under U.S. EPA regulations.
SARA Section 302 Threshold Planning Quantity (TPQ)	No extremely hazardous substances are in this product.
SARA Section 311/312 Hazard Classes	Urea. No hazards resulting from the material as supplied.

urea (57-13-6)	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

BlueDEF Diesel Exhaust Fluid	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

EU-Regulations

No additional information available

National regulations

BlueDEF Diesel Exhaust Fluid
DSL (Canada): The intentional ingredients of this product are listed

urea (57-13-6)
DSL (Canada): The intentional ingredients of this product are listed EINECS (Europe): The intentional ingredients of this product are listed

15.3. US State regulations

California Proposition 65 - This product does not contain any substance(s) known to the state of California to cause cancer, developmental toxicity and/or reproductive toxicity

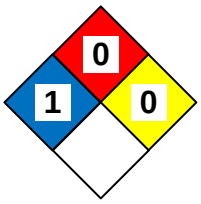
SECTION 16: Other information

Revision date : 04/21/2017

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection B - Safety glasses, Gloves

SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Page 921 of 1315

PEAK Windshield Wash Fluid 0 °F

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 06/26/2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture

Product name : PEAK Windshield Wash Fluid 0 °F

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Windshield washer fluid

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : (800) 424-9300; (703) 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids, Category 3	H226	Flammable liquid and vapor
Acute toxicity (oral), Category 4	H302	Harmful if swallowed
Acute toxicity (dermal), Category 4	H312	Harmful in contact with skin
Acute toxicity (inhalation:dust,mist) Category 4	H332	Harmful if inhaled
Specific target organ toxicity — single exposure, Category 1	H370	Causes damage to organs (May cause blindness if swallowed)

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS02 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H226 - Flammable liquid and vapor
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H370 - Causes damage to organs (May cause blindness if swallowed)

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe mist, spray, vapors
P264 - Wash affected areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear personal protective equipment as required

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 922 of 1315

P301+P310 - If swallowed: Immediately call doctor/physician or poison center. Rinse Mouth
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call doctor/physician or poison center if you feel unwell
P363 - Wash contaminated clothing before reuse
P370+P378 - In case of fire: Use Foam, Sand, Dry powder, carbon dioxide (CO2) to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% by wt	GHS-US classification
water	(CAS-No.) 7732-18-5	<= 77	Not classified
methanol	(CAS-No.) 67-56-1	<= 23	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice. Allow the victim to rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Remove clothing before washing. Consult a doctor/medical service.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Obtain emergency medical attention. Rinse mouth. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : May cause irritation of the nose and throat. High concentrations may cause central nervous system characterized by severe headaches, dizziness, nausea and confusion.

Symptoms/effects after skin contact : Prolonged exposure to skin may cause skin irritation experienced as burning, dryness, cracking and redness.

Symptoms/effects after eye contact : May cause severe irritation.

Symptoms/effects after ingestion : May cause nausea, abdominal pain, headache, shortness of breath, visual impairment and blindness. Severe poisoning can lead to coma and death.

Chronic symptoms : Repeated or prolonged skin contact. Red skin. Dry skin. Skin rash/inflammation. Headache. Feeling of weakness. Disturbed tactile sensibility. Visual disturbances. Sleeplessness. Gastrointestinal complaints. Cardiac and blood circulation effects.

4.3. Indication of any immediate medical attention and special treatment needed

This product contains methanol which can cause intoxication and depression of the central nervous system. Methanol is metabolized to formic acid and formaldehyde. These metabolites can cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 923 of 1315

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : ABC powder. Foam. Dry powder. Carbon dioxide. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapor. Vapors are heavier than air and may travel along the ground or may be moved by ventilation.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Special protective equipment for fire fighters : Wear positive pressure self-contained breathing apparatus (SCBA). Protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. Avoid breathing vapors, mist. If exposed to levels above exposure limits wear appropriate respiratory protection.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. Keep upwind. Mark the danger area.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain leaking substance. Contain released substance, pump into suitable containers. Dam up the liquid spill. Plug the leak, cut off the supply. Try to reduce evaporation. Dilute combustible/toxic gases/vapors with water spray. Take account of toxic/corrosive precipitation water.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : In use, may form flammable vapor-air mixture.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures : Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Use explosion-proof electrical, ventilating, lighting equipment. Ground/bond container and receiving equipment. Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.

Incompatible materials : Sources of ignition.

7.3. Specific end use(s)

No additional information available

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 924 of 1315

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

methanol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm (Skin)
ACGIH	ACGIH STEL (ppm)	250 ppm (Skin)
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
OSHA	OSHA PEL (TWA) (mg/m³)	260 mg/m³ (Skin)
OSHA	OSHA PEL (TWA) (ppm)	200 ppm (Skin)

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection:

Wear protective gloves

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Blue
Odor	:	alcohol
Odor threshold	:	No data available
Relative evaporation rate (butylacetate=1)	:	Greater then n-butyl acetate
Freezing point	:	-17.8 °C (0 °F)
Boiling point	:	85.6 °C (186 °F)
Flash point	:	40 °C (104 °F) Method Used: TCC
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	37.2 mm Hg @ 20 °C
Relative vapor density at 20 °C	:	Heavier than air
Specific Gravity	:	0.97 @ 20 °C
Solubility	:	Water: Complete

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 925 of 1315

Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	6 - 36 vol %

9.2. Other information

VOC content : 23 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Keep away from any flames or sparking source.

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation:dust,mist: Harmful if inhaled.

PEAK Windshield Wash Fluid 0 °F	
ATE US (oral)	434.78 mg/kg bodyweight
ATE US (dermal)	1,304.35 mg/kg bodyweight
ATE US (dust,mist)	2.17 mg/l/4h

methanol (67-56-1)	
LD50 oral rat	> 5,000.00 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15,800.00 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85.00 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64,000.00 ppm/4h (Rat; Literature study)
ATE US (oral)	100.00 mg/kg bodyweight
ATE US (dermal)	300.00 mg/kg bodyweight
ATE US (gases)	700.00 ppmv/4h
ATE US (vapors)	3.00 mg/l/4h
ATE US (dust,mist)	0.50 mg/l/4h

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Causes damage to organs (May cause blindness if swallowed) .

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 926 of 1315

Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Symptoms/effects after inhalation	:	May cause irritation of the nose and throat. High concentrations may cause central nervous system characterized by severe headaches, dizziness, nausea and confusion.
Symptoms/effects after skin contact	:	Prolonged exposure to skin may cause skin irritation experienced as burning, dryness, cracking and redness.
Symptoms/effects after eye contact	:	May cause severe irritation.
Symptoms/effects after ingestion	:	May cause nausea, abdominal pain, headache, shortness of breath, visual impairment and blindness. Severe poisoning can lead to coma and death.
Chronic symptoms	:	Repeated or prolonged skin contact. Red skin. Dry skin. Skin rash/inflammation. Headache. Feeling of weakness. Disturbed tactile sensibility. Visual disturbances. Sleeplessness. Gastrointestinal complaints. Cardiac and blood circulation effects.

SECTION 12: Ecological information

12.1. Toxicity

methanol (67-56-1)	
LC50 fish 1	15,400.00 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10,000.00 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10,800.00 mg/l (LC50; 96 h; Salmo gairdneri)

12.2. Persistence and degradability

methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O_2/g substance
Chemical oxygen demand (COD)	1.42 g O_2/g substance
ThOD	1.50 g O_2/g substance
BOD (% of ThOD)	0.80 (Literature study)

12.3. Bioaccumulative potential

methanol (67-56-1)	
BCF fish 1	< 10.00 (BCF; 72 h; Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

methanol (67-56-1)	
Surface tension	0.02 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value

12.5. Other adverse effects

Effect on ozone layer	:	No known effect on the ozone layer
Effect on global warming	:	No known effects from this product.
Other information	:	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	:	Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.
Ecology - waste materials	:	Avoid release to the environment.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 927 of 1315

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Other information : Not regulated according to 49 CFR 173.150 (e) when shipping domestically.

Transportation of Dangerous Goods

Refer to current TDG Canada for further Canadian regulations

Transport by sea

UN-No. (IMDG) : 1993
Transport document description (IMDG) : UN 1993 FLAMMABLE LIQUID, N.O.S. (Methanol Solution), 3, III
Class (IMDG) : 3 - Flammable liquids
Packing group (IMDG) : III - substances presenting low danger
Limited quantities (IMDG) : LQC3
Limited quantities (IMDG) : Limited Quantites of Class 3 (This must be notated on Shipper's Declaration).

Air transport

UN-No. (IATA) : 1993
Transport document description (IATA) : UN 1993 Flammable liquid, n.o.s. (Methanol Solution), 3, III
Class (IATA) : 3 - Flammable Liquids
Packing group (IATA) : III - Minor Danger
Instruction "passenger" - Limited quantities (ICAO) : Y343 (Max qty. per package 10L). Special Provision A3

SECTION 15: Regulatory information

15.1. US Federal regulations

PEAK Windshield Wash Fluid 0 °F	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard
SARA Section 313 - Emission Reporting	23 % (Methanol CAS # 67-56-1)

methanol (67-56-1)	
CERCLA RQ	5000 lb(s) (2270 kg)

water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

PEAK Windshield Wash Fluid 0 °F	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

EU-Regulations

No additional information available

National regulations

PEAK Windshield Wash Fluid 0 °F
DSL (Canada): The intentional ingredients of this product are listed ECL (South Korea): The intentional ingredients of this product are listed. ENCS (Japan): The intentional ingredients of this product are listed EINECS (Europe): The intentional ingredients of this product are listed

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 928 of 1315

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, substance(s) known to the state of California to cause cancer, developmental toxicity and/or reproductive toxicity

methanol (67-56-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	No	

methanol (67-56-1)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 06/26/2017

Full text of H-statements:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H331	Toxic if inhaled
H332	Harmful if inhaled
H370	Causes damage to organs

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.

Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 °F (37 °C) but below 200 °F (93 °C). (Classes II & IIIA)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection : A - Safety glasses

SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL PEGASUS 805 ULTRA**
Product Description: Base Oil and Additives
Product Code: 201525106050
Intended Use: Natural gas engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary

from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BENZENE SULFONIC ACIDS, C10-16 ALKYL DERIVS., CA SALTS	68584-23-6	0.1 - < 1%	H317
BENZENESULFONIC ACID, MONO-C16-24-ALKYL DERIVS. CALCIUM SALTS	70024-69-0	0.1 - < 1%	H317
HYDROXYALKARYL ALKYL ESTERS	125643-61-0	1 - < 5%	H413
SULFONIC ACIDS, PETROLEUM, CALCIUM SALTS	61789-86-4	0.1 - < 1%	H317
ZINC DITHIOPHOSPHATE	68649-42-3	0.1 - < 1%	H315, H318, H401, H411

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >220°C (428°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material;

however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.885
Flammability (Solid, Gas): N/A
Flash Point [Method]: >220°C (428°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D
Boiling Point / Range: > 288°C (550°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 125 cSt (125 mm2/sec) at 40 °C | 13 cSt (13 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -12°C (10°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point	May cause mild, short-lasting discomfort to eyes. Based on

data for material.	assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Sulfonates: This product contains sulfonates which have been reported to cause skin sensitization.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL
Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	17, 18, 19
ZINC DITHIOPHOSPHATE	68649-42-3	15, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H413: May cause long lasting harmful effects to aquatic life; Chronic Env Tox, Cat 4

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Composition: Component Table information was modified.
Section 15: List Citations Table information was modified.
Section 15: National Chemical Inventory Listing information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.
Section 15: Special Cases Table information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 7159651XUS (543815)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Perfect Data Dusters

SAFETY DATA SHEET

According to Canada's Hazardous Products Regulations (HPR) SOR/2015-17

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Chemical Name	1,1,1,2-Tetrafluoroethane
CAS No.	811-97-2
Trade Name	Perfect Data Dusters 105598-1, 105599-1, 105798-1,105798-5
Product Code	M-5702-1, M-5693-1, M-5751-1

Relevant identified uses of the substance or mixture and uses advised against

Identified Use(s)	Cleaning product
Uses Advised Against	None
Company Identification	Spray Products Corporation P.O. Box 737 Norristown, PA 19404
Telephone	(610) 277-1010
Fax	(610) 277-4390
E-Mail (competent person)	sds@sprayproducts.com.

Emergency telephone number

Emergency Phone No.	**Transportation Emergency:** CHEMTREC 24 hr. 1-800-424-9300 / 1 (703) 527-3887 (Collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

HPR/WHIMIS 2015/GHS Classification	Liquefied gas; Simple Asphyxiant

Label elements

Hazard Symbol

Signal Word(s)	**WARNING**
Hazard Statement(s)	Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.
Precautionary Statement(s)	Protect from sunlight and do not expose to temperatures exceeding 50 ºC/122 ºF. Do not use in confined spaces. Store in a well-ventilated place. Avoid breathing gas. Keep out of reach of children.
Other hazards	Intentional inhalation of gas from the container may be fatal.

Perfect Data Dusters

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	% wt.	CAS No.	Hazard classification
1,1,1,2-Tetrafluoroethane	100	811-97-2	Liquified Gas; H280 Simple Asphyxiant

Additional Information - None

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation	Move person to fresh air. If breathing is laboured, administer oxygen. If symptoms develop, obtain medical attention.
Skin Contact	Wash affected skin with soap and water. If symptoms develop, obtain medical attention.
Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms occur obtain medical attention.
Ingestion	Unlikely to be required but if necessary treat symptomatically. Do not give anything by mouth to an unconscious person. Seek medical treatment.
Most important symptoms and effects, both acute and delayed	Liquid contact with skin or eyes may cause frostbite.
Indication of any immediate medical attention and special treatment needed	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

-Suitable Extinguishing Media	Non-combustible. As appropriate for surrounding fire.
-Unsuitable Extinguishing Media	None anticipated
Special hazards arising from the substance or mixture	None
Advice for fire-fighters	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions. Keep containers cool by spraying with water if exposed to fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Avoid contact with skin and eyes. Avoid breathing gas.
Environmental precautions	Not normally required.
Methods and material for containment and cleaning up	Gaseous. Not normally required.
Reference to other sections	None
Additional Information	None

Perfect Data Dusters

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Use product in a well-ventilated area only. Do not use in confined spaces.

Conditions for safe storage, including any incompatibilities

-Storage temperature	Keep in a cool, well ventilated place. Store at temperatures not exceeding 50°C/122°F.
-Incompatible materials	This product should be stored away from sources of strong heat or oxidising chemicals.

Specific end use(s)

Cleaning product

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

SUBSTANCE.	CAS No.	(8hr TWA) OEL (Canada)	(8hr TWA) TLV (ACGIH)	(STEL) OEL (Canada)	(STEL) TLV (ACGIH)	Note:
None	811-97-2	-----	-----	-----	-----	#

#Assure minimum oxygen content of work atmosphere.

Recommended monitoring method

Electrochemical sensor (% O_2)

Exposure controls

Appropriate engineering controls

Ensure adequate ventilation.

Personal protection equipment

Eye/face protection

Wear protective eyewear (goggles, face shield, or safety glasses).

Skin protection (Hand protection/ Other)

Wear suitable gloves if prolonged skin contact is likely (Nitrile rubber)

Respiratory protection

Normally no personal respiratory protection is necessary. In case of insufficient ventilation, wear suitable respiratory equipment. A dust mask is not acceptable.

Thermal hazards

Not normally required. Use gloves with insulation for thermal protection, when needed.

Environmental Exposure Controls

None known

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquified gas
Color.	Colorless
Odour	Ethereal
Odour Threshold (ppm)	Not available
pH (Value)	Not available
Melting Point (°C) / Freezing Point (°C)	-108

Perfect Data Dusters

Boiling point/boiling range (°C):	-26
Flash Point (°C)	Gaseous - Not applicable
Evaporation Rate	Gaseous
Flammability (solid, gas)	Non-flammable
Explosive Limit Ranges	Non-flammable
Vapour pressure (Pascal)	5.8×10^5 (@ 21°C)
Vapour Density (Air=1)	3.52 (@ 25°C)
Density (g/ml)	Not available
Solubility (Water)	0.95% (@ 21°C)
Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available
Auto Ignition Point (°C)	>743
Decomposition Temperature (°C)	Not available
Kinematic Viscosity (cSt)	Not available
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Other information	Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable.
Possibility of hazardous reactions	None anticipated.
Conditions to avoid	Avoid contact with heat and ignition sources.
Incompatible materials	Strong oxidising agents.
Hazardous decomposition product(s)	None known

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Skin Contact, Eye Contact

Acute toxicity (Inhalation)	LCLo >= 567000 ppm 4 hr exposure

SECTION 12: ECOLOGICAL INFORMATION

Aquatic toxicity:

Short term	Not available
Long Term	Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.

SECTION 14: TRANSPORT INFORMATION

	Land transport (TDG)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN number	3159	3159	3159
Proper Shipping Name	1,1,1,2-Tetrafluorethane	1,1,1,2-Tetrafluorethane	1,1,1,2-Tetrafluorethane
Transport hazard class(es)	2.2	2.2	2.2
Packing group	Not applicable	Not applicable	Not applicable
Environmental hazards	None assigned	None assigned	None assigned

Perfect Data Dusters

Special precautions for user	None assigned	None assigned	None assigned

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

This product has been classified in accordance to CPR Section 12 and the MSDS contains all the information required by the CPR.

Canada (DSL/NDSL) - All chemicals listed.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.
Date of preparation: March 12, 2017
Hazard Statement(s) and Risk Phrases Listed in: SECTION 2:/ SECTION 3:

Hazard Statement(s)
- H280: Contains gas under pressure; may explode if heated.

Training advice: None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: PETROLEUM CONDENSATE, SWEET (PG I)
Product Description: Petroleum Hydrocarbons

Intended Use: Process stream

Trade Names	Trade Names
CONDENSATE	DRIP GAS
NATURAL GAS CONDENSATE	NATURAL GASOLINE

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable liquid: Category 1.
Skin irritation: Category 2. Germ Cell Mutagen: Category 1B. Carcinogen: Category 1A. Specific target organ toxicant (central nervous system): Category 3. Specific target organ toxicant (repeated exposure): Category 1. Aspiration toxicant: Category 1.

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H224: Extremely flammable liquid and vapor. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H336: May cause drowsiness or dizziness. H340: May cause genetic defects. H350: May cause cancer. H372: Causes damage to organs through prolonged or repeated exposure. Blood, Central Nervous system

Precautionary Statements:
P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P233: Keep container tightly closed. P240: Ground / bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating, and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P260: Do not breathe mist / vapours. P264: Wash skin thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P313: IF exposed or concerned: Get medical advice/ attention. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/ attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish. P391: Collect spillage.P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up.P501: Dispose of contents and container in accordance with local regulations.

Contains: NATURAL GAS CONDENSATE (PETROLEUM)

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS
Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS
High-pressure injection under skin may cause serious damage. Overexposure to n-hexane may cause effects on the peripheral nerves, resulting in weakness or numbness of lower limbs. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression. Exposure to benzene is associated with cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders (see Section 11).

ENVIRONMENTAL HAZARDS
Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID:	Health:	2	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	2*	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert

advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
NATURAL GAS CONDENSATE (PETROLEUM)	64741-47-5	100%	H224, H304, H336, H340(1B), H350(1A), H315, H372, H401, H411

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BENZENE	71-43-2	0.01 - 2%	H225, H303, H304, H340(1B), H350(1A), H315, H319(2A), H372, H401
N-HEXANE	110-54-3	0 - 10%	H225, H304, H336, H361(F), H315, H373, H401, H411
TOLUENE	108-88-3	0 - 6%	H225, H304, H336, H315, H373, H401, H412

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Contains hexane; individuals with pre-existing neurological disease should avoid exposure.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Extremely Flammable. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon, Smoke, Fume

FLAMMABILITY PROPERTIES

Flash Point [Method]: -60°C (-76°F) - 23°C (73°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 1.0 UEL: 10
Autoignition Temperature: 260°C (500°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be

necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Recover by pumping or with suitable absorbent.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not confine in area of spill. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Warn other shipping. Allow liquid to evaporate from the surface. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]

Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.
Storage Temperature: [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Tankers; Barges
Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Epoxy Phenolics; Inorganic Zinc Coatings
Unsuitable Materials and Coatings: Butyl Rubber; Natural Rubber; Synthetic Rubber; Vinyl Coatings

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BENZENE		OSHA Action level	0.5 ppm		N/A	OSHA Sp.Reg.
BENZENE		STEL	5 ppm		N/A	OSHA Sp.Reg.
BENZENE		TWA	1 ppm		N/A	OSHA Sp.Reg.
BENZENE		STEL	1 ppm		N/A	ExxonMobil
BENZENE		TWA	0.5 ppm		N/A	ExxonMobil
BENZENE		STEL	2.5 ppm		Skin	ACGIH
BENZENE		TWA	0.5 ppm		Skin	ACGIH
N-HEXANE		TWA	1800 mg/m3	500 ppm	N/A	OSHA Z1
N-HEXANE		TWA	50 ppm		Skin	ACGIH
TOLUENE		Ceiling	300 ppm		N/A	OSHA Z2
TOLUENE		Maximum concentration	500 ppm		N/A	OSHA Z2
TOLUENE		TWA	200 ppm		N/A	OSHA Z2

TOLUENE		TWA	20 ppm		N/A	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

Substance	Specimen	Sampling Time	Limit	Determinant	Source
BENZENE	Creatinine in urine	End of shift	500 ug/g	t,t-Muconic acid	ACGIH BELs (BEIs)
BENZENE	Creatinine in urine	End of shift	25 ug/g	S-Phenylmercapturic acid	ACGIH BELs (BEIs)
N-HEXANE	Urine	End of shift	0.5 mg/l	2,5-Hexanedione, without hydrolysis	ACGIH BELs (BEIs)
TOLUENE	Blood	Prior to last shift of work wk	0.02 mg/l	Toluene	ACGIH BELs (BEIs)
TOLUENE	Creatinine in urine	End of shift	0.3 mg/g	o-Cresol, with hydrolysis	ACGIH BELs (BEIs)
TOLUENE	Urine	End of shift	0.03 mg/l	Toluene	ACGIH BELs (BEIs)

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Form: Clear
Color: Amber
Odor: Gasoline-like
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density: 0.5 - 0.7
Flammability (Solid, Gas): N/A
Flash Point [Method]: -60°C (-76°F) - 23°C (73°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 1.0 UEL: 10
Autoignition Temperature: 260°C (500°F)
Boiling Point / Range: <= 35°C (95°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 1 at 101 kPa
Vapor Pressure: 68.774 kPa (517.1 mm Hg) at 20 C - 110.039 kPa (827.36 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: <7 cSt (7 mm2/sec) at 40 °C [Estimated]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: <-153°C (-243°F)

Melting Point: N/A
Pour Point: < -45°C (-49°F)
Hygroscopic: No

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 5 mg/l (Vapor)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation: Data available.	Irritating to the skin. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Caused genetic effects in laboratory animals, but the relevance to humans is uncertain. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471

	473 474 478
Carcinogenicity: No end point data for material.	Caused cancer from prolonged, high exposure. Based on human epidemiology studies. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	May cause drowsiness or dizziness.
Repeated Exposure: Data available.	Causes organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 413

OTHER INFORMATION

For the product itself:

Target Organs Repeated Exposure: Blood, Central Nervous system

Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

Contains:

BENZENE: Caused cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders in human studies. Caused genetic effects and effects on the immune system in laboratory animal and some human studies. Caused toxicity to the fetus and cancer in laboratory animal studies. N-HEXANE: Prolonged and/or repeated exposures to n-Hexane can cause progressive and potentially irreversible damage to the peripheral nervous system (e.g. fingers, feet, arms, legs, etc.). Simultaneous exposure to Methyl Ethyl Ketone (MEK) or Methyl Isobutyl Ketone (MIBK) and n-Hexane can potentiate the risk of adverse effects from n-Hexane on the peripheral nervous system. n-Hexane has been shown to cause testicular damage at high doses in male rats. The relevance of this effect for humans is unknown.

TOLUENE : Concentrated, prolonged or deliberate inhalation may cause brain and nervous system damage. Prolonged and repeated exposure of pregnant animals (> 1500 ppm) have been reported to cause adverse fetal developmental effects.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BENZENE	71-43-2	1, 3, 6

--REGULATORY LISTS SEARCHED--

1 = NTP CARC 3 = IARC 1 5 = IARC 2B

2 = NTP SUS 4 = IARC 2A 6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Material -- Expected to degrade at a moderate rate in air

BIOACCUMULATION POTENTIAL

Material -- Has the potential to bioaccumulate.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY. TCLP (BENZENE)

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken

for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate)
Hazard Class & Division: 3
ID Number: 3295
Packing Group: I
Marine Pollutant: No
Product RQ: 500 LBS - BENZENE
ERG Number: 128
Label(s): 3
Transport Document Name: UN3295, HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate), 3, PG I, RQ (benzene)

SEA (IMDG)

Proper Shipping Name: HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate)
Hazard Class & Division: 3
EMS Number: F-E, S-D
UN Number: 3295
Packing Group: I
Marine Pollutant: Yes
Label(s): 3
Transport Document Name: UN3295, HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate), 3, PG I, (-60°C c.c.), MARINE POLLUTANT (n-Hexane)

AIR (IATA)

Proper Shipping Name: HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate)
Hazard Class & Division: 3
UN Number: 3295
Packing Group: I
Label(s) / Mark(s): 3
Transport Document Name: UN3295, HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate), 3, PG I

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.
CERCLA:

Chemical Name	CAS Number	Typical Value	Component RQ	Product RQ
N-HEXANE	110-54-3	0 - 10%	5000 LBS	50000 LBS
TOLUENE	108-88-3	0 - 6%	1000 LBS	16666.67 LBS
BENZENE	71-43-2	0.01 - 2%	10 LBS	500 LBS

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Aspiration Hazard, Carcinogenicity, Flammable (gases, aerosols, liquids, or solids), Germ cell mutagenicity, Skin Corrosion or Irritation, Specific Target Organ toxicity (single or repeated exposure)

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
BENZENE	71-43-2	0.01 - 2%
N-HEXANE	110-54-3	0 - 10%
TOLUENE	108-88-3	0 - 6%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BENZENE	71-43-2	1, 2, 4, 10, 11, 13, 15, 16, 17, 18, 19
N-HEXANE	110-54-3	1, 4, 13, 16, 17, 18, 19
TOLUENE	108-88-3	1, 4, 11, 13, 15, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16	OTHER INFORMATION

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission

or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H224: Extremely flammable liquid and vapor; Flammable Liquid, Cat 1
H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2
H303: May be harmful if swallowed; Acute Tox Oral, Cat 5
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A
H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic
H340(1B): May cause genetic defects; Germ Cell Mutagenicity, Cat 1B
H350(1A): May cause cancer; Carcinogenicity, Cat 1A
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H372: Causes damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 1
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.
Section 08: Biological Exposure Limits (ACG BEL) Table information was modified.
Section 11: Carcinogen Test Comment information was modified.
Section 11: Carcinogen Test Data information was modified.
Section 11: Carcinogen Test Guideline information was deleted.
Section 11: Target Organ Toxicity - Repeat Test Guideline information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 1A, 0, 0, 0, 4, 0

DGN: 7144123VUS (1023460)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: PETROLEUM CONDENSATE, SWEET (PG II)
Product Description: Petroleum Hydrocarbons

Intended Use: Process stream

Trade Names	Trade Names
CONDENSATE	DRIP GAS
NATURAL GAS CONDENSATE	NATURAL GASOLINE

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable liquid: Category 2.
Skin irritation: Category 2. Germ Cell Mutagen: Category 1B. Carcinogen: Category 1A. Specific target organ toxicant (central nervous system): Category 3. Specific target organ toxicant (repeated exposure): Category 1. Aspiration toxicant: Category 1.

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H225: Highly flammable liquid and vapor. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H336: May cause drowsiness or dizziness. H340: May cause genetic defects. H350: May cause cancer. H372: Causes damage to organs through prolonged or repeated exposure. Blood, Central Nervous system

Precautionary Statements:
P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. P233: Keep container tightly closed. P240: Ground / bond container and receiving equipment. P241: Use explosion-proof electrical, ventilating, and lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P260: Do not breathe mist / vapours. P264: Wash skin thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P313: IF exposed or concerned: Get medical advice/ attention. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/ attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P370 + P378: In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish. P391: Collect spillage.P403 + P235: Store in a well-ventilated place. Keep cool. P405: Store locked up.P501: Dispose of contents and container in accordance with local regulations.

Contains: NATURAL GAS CONDENSATE (PETROLEUM)

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS
Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS
High-pressure injection under skin may cause serious damage. Overexposure to n-hexane may cause effects on the peripheral nerves, resulting in weakness or numbness of lower limbs. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression. Exposure to benzene is associated with cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders (see Section 11).

ENVIRONMENTAL HAZARDS
Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

NFPA Hazard ID:	Health:	2	Flammability:	3	Reactivity:	0
HMIS Hazard ID:	Health:	2*	Flammability:	3	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert

advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
NATURAL GAS CONDENSATE (PETROLEUM)	64741-47-5	100%	H225, H304, H336, H340(1B), H350(1A), H315, H372, H401, H411

Hazardous Constituent(s) Contained in Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
BENZENE	71-43-2	0.01 - 2%	H225, H303, H304, H340(1B), H350(1A), H315, H319(2A), H372, H401
N-HEXANE	110-54-3	0 - 10%	H225, H304, H336, H361(F), H315, H373, H401, H411
TOLUENE	108-88-3	0 - 6%	H225, H304, H336, H315, H373, H401, H412

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately. This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

Contains hexane; individuals with pre-existing neurological disease should avoid exposure.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Extremely Flammable. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon, Smoke, Fume

FLAMMABILITY PROPERTIES

Flash Point [Method]: -60°C (-76°F) - 23°C (73°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 1.0 UEL: 10
Autoignition Temperature: 260°C (500°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be

necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor and, when applicable, H2S, or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to aromatic hydrocarbons are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Recover by pumping or with suitable absorbent.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not confine in area of spill. Advise occupants and shipping in downwind areas of fire and explosion hazard and warn them to stay clear. Warn other shipping. Allow liquid to evaporate from the surface. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapors may be evolved from heated or agitated material. Use only with adequate ventilation. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]

Transport Pressure: [Ambient]

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.
Storage Temperature: [Ambient]
Storage Pressure: [Ambient]

Suitable Containers/Packing: Tankers; Barges
Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Epoxy Phenolics; Inorganic Zinc Coatings
Unsuitable Materials and Coatings: Butyl Rubber; Natural Rubber; Synthetic Rubber; Vinyl Coatings

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
BENZENE		OSHA Action level	0.5 ppm		N/A	OSHA Sp.Reg.
BENZENE		STEL	5 ppm		N/A	OSHA Sp.Reg.
BENZENE		TWA	1 ppm		N/A	OSHA Sp.Reg.
BENZENE		STEL	1 ppm		N/A	ExxonMobil
BENZENE		TWA	0.5 ppm		N/A	ExxonMobil
BENZENE		STEL	2.5 ppm		Skin	ACGIH
BENZENE		TWA	0.5 ppm		Skin	ACGIH
N-HEXANE		TWA	1800 mg/m3	500 ppm	N/A	OSHA Z1
N-HEXANE		TWA	50 ppm		Skin	ACGIH
TOLUENE		Ceiling	300 ppm		N/A	OSHA Z2
TOLUENE		Maximum concentration	500 ppm		N/A	OSHA Z2
TOLUENE		TWA	200 ppm		N/A	OSHA Z2

TOLUENE		TWA	20 ppm		N/A	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

Substance	Specimen	Sampling Time	Limit	Determinant	Source
BENZENE	Creatinine in urine	End of shift	500 ug/g	t,t-Muconic acid	ACGIH BELs (BEIs)
BENZENE	Creatinine in urine	End of shift	25 ug/g	S-Phenylmercapturic acid	ACGIH BELs (BEIs)
N-HEXANE	Urine	End of shift	0.5 mg/l	2,5-Hexanedione, without hydrolysis	ACGIH BELs (BEIs)
TOLUENE	Blood	Prior to last shift of work wk	0.02 mg/l	Toluene	ACGIH BELs (BEIs)
TOLUENE	Creatinine in urine	End of shift	0.3 mg/g	o-Cresol, with hydrolysis	ACGIH BELs (BEIs)
TOLUENE	Urine	End of shift	0.03 mg/l	Toluene	ACGIH BELs (BEIs)

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Form: Clear
Color: Amber
Odor: Gasoline-like
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density: 0.5 - 0.7
Flammability (Solid, Gas): N/A
Flash Point [Method]: -60°C (-76°F) - 23°C (73°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 1.0 UEL: 10
Autoignition Temperature: 260°C (500°F)
Boiling Point / Range: > 35°C (95°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 1 at 101 kPa
Vapor Pressure: 68.774 kPa (517.1 mm Hg) at 20 C - 110.039 kPa (827.36 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: <7 cSt (7 mm2/sec) at 40 °C [Estimated]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: <-153°C (-243°F)

Melting Point: N/A
Pour Point: < -45°C (-49°F)
Hygroscopic: No

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 5 mg/l (Vapor)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation: Data available.	Irritating to the skin. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Caused genetic effects in laboratory animals, but the relevance to humans is uncertain. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471

	473 474 478
Carcinogenicity: No end point data for material.	Caused cancer from prolonged, high exposure. Based on human epidemiology studies. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	May cause drowsiness or dizziness.
Repeated Exposure: Data available.	Causes organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 408 413

OTHER INFORMATION

For the product itself:

Target Organs Repeated Exposure: Blood, Central Nervous system

Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug.

Contains:

BENZENE: Caused cancer (acute myeloid leukemia and myelodysplastic syndrome), damage to the blood-producing system, and serious blood disorders in human studies. Caused genetic effects and effects on the immune system in laboratory animal and some human studies. Caused toxicity to the fetus and cancer in laboratory animal studies. N-HEXANE: Prolonged and/or repeated exposures to n-Hexane can cause progressive and potentially irreversible damage to the peripheral nervous system (e.g. fingers, feet, arms, legs, etc.). Simultaneous exposure to Methyl Ethyl Ketone (MEK) or Methyl Isobutyl Ketone (MIBK) and n-Hexane can potentiate the risk of adverse effects from n-Hexane on the peripheral nervous system. n-Hexane has been shown to cause testicular damage at high doses in male rats. The relevance of this effect for humans is unknown.

TOLUENE : Concentrated, prolonged or deliberate inhalation may cause brain and nervous system damage. Prolonged and repeated exposure of pregnant animals (> 1500 ppm) have been reported to cause adverse fetal developmental effects.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BENZENE	71-43-2	1, 3, 6

--REGULATORY LISTS SEARCHED--

1 = NTP CARC 3 = IARC 1 5 = IARC 2B

2 = NTP SUS 4 = IARC 2A 6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Material -- Expected to degrade at a moderate rate in air

BIOACCUMULATION POTENTIAL

Material -- Has the potential to bioaccumulate.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY. TCLP (BENZENE)

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken

for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate)
Hazard Class & Division: 3
ID Number: 3295
Packing Group: II
Marine Pollutant: No
Product RQ: 500 LBS - BENZENE
ERG Number: 128
Label(s): 3
Transport Document Name: UN3295, HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate), 3, PG II, RQ (benzene)

SEA (IMDG)

Proper Shipping Name: HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate)
Hazard Class & Division: 3
EMS Number: F-E, S-D
UN Number: 3295
Packing Group: II
Marine Pollutant: Yes
Label(s): 3
Transport Document Name: UN3295, HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate), 3, PG II, (-60°C c.c.), MARINE POLLUTANT (n-Hexane)

AIR (IATA)

Proper Shipping Name: HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate)
Hazard Class & Division: 3
UN Number: 3295
Packing Group: II
Label(s) / Mark(s): 3
Transport Document Name: UN3295, HYDROCARBONS, LIQUID, N.O.S. (Petroleum Condensate), 3, PG II

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.
CERCLA:

Chemical Name	CAS Number	Typical Value	Component RQ	Product RQ
N-HEXANE	110-54-3	0 - 10%	5000 LBS	50000 LBS
TOLUENE	108-88-3	0 - 6%	1000 LBS	16666.67 LBS
BENZENE	71-43-2	0.01 - 2%	10 LBS	500 LBS

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Aspiration Hazard, Carcinogenicity, Flammable (gases, aerosols, liquids, or solids), Germ cell mutagenicity, Skin Corrosion or Irritation, Specific Target Organ toxicity (single or repeated exposure)

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
BENZENE	71-43-2	0.01 - 2%
N-HEXANE	110-54-3	0 - 10%
TOLUENE	108-88-3	0 - 6%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BENZENE	71-43-2	1, 2, 4, 10, 11, 13, 15, 16, 17, 18, 19
N-HEXANE	110-54-3	1, 4, 13, 16, 17, 18, 19
TOLUENE	108-88-3	1, 4, 11, 13, 15, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H225: Highly flammable liquid and vapor; Flammable Liquid, Cat 2
H303: May be harmful if swallowed; Acute Tox Oral, Cat 5
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A
H336: May cause drowsiness or dizziness; Target Organ Single, Narcotic
H340(1B): May cause genetic defects; Germ Cell Mutagenicity, Cat 1B
H350(1A): May cause cancer; Carcinogenicity, Cat 1A
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H372: Causes damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 1
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.
Section 08: Biological Exposure Limits (ACG BEL) Table information was modified.
Section 11: Carcinogen Test Comment information was modified.
Section 11: Carcinogen Test Data information was modified.
Section 11: Carcinogen Test Guideline information was deleted.
Section 11: Target Organ Toxicity - Repeat Test Guideline information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 1A, 0, 0, 0, 4, 0

DGN: 7159413VUS (1025158)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET
US

PGI-100

Version	Revision Date:	Date of last issue: -	Print Date:
1.0	09/02/2021	Date of first issue: 09/02/2021	09/03/2021

SECTION 1. IDENTIFICATION

Product name : PGI-100

Article-No. : 340512

Manufacturer or supplier's details

Company name of supplier : Klüber Lubrication NA LP
9010 CR 2120
Tyler, Texas 75707
Phone: (903) 534-8021
Fax: (903) 581-4376

32 Industrial Drive
Londonderry, NH 03053
Phone: (603) 647-4104
Fax: (603) 647-4106

E-mail address of person responsible for the SDS : mcm@us.kluber.com
Material Compliance Management

Emergency telephone number : +1-517-545-7070 NCEC

Recommended use of the chemical and restrictions on use

Recommended use : Lubricating oil

Restrictions on use : Restricted to professional users.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : polyalkylene glycol oil

a brand of FREUDENBERG

Received by OCD: 4/14/2025 11:49:46 AM

Components
No hazardous ingredients

SECTION 4. FIRST AID MEASURES

If inhaled	:	Remove person to fresh air. If signs/symptoms continue, get medical attention. Keep patient warm and at rest. If unconscious, place in recovery position and seek medical advice. Keep respiratory tract clear. If breathing is irregular or stopped, administer artificial respiration.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. In case of contact, immediately flush skin with plenty of water. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritation persists, consult a specialist.
If swallowed	:	Move the victim to fresh air. If unconscious, place in recovery position and seek medical advice. Keep respiratory tract clear. Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No information available. None known.
Notes to physician	:	No information available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion prod-	:	Carbon oxides

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

ucts		Nitrogen oxides (NOx)
Further information	:	Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid inhalation of vapour or mist. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Wash hands and face before breaks and immediately after handling the product. Do not ingest. Do not repack. Do not re-use empty containers. These safety instructions also apply to empty packaging which may still contain product residues. Keep container closed when not in use.
Conditions for safe storage	:	Store in original container. Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Store in accordance with the particular national regulations.
Keep in properly labelled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : none

Personal protective equipment

Respiratory protection : Not required; except in case of aerosol formation.

Filter type : Filter type A-P

Hand protection
Material : Nitrile rubber
Break through time : > 10 min
Protective index : Class 1

Remarks : For prolonged or repeated contact use protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.

Eye protection : Safety glasses with side-shields

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour : characteristic

Odour Threshold : No data available

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

pH	:	Not applicable
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	>= 446 °F / 230 °C Method: open cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	< 0.001 hPa (68 °F / 20 °C)
Relative vapour density	:	No data available
Relative density	:	0.990 (68 °F / 20 °C) Reference substance: Water The value is calculated
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	100 mm2/s (104 °F / 40 °C)
Explosive properties	:	Not explosive

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Oxidizing properties	:	No data available
Sublimation point	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No hazards to be specially mentioned.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No conditions to be specially mentioned.
Incompatible materials	:	No materials to be especially mentioned.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: This information is not available.
Acute inhalation toxicity	:	Remarks: This information is not available.
Acute dermal toxicity	:	Remarks: This information is not available.

Skin corrosion/irritation

Product:

Remarks	:	This information is not available.

Serious eye damage/eye irritation

Product:

Remarks	:	This information is not available.

Respiratory or skin sensitisation

Product:

Remarks	:	This information is not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Carcinogenicity

Product:

Remarks : No data available

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

IARC
OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Repeated dose toxicity

Product:

Remarks : This information is not available.

Aspiration toxicity

Product:

This information is not available.

Further information

Product:

Remarks : Information given is based on data on the components and the toxicology of similar products.

a brand of FREUDENBERG

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Additional ecological information : Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of waste product or used containers according to local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

Released to Imaging: 4/22/2025 3:42:03 PM

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Polypropylene glycol (40) butyl ether	9003-13-8
Polypropylene glycol (40) butyl ether	9003-13-8

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

New York City Hazardous Substances

Distillates (petroleum), hydrotreated middle	64742-46-7

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 09/02/2021

This safety data sheet applies only to products as originally packed and labelled. The information contained therein may not be reproduced or modified without our express written permission. Any forwarding of this document is only permitted to the extent required by law. Any further, in particular public, dissemination of the safety data sheet (e.g. as a document for download from the Internet) is not permitted without our express written consent. We provide our customers with amended safety data sheets as prescribed by law. The customer is responsible for passing on

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

safety data sheets and any amendments contained therein to its own customers, employees and other users of the product. We provide no guarantee that safety data sheets received by users from third parties are up-to-date. All information and instructions in this safety data sheet have been compiled to the best of our knowledge and are based on the information available to us on the day of publication. The information provided is intended to describe the product in relation to the required safety measures; it is neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and does not justify any contractual legal relationship. The existence of a safety data sheet for a particular jurisdiction does not necessarily mean that import or use within that jurisdiction is legally permitted. If you have any questions, please contact your responsible sales contact or authorized trading partner.

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET
US

PGI-150

Version	Revision Date:	Date of last issue: -	Print Date:
1.0	09/02/2021	Date of first issue: 09/02/2021	09/03/2021

SECTION 1. IDENTIFICATION

Product name : PGI-150

Article-No. : 340513

Manufacturer or supplier's details

Company name of supplier : Klüber Lubrication NA LP
9010 CR 2120
Tyler, Texas 75707
Phone: (903) 534-8021
Fax: (903) 581-4376

32 Industrial Drive
Londonderry, NH 03053
Phone: (603) 647-4104
Fax: (603) 647-4106

E-mail address of person responsible for the SDS : mcm@us.kluber.com
Material Compliance Management

Emergency telephone number : +1-517-545-7070 NCEC

Recommended use of the chemical and restrictions on use

Recommended use : Lubricating oil

Restrictions on use : Restricted to professional users.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : polyalkylene glycol oil

a brand of FREUDENBERG

Received by OCD: 4/14/2025 11:49:46 AM

Components
No hazardous ingredients

SECTION 4. FIRST AID MEASURES

If inhaled	:	Remove person to fresh air. If signs/symptoms continue, get medical attention. Keep patient warm and at rest. If unconscious, place in recovery position and seek medical advice. Keep respiratory tract clear. If breathing is irregular or stopped, administer artificial respiration.
In case of skin contact	:	Remove contaminated clothing. If irritation develops, get medical attention. In case of contact, immediately flush skin with plenty of water. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritation persists, consult a specialist.
If swallowed	:	Move the victim to fresh air. If unconscious, place in recovery position and seek medical advice. Keep respiratory tract clear. Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No information available. None known.
Notes to physician	:	No information available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion prod-	:	Carbon oxides

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

ucts		Nitrogen oxides (NOx)
Further information	:	Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Exposure to decomposition products may be a hazard to health.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use personal protective equipment. Ensure adequate ventilation. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid inhalation of vapour or mist. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Wash hands and face before breaks and immediately after handling the product. Do not ingest. Do not repack. Do not re-use empty containers. These safety instructions also apply to empty packaging which may still contain product residues. Keep container closed when not in use.
Conditions for safe storage	:	Store in original container. Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Store in accordance with the particular national regulations.
Keep in properly labelled containers.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : none

Personal protective equipment

Respiratory protection : Not required; except in case of aerosol formation.

Filter type : Filter type A-P

Hand protection
Material : Nitrile rubber
Break through time : > 10 min
Protective index : Class 1

Remarks : For prolonged or repeated contact use protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case.

Eye protection : Safety glasses with side-shields

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow

Odour : characteristic

Odour Threshold : No data available

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

pH	:	Not applicable
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	>= 446 °F / 230 °C Method: open cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	< 0.001 hPa (68 °F / 20 °C)
Relative vapour density	:	No data available
Relative density	:	0.990 (68 °F / 20 °C) Reference substance: Water The value is calculated
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	150 mm2/s (104 °F / 40 °C)
Explosive properties	:	Not explosive

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Oxidizing properties	:	No data available
Sublimation point	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No hazards to be specially mentioned.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No conditions to be specially mentioned.
Incompatible materials	:	No materials to be especially mentioned.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Remarks: This information is not available.
Acute inhalation toxicity	:	Remarks: This information is not available.
Acute dermal toxicity	:	Remarks: This information is not available.

Skin corrosion/irritation

Product:

Remarks	:	This information is not available.

Serious eye damage/eye irritation

Product:

Remarks	:	This information is not available.

Respiratory or skin sensitisation

Product:

Remarks	:	This information is not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Carcinogenicity

Product:

Remarks : No data available

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

IARC
OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Repeated dose toxicity

Product:

Remarks : This information is not available.

Aspiration toxicity

Product:

This information is not available.

Further information

Product:

Remarks : Information given is based on data on the components and the toxicology of similar products.

a brand of FREUDENBERG

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae/aquatic plants : Remarks: No data available

Toxicity to microorganisms : Remarks: No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Physico-chemical removability : Remarks: No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Mobility in soil

Product:

Mobility : Remarks: No data available

Distribution among environmental compartments : Remarks: No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Additional ecological information : Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not dispose of with domestic refuse.
Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of waste product or used containers according to local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Polypropylene glycol (40) butyl ether	9003-13-8

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

New York City Hazardous Substances

Distillates (petroleum), hydrotreated middle	64742-46-7

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 09/02/2021

This safety data sheet applies only to products as originally packed and labelled. The information contained therein may not be reproduced or modified without our express written permission. Any forwarding of this document is only permitted to the extent required by law. Any further, in particular public, dissemination of the safety data sheet (e.g. as a document for download from the Internet) is not permitted without our express written consent. We provide our customers with amended safety data sheets as prescribed by law. The customer is responsible for passing on safety data sheets and any amendments contained therein to its own customers, employees and

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

other users of the product. We provide no guarantee that safety data sheets received by users from third parties are up-to-date. All information and instructions in this safety data sheet have been compiled to the best of our knowledge and are based on the information available to us on the day of publication. The information provided is intended to describe the product in relation to the required safety measures; it is neither an assurance of characteristics nor a guarantee of the product's suitability for particular applications and does not justify any contractual legal relationship. The existence of a safety data sheet for a particular jurisdiction does not necessarily mean that import or use within that jurisdiction is legally permitted. If you have any questions, please contact your responsible sales contact or authorized trading partner.

Released to Imaging: 4/22/2025 3:42:03 PM

Page 998 of 1315

POWER SERVICE PRODUCTS, INC.
SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

PRODUCT NAME: DIESEL 9•1•1

Unless otherwise noted, all sections of this SDS apply to each of the following products and part numbers.

PART NUMBERS:

8016-09, 8025-08, 8025-12, 8064-06, 8080-06, 8050-02, 8055-01, 8260-01

COMPANY IDENTIFICATION:

Power Service Products, Inc.
P.O. Box 1089
Weatherford, TX 76086
Email: psp@powerservice.com
Phone: 800/643-9089 or 817-599-9486
Fax: 817-599-4893

Emergency Phone Number: Within USA 1-800-424-9300. Outside USA 001-703-527-3887 (Call Collect).

RECOMMENDED USES: Diesel fuel additive

SECTION 2 - HAZARD(S) IDENTIFICATION

CLASSIFICATION UNDER 29 CFR 1910.1200(d)

(NC=product does not meet classification criteria)

Part Numbers:	**8055-01, 8260-01**	**8016-09, 8025-08, 8025-12, 8064-06, 8080-06, 8050-02**
Health Hazard Criteria	**Category**	**Category**
Acute Toxicity, Oral:	NC	NC
Acute Toxicity, Dermal:	NC	NC
Acute Toxicity, Inhalation, Vapors:	4	4
Skin Corrosion/Irritation:	2	NC
Serious Eye Damage/Eye Irritation:	2	1

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 999 of 1315

Part Numbers:	8055-01, 8260-01	8016-09, 8025-08, 8025-12, 8064-06, 8080-06, 8050-02
Health Hazard Criteria	**Category**	**Category**
Respiratory Sensitization:	NC	NC
Skin Sensitization:	NC	NC
Germ Cell Mutagenicity:	NC	NC
Carcinogenicity:	NC	NC
Reproductive Toxicity:	NC	NC
Specific Target Organ Toxicity, Single Exposure:	3	3
Specific Target Organ Toxicity, Repeated or Prolonged Exposure:	NC	NC
Aspiration Hazard:	1	1

Part Numbers:	8055-01, 8260-01	8016-09, 8025-08, 8025-12, 8064-06, 8080-06, 8050-02
Physical Properties Criteria	**Category**	**Category**
Explosives:	NC	NC
Flammable Gases:	NC	NC
Flammable Aerosols:	NC	NC
Oxidizing Gases:	NC	NC
Gases Under Pressure:	NC	NC
Flammable Liquids:	2	3
Flammable Solids:	NC	NC
Self-Reactive Chemicals:	NC	NC
Pyrophoric Liquids:	NC	NC
Pyrophoric Solids:	NC	NC
Self-Heating Chemicals:	NC	NC
Chemicals Which, in Contact with Water, Emit Flammable Gases:	NC	NC
Oxidizing Liquids:	NC	NC
Oxidizing Solids:	NC	NC
Organic Peroxides:	NC	NC
Corrosive to Metals:	NC	NC

LABEL SIGNAL WORD, HAZARD STATEMENTS, SYMBOLS AND PRECAUTIONARY STATEMENTS UNDER 29 CFR 1910.1200(f):

Please see the Note regarding product labeling in Section 16.

Signal Word(s): Danger

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1000 of 1315

Part Number	Hazard and Precautionary Statement(s)	Symbols
8055-01 **8260-01**	Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Harmful if inhaled. Causes skin and serious eye irritation and may cause respiratory irritation and drowsiness or dizziness. Keep away from sparks and open flames. No smoking. Keep container tightly closed. Use only non-sparking tools. Ground/Bond container and receiving equipment. Use explosion-proof pumps when pumping. Take precautionary measures against static discharge. Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves and eye protection. Store locked up and in cool, well ventilated place. KEEP OUT OF REACH OF CHILDREN.	
8016-09 **8025-08** **8025-12** **8064-06** **8080-06** **8050-02**	Flammable liquid and vapor. Causes serious eye damage. May be fatal if swallowed and enters airways. Harmful if inhaled. Causes skin irritation and may cause respiratory irritation and drowsiness or dizziness. Keep away from sparks and open flames. No smoking. Keep container tightly closed. Use only non-sparking tools. Ground/Bond container and receiving equipment. Use explosion-proof pumps when pumping. Take precautionary measures against static discharge. Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves and eye protection. Store locked up and in cool, well ventilated place. KEEP OUT OF REACH OF CHILDREN.	

Hazards Not Otherwise Classified: None

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1001 of 1315

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

The specific chemical identity and exact concentration percentage has been withheld as a Trade Secret. Specific chemical information will be made available to health professionals in accordance with 29 CFR 1910.1200.

INGREDIENTS CLASSIFIED AS HEALTH HAZARDS

Chemical Name	Common Name/Synonyms	CAS Number	Concentration (%)
Aliphatic hydroxy hydrocarbons	Trade secret	Trade secret	40 - 90
Petroleum Distillates	Trade secret	Trade secret	10 - 60

SECTION 4 - FIRST AID MEASURES

As a precaution, exposure to liquids, vapors, mists and fumes should be minimized.

8055-01 **8260-01**	**EYE CONTACT:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice. **SKIN CONTACT:** Immediately take off contaminated clothing and wash it before reuse. Wash contaminated areas with plenty of water. If skin irritation occurs get medical advice/attention. **INHALATION:** Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell. **INGESTION:** If swallowed, IMMEDIATELY call a doctor. Do NOT induce vomiting.
8016-09 **8025-08** **8025-12** **8064-06** **8080-06** **8050-02**	**EYE CONTACT:** Immediately call a doctor. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **SKIN CONTACT:** Wash contaminated areas with plenty of water. If skin irritation occurs get medical advice/attention. **INHALATION:** Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell. **INGESTION:** If swallowed, IMMEDIATELY call a doctor. Do NOT induce vomiting.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1002 of 1315

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA: Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide (CO_2) to extinguish flames.

SPECIFIC HAZARDS: Vapors are heavier than air and may travel along the ground to a distant ignition source and flash back. See Section 10 for Stability and Reactivity. **NOTE:** EMPTY CONTAINERS CONTAIN COMBUSTIBLE VAPORS THAT CAN CAUSE FLASH FIRES OR EXPLOSIONS. CONTAINERS ARE SINGLE-TRIP CONTAINERS AND SHOULD NOT BE USED FOR ANY REASON AFTER BEING EMPTIED. DO NOT USE CUTTING TORCH EQUIPMENT OR ANY OTHER FLAME OR OTHER SOURCES OF IGNITION ON ANY EMPTY CONTAINER.

PROTECTIVE EQUIPMENT AND PRECAUTIONS: Use standard protective equipment including self-contained breathing apparatus (SCBA).

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES: Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas. Eliminate all sources of ignition in the vicinity of the spill or released vapor. See Section 2 for Hazards Identification. See Section 4 for First Aid Measures. See Section 5 for Fire Fighting Information. See Section 8 for Personal Protective Equipment.

SPILL CONTAINMENT AND CLEAN-UP: Eliminate potential sources of ignition. Stop leak if it can be done without risk. Dike and contain spill. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly. A vapor suppressing foam may be used to reduce vapors. Local, state and federal laws and/or regulations may apply to releases and disposal of this material, as well as those materials and items employed in the clean-up releases. The user/responder will need to determine which local, state and federal laws and/or regulations are applicable. The National Response Center can be reached at 1-800-424-8802.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Avoid contact with eyes and skin. Use only with adequate ventilation. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Keep away from ignition sources such as heat, sparks, and flames. No smoking.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1003 of 1315

CONDITIONS FOR SAFE STORAGE: DO NOT USE OR STORE near heat, sparks, or flame. USE AND STORE ONLY IN A WELL-VENTILATED AREA. Handle containers with care. Keep container closed when not in use. Store locked up.

STORAGE TEMPERATURE: -40°F to 100°F (-40°C to 38°C)

EMPTY CONTAINER WARNING: EMPTY CONTAINERS MAY CONTAIN FLAMMABLE VAPORS AND CAN BE DANGEROUS. SEE SECTION 5 FOR FIRE AND EXPLOSION HAZARD DATA.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

		OSHA	ACGIH		NIOSH			
	CAS #	PEL	TLV	STEL	REL	STEL	IDLH	Note
Ethylbenzene	100-41-4	100 ppm	20 ppm	not est.	100 ppm	125 ppm	800 ppm (LEL)	n/a
Cumene	98-82-8	50 ppm	50 ppm	not est	50 ppm	not est.	900 ppm (LEL)	Skin
Petroleum Distillates	n/a	500 ppm	not est.	not est	not est	not est	not est	n/a

ENGINEERING CONTROLS: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Local exhaust ventilation is recommended to control exposure.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Eyes and Face: Eye protection such as safety glasses or chemical goggles is recommended if contact is likely.

Skin: If prolonged or repeated skin contact is likely, chemical/oil resistant clothing and gloves are recommended. Wear additional protective clothing as appropriate.

Respiratory: Wear a NIOSH/MSHA approved respirator as necessary.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Practice good housekeeping.

NOTE: These precautions are for room temperature handling.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1004 of 1315

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Part Numbers:	8016-09, 8025-08, 8025-12, 8050-02, 8055-01, 8260-01	8064-06	8080-06
Appearance	Liquid, straw yellow	Liquid, straw yellow	Liquid, straw yellow
Odor	Strong solvent	Strong solvent	Strong solvent
Odor Threshold	Not available	Not available	Not available
pH	Not applicable	Not applicable	Not applicable
Melting point/Freezing point	Not available	Not available	Not available
Initial Boiling Point and Boiling Range	127.9 °F (53.3°C)	126.1°F (52.3°C)	205.2°F (96.2°C)
Flash Point	66.0°F (TCC) 18.9°C	75.0°F (TCC) 23.9°C	74.0°F (TCC) 23.3°C
Evaporation Rate	Not available	Not available	Not available
Flammability	Not available	Not available	Not available
Upper / lower Flammability or Explosive Limits	Not available	Not available	Not available
Vapor Pressure	Not available	Not available	Not available
Vapor Density	Not available	Not available	Not available
Relative Density/Specific Gravity (at 20°C)	0.84	0.85	0.85
Solubility	Not available	Not available	Not available
Partition Coefficient; n-octanol / water	Not available	Not available	Not available
Auto-ignition Temperature	Not available	Not available	Not available
Decomposition temperature	Not available	Not available	Not available
Viscosity	1.588 cSt	Not available	Not available
Pour Point	<-98°F (-72.2°C)	<-98°F (-72.2°C)	<-98°F (-72.2°C)

SECTION 10 - STABILITY AND REACTIVITY

REACTIVITY: see Incompatible Materials below

CHEMICAL STABILITY: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

CONDITIONS TO AVOID: Flames, high energy ignition sources, and elevated temperatures.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1005 of 1315

INCOMPATIBLE MATERIALS: May react with oxygen, oxidizing agents, such as; chlorates, nitrates, peroxides, etc., amines, caustics, alkanolamines halogens, chlorine.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides, products of incomplete combustion.

HAZARDOUS POLYMERIZATION:
Hazardous polymerization will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

LIKELY ROUTES OF EXPOSURE

INGESTION	INHALATION	SKIN CONTACT	EYE CONTACT	SKIN ABSORPTION
	X	X	X	X

SYMPTOMS RELATED TO PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS: Breathing of high vapor concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness. The vapor or fumes from this material may cause respiratory irritation. Breathing this material at elevated concentrations causes central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors, or convulsions, loss of consciousness, coma or death.

DELAYED AND IMMEDIATE EFFECTS AND CHRONIC EFFECTS FROM SHORT- AND LONG-TERM EXPOSURE: Repeated skin exposure to a component of this product may cause irritation, even a burn; may cause a more severe response on covered skin, such as under clothing or gloves. Inhalation exposure to a component of this product has caused fetotoxicity in the presence of maternal toxicity in animals.

NUMERICAL MEASURES OF TOXICITY
Note: the information provided below are estimates; testing of the product is not available.

Acute Oral Toxicity (ATE_{mix} estimate)	Acute Dermal Toxicity (ATE_{mix} estimate)	Acute Inhalation (ATE_{mix} estimate)
Does not meet criteria	Does not meet criteria	15.0-19.0

SENSITIZATION: No information available.

MUTAGENICITY: No information available.

CARCINOGENICITY LISTINGS – the following chemicals are listed as indicated:

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1006 of 1315

Chemical	List
Cumene	IARC, NTP
Ethylbenzene	IARC

REPODUCTIVE TOXICITY: No information available.

TERATOGENICITY/EMBRYOTOXICITY: This product contains a component of a complex mixture (Xylenes (1330-20-7)) that has been shown to cause teratogenicity and/or embryotoxicity.

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE): Respiratory tract irritation.

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): No information available

ASPIRATION HAZARD: Aspiration hazard identified.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICITY:
This material is expected to be toxic to aquatic organisms.

PERSISTENCE AND DEGRADABILITY: No information available.

BIOACCUMULATIVE POTENTIAL: No information available.

MOBILITY IN SOIL: No information available.

OTHER ADVERSE EFFECTS: No information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

RCRA Information: Disposal of unused product may be subject to RCRA hazardous waste regulations (40 CFR Part 261). Disposal of the used product may also be regulated as hazardous waste due to resulting mixture characteristics, mixture components or product use. Such changes to the product may result in different and/or additional hazardous waste codes. Potential RCRA waste code based on the product as shipped: D001 IGNITABILITY.

State or local laws may impose additional regulatory requirements regarding disposal. *Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.*

EMPTY CONTAINER WARNING: EMPTY CONTAINERS MAY CONTAIN FLAMMABLE VAPORS AND CAN BE DANGEROUS. SEE SECTION 5 FOR FIRE AND EXPLOSION HAZARD DATA.

SECTION 14 - TRANSPORTATION INFORMATION

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1007 of 1315

The following part numbers are regulated for transportation as follows:

8016-09 **8025-08** **8025-12**	**DOT (Domestic Ground):** Consumer Commodity
	IMDG (Ocean Transport): UN 1993 FLAMMABLE LIQUID, N.O.S. (Aliphatic Hydroxy Hydrocarbons & Petroleum Distillates) 3, II (18.9°C cc) LTD QTY
8064-06	**DOT (Domestic Ground):** Consumer Commodity
	IMDG (Ocean Transport): UN 1993 FLAMMABLE LIQUID, N.O.S. (Aliphatic Hydroxy Hydrocarbons & Petroleum Distillates) 3, III (23.9°C cc) LTD QTY
8080-06	**DOT (Domestic Ground):** Consumer Commodity
	IMDG (Ocean Transport): UN 1993 FLAMMABLE LIQUID, N.O.S. (Aliphatic Hydroxy Hydrocarbons & Petroleum Distillates) 3, III (23.3°C cc) LTD QTY
8050-02 **8055-01** **8260-01**	**DOT (Domestic Ground):** UN 1993 Flammable liquids, n.o.s. (Aliphatic Hydroxy Hydrocarbons & Petroleum Distillates) 3, II
	IMDG (Ocean Transport): UN 1993 FLAMMABLE LIQUID, N.O.S. (Aliphatic Hydroxy Hydrocarbons & Petroleum Distillates) 3, II (18.9°C cc)

All Part Numbers Forbidden for Transport by Air.

SECTION 15 - REGULATORY INFORMATION

§14(a) Consumer Product Safety Act General Certificate of Conformity

Power Service Products, Inc. certifies that this product meets the statutory and regulatory requirements of the US Consumer Products Safety Act, the Federal Hazardous Substances Act, and the Poison Prevention Packaging Act of 1970, as applicable. The Power Service products are manufactured in the United States in Weatherford, Texas, unless otherwise indicated on the product label. The product manufacture lot code is stamped on the product container. This Certification is based upon a reasonable testing program conducted by Power Service Products, Inc. which includes a quality control program incorporating, as necessary, confirmation of compliance by component suppliers. Third-party testing is not required to certify compliance.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1008 of 1315

Further details may be obtained by contacting the Power Service Products, Inc. EHS Manager at 1-800-643-9089.

Contents of this SDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200

TSCA STATUS:
All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA TITLE III CHEMICAL LISTINGS:

Section 302 Extremely Hazardous Substances: None

Sections 311/ 312 Hazard Class:
Acute Health Effects: Yes Sudden Release of Pressure Hazard: No
Chronic Health Effects: Yes Reactivity Hazard: No
Fire Hazard: Yes

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION) RATING:
HEALTH: **2**
FIRE: **3**
REACTIVITY: **0**

Section 313:
Specific chemical information is being withheld as a Trade Secret. The following chemicals subject to the reporting requirements of EPCRA Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (40 CFR Part 372) may be present in this product at a concentration that does not exceed the specified upper weight percentage.

CAS Number	Chemical Name	Max %
100-41-4	Ethylbenzene	10.0

State or local laws may impose additional regulatory requirements for components of this material. It is the responsibility solely of the Employer to maintain compliance with State and Local reporting.

CA Proposition 65

⚠ **WARNING:** Cancer and Reproductive Harm – www.P65Warnings.ca.gov.

SECTION 16 – OTHER INFORMATION

DATE OF PREPARATION / REVISION: September 8, 2021

NOTE regarding product labeling: The OSHA Hazard Communication Standard applies to hazardous chemicals known to be present in the workplace. However, the labeling and

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1009 of 1315

Safety Data Sheet requirements do not apply to consumer products when they are used in the workplace for the purposes intended by the manufacturer and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the intended purpose. Power Service Products intends for product packaged in 1 gallon or smaller containers to be used by consumers and has labeled those containers as required under the Consumer Product Safety Commission regulations. Power Service Products intends for product packaged in containers larger than 1 gallon to be used in the workplace and has labeled those products as required by the OSHA Hazard Communication Standard. The Consumer Product Safety Commission and OSHA Hazard Communication Standard labeling requirements are different and variations between the consumer and industrial labels may occur. It is the employer's responsibility to purchase the appropriate product for use in the workplace.

The information contained herein is offered in good faith and is believed to be accurate based on the data available to us as of the date of SDS preparation. The information in this document applies to this specific product as supplied. It may not be appropriate for this product if the product is used in combination with other materials. The information in this document is not intended to constitute product performance information. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product. No statement shall be construed as an endorsement of any product or process. The recommended industrial hygiene and safe handling procedures are believed to be valid in the context of the intended use as described in product labeling. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. You are urged to obtain material safety data sheets for all products you buy, process, use or distribute, and are encouraged to advise those who may come in contact with such products of the information contained therein. Regulatory requirements are subject to change and may differ between locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. No warranty or guarantee is expressed or implied with respect to this product, the accuracy and sufficiency of the data or recommendations herein, or the results to be obtained from the use of this product. IN NO EVENT SHALL POWER SERVICE PRODUCTS, INC. BE LIABLE FOR ANY LOSS, CLAIM, DAMAGE OR LIABILITY OF ANY KIND, WHICH MAY ARISE FROM OR IN CONNECTION WITH THE INFORMATION CONTAINED IN THIS DOCUMENT OR FROM THE USE, HANDLING OR STORAGE OF THE PRODUCT BY THE BUYER/USER, WHETHER DIRECT, INDIRECT, OR CONSEQUENTIAL, OR FOR ANY CLAIM BY ANY THIRD PARTY, BEYOND THE PURCHASE PRICE OR REPLACEMENT OF THE PRODUCT IN CONNECTION WITH WHICH SUCH LOSS, CLAIM, DAMAGE OR LIABILITY AROSE.

THE FOREGOING LIMITATIONS APPLY REGARDLESS OF THE CAUSES OR CIRCUMSTANCES GIVING RISE TO SUCH LOSS, CLAIM, DAMAGE OR LIABILITY, EVEN IF SUCH LOSS, CLAIM, DAMAGE, OR LIABILITY IS BASED ON NEGLIGENCE OR OTHER TORTS OR BREACH OF CONTRACT.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: PRODUCED SALT WATER, SWEET
Product Description: Chemical Mixture

Intended Use: Process stream

Trade Names	Trade Names
PRODUCED BRINE WATER	PRODUCED SALT WATER
PRODUCED WATER	

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Storage tank headspace may contain flammable atmosphere.

HEALTH HAZARDS

Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

Material does not meet GHS criteria for classification for environmental hazard. However, large or frequent spills may damage the environment.

NFPA Hazard ID:	Health:	0	Flammability:	0	Reactivity: 0
HMIS Hazard ID:	Health:	0	Flammability:	0	Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

No Hazardous Substance(s) or Complex Substance(s) required for disclosure.

NOTE: Trace quantities (by weight) of hydrocarbons such as methane, ethane, etc. may be present in the material and accumulate in flammable concentrations in enclosed spaces such as tanks or tanker/railcar headspaces.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: N/A

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Use standard firefighting procedures and consider the hazards of other involved materials. Material will not burn. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA).

Unusual Fire Hazards: Storage tank headspace may contain flammable atmosphere. Containers or vessels exposed to sustained heat, such as in a fire situation, may have a sudden boil-over/explosion resulting from vaporization of water in the bottom of the vessel, known as a BLEVE (Boiling Liquid Expanding Vapor

Explosion).

Hazardous Combustion Products: None.

FLAMMABILITY PROPERTIES

Flash Point [Method]: N/A
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Seek advice of a specialist This product emulsifies, disperses or is miscible in water.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Do not enter storage areas or confined spaces unless adequately ventilated. Storage tank headspace may contain flammable atmosphere. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not a static accumulator.

STORAGE

Store material with sufficient containment to avoid release to the environment.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

Consistent with regulatory requirements, storage and handling systems should be capable of preventing contamination of surface soil and fresh water.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications.

GENERAL INFORMATION

Physical State: Liquid
Color: Clear to Opaque
Odor: Odorless
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density: 1
Flammability (Solid, Gas): N/A
Flash Point [Method]: N/A
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: > 100°C (212°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: 2.328 kPa (17.5 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: 5 - 7
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Complete
Viscosity: <20.5 cSt (20.5 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: <0°C (32°F)
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Ignition source.

MATERIALS TO AVOID: Strong Acids, Strong Bases, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: No end point data for material.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure. Based on assessment of the components.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Does not meet GHS criteria for classification for environmental hazard. However, large or frequent spills may damage the environment.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken

for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK

4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.
Section 08: Hand Protection information was modified.
Section 12: information was modified.
Section 15: SARA (311/312) REPORTABLE GHS HAZARD CLASSES information was added.
Section 15: SARA (311/312) REPORTABLE HAZARD CATEGORIES information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0, 0, 0, 0, 0, 0 PPEC: A

DGN: 7143067VUS (1023288)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

JP Energy Pinnacle Propane Pinnacle Propane EXPRESS

Section 1: Identification

Product Identifier:	**Propane**
Other means of identification:	Commercial Propane (All) Odorized Propane Propane Commercial Propane Motor Fuel Stenched for Process
Intended for Use:	Fuel
Uses Advised Against:	All others
Emergency Health and Safety Number:	Chemtrec: 800-424-9300 (24 Hours)

Distributor: Pinnacle Propane Express, LLC PO BOX 140128 Irving, TX 75014	**SDS Information:** Phone: 972-444-0300 URL: www.pinnaclepropaneexpress.com www.pinnaclepropane.com

Section 2: Hazards Identification

Classified Hazard H220 - - Flammable gases - - Category 1 H280 - - Gases under pressure - - Liquefied gas	**Other Hazards** May displace oxygen and cause rapid suffocation

Label Elements

DANGER

Extremely Flammable Gas

Contains gas under Pressure. May explode if heated.

May displace oxygen and cause rapid suffocation

Keep away from heat/sparks/open flames/hot surfaces. – No smoking; Take Precautionary measures against static discharge; Leaking gas fire: Do not extinguish, unless leak can be stopped safely; Eliminate all sources if safe to do so; Protect from sunlight. Store in a well ventilated place

Section 3: Composition/Information on Ingredients

Chemical Name:	CASRN	Concentration[1]
Propane	74-98-6	80-100
Propene	115-07-1	<20
Ethane	74-84-0	<6
Butane	106-97-8	<5
Isobutane	75-28-5	<2.5

[1] All concentration are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume

Odorized products contain small quantities (<0.1%) ethyl mercaptan as an olfactory indicator.

Section 4: First Aid Measures

Eye Contact: For contact with the liquefied gas, remove contact lenses if present and easy to do, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

Skin Contact: Liquefied gases may cause cryogenic burns or injury. Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Do not rub affected area. Do not remove clothing that adheres due to freezing. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. If symptoms persist, seek medical attention.

Ingestion (Swallowing): This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Most important symptoms and effects, both acute and delayed: Light hydrocarbon gases are simple asphyxiants and can cause anesthetic effects at high concentrations. Symptoms of overexposure, which are reversible if exposure is stopped, can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting. Continued exposure can lead to hypoxia (inadequate oxygen), rapid breathing, cyanosis (bluish discoloration of the skin), and numbness of the extremities, unconsciousness and death.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias

Section 5: Fire-Fighting Measures

NFPA 704 Hazard Class

Health: 2 Flammability: 4 Instability: 0

0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

Extinguishing Media: Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: Extremely flammable. Contents under pressure This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Drains can be plugged and valves made inoperable by the formation of ice if rapid evaporation of large quantities of the liquefied gas occurs. Do not allow run-off from fire fighting to enter drains or water courses – may cause explosion hazard in drains and may reignite.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

Special protective actions for firefighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. If this cannot be done, allow fire to burn. Move undamaged containers from immediate hazard area if it can be done safely. Stay away from ends of

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

JP Energy Pinnacle Propane Pinnacle Propane EXPRESS

container. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Extremely flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Beware of accumulation of gas in low areas or contained areas, where explosive concentrations may occur. Prevent from entering drains or any place where accumulation may occur. Ventilate area and allow to evaporate. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons downwind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Water spray may be useful in minimizing or dispersing vapors. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

Section 7: Handling and Storage

Precautions for safe handling: Keep away from ignition sources such as heat/sparks/open flame – No smoking. Take precautionary measures against static discharge. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Extremely Flammable. Contents under pressure Gas can accumulate in confined spaces and limit oxygen available for breathing. Use only with adequate ventilation The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Electrostatic charge may accumulate and create a hazardous condition when handling or processing this material. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Cold burns may occur during filling operations. Containers and delivery lines may become cold enough to present cold burn hazard.

Propane and odorant are heavier than air and will collect and pool along the ground or floor. Odorant, therefore, may not be detectable above the location of propane storage or service (for example, odorant in propane released or leaked into the basement of a dwelling may not be detected above the basement).

WARNING - The intensity of the odorant may fade over prolonged storage or in the presence of rust, when placed initially in new or freshly-cleaned storage vessels, or when exposed to masonry.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

JP Energy Pinnacle Propane Pinnacle Propane EXPRESS

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Avoid exposing any part of a compressed-gas cylinder to temperatures above 125F (51.6C). Gas cylinders should be stored outdoors or in well ventilated storerooms at no lower than ground level and should be quickly removable in an emergency.

Section 8: Exposure Controls/Personal Protection

Chemical Name	ACGIH	OSHA	OTHER
Propane	---	TWA: 1000 PPM TWA: 1800 MG/M^3	---
Propene	TWA: 500 PPM	---	---
Butane	STEL: 1000 PPM	---	---
Isobutane	STEL: 1000 PPM	---	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z.87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: Wear thermal insulating gloves and face shield or eye protection when working with materials that present thermal hazards (hot or cold).

Respiratory Protection: A NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used in situations of oxygen deficiency (oxygen content less than 19.5 percent), unknown exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

JP Energy Pinnacle Propane Pinnacle Propane EXPRESS

Section 9: Physical and Chemical Properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance: Colorless
Physical Form: Liquefied
Odor: No distinct odor (or skunk, rotten egg or garlic if odorant added)
Odor Threshold: No data
pH: Not applicable
Vapor Density (air=1): >1
Upper Explosive Limits (vol % in air): 9.5
Lower Explosive Limits (vol % in air): 2.1
Evaporation Rate (nBuAc=1): >1
Particle Size: N/A
Percent Volatile: 100%
Flammability (solid, gas): Extremely Flammable

Flash Point: -156 °F / -104 °C
Test Method: Tag Closed Cup (TCC), ASTM D56

Vapor Pressure: 208 psia (Reid VP) @ 100°F / 37.8°C
Partition Coefficient (n-octanol/water) (Kow): No data
Melting/Freezing Point: -309 °F / -189 °C
Auto-ignition Temperature: 842 °F / 450 °C
Decomposition Temperature: No data
Specific Gravity (water=1): 0.50-0.51 @ 60ºF (15.6ºC)
Bulk Density: N/D
Viscosity: N/D
Solubility in Water: Negligible

Section 10: Stability and Reactivity

Reactivity: Not chemically reactive.
Chemical stability: Stable under normal ambient and anticipated conditions of use.
Possibility of hazardous reactions: Hazardous reactions not anticipated.
Conditions to avoid: Avoid all possible sources of ignition. Heat will increase pressure in the storage tank.
Incompatible materials: Avoid contact with acids, aluminum chloride, chlorine, chlorine dioxide, halogens and oxidizing agents.
Hazardous decomposition products: Not anticipated under normal conditions of use.

Section 11: Toxicological Information

Information on Toxicological Effects of Substance/Mixture

Substance/Mixture

Acute Toxicity	Hazard	Additional Information	LC50/LD50 Data
Inhalation	**Unlikely to be harmful**	**Asphyxiant High concentration in confined spaces may limit oxygen available for breathing. See Signs and symptoms**	➢ **20,000 PPM**
Dermal	**Skin Absorption is not anticipated**		**Not Applicable**
Oral	**Ingestion is not anticipated**		**Not Applicable**

Aspiration Hazard: Not applicable

Skin Corrosion/Irritation: Not expected to be irritating. Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn).

Serious Eye Damage/Irritation: Not expected to be irritating. Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.

Skin Sensitization: Skin contact is not anticipated.

Respiratory Sensitization: Not expected to be a respiratory sensitizer.

Specific Target Organ Toxicity (Single Exposure): Not expected to cause organ effects from single exposure.

Specific Target Organ Toxicity (Repeated Exposure): Not expected to cause organ effects from repeated exposure.

Carcinogenicity: Not expected to cause cancer.

Germ Cell Mutagenicity: Not expected to cause heritable genetic effects.

Reproductive Toxicity: Not expected to cause reproductive toxicity.

Other Comments: High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus. The odorant, ethyl mercaptan, can be irritating to the eyes, skin and respiratory tract. At high concentrations, a person can temporarily lose the ability to smell ethyl mercaptan. In addition, some individuals may have an impaired sense of smell, which inhibits the detection of the odorant.

Information on Toxicological Effects of Components
Propane Target Organs: No systemic or neurotoxic effects were noted in rats exposed to concentrations of propane as high as 12,000 ppm for 28 days.
Reproductive Toxicity: No adverse reproductive or developmental effects were observed in rats exposed to propane; no observed adverse effect level = 12,000 ppm.
Butane Target Organs: No systemic or neurotoxic effects were noted in rats exposed to concentrations of butane as high as 9,000 ppm for 28 days.
Reproductive Toxicity: No adverse reproductive or developmental effects were observed in rats exposed to butane; no observed adverse effect level = 12,000 ppm.
Isobutane Target Organs: No systemic or neurotoxic effects were noted in rats exposed to concentrations of isobutane as high as 9,000 ppm for 28 days.
Reproductive Toxicity: No adverse developmental effects were observed in rats exposed to concentrations of isobutane as high as 9000 ppm. Fertility and mating indices may have been affected at 9000 ppm but no effects were observed at 3000 ppm (NOAEL).

Section 12: Ecological Information

GHS Classification:
No classified hazards

Toxicity: Petroleum gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment.

Persistence and Degradability: The hydrocarbons in this material are expected to be inherently biodegradable. In practice, hydrocarbon gases are not likely to remain in solution long enough for biodegradation to be a significant loss process. Hydrogen sulfide, if present in refinery gas streams, will be rapidly oxidized in water and insoluble sulfides precipitated from water when metallic radicals are present.

Bioaccumulative Potential: Since the log K OW values measured for refinery gas constituents are below 3, they are not regarded as having the potential to bioaccumulate.

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

JP Energy Pinnacle Propane Pinnacle Propane EXPRESS

Mobility in Soil: Due to the extreme volatility of petroleum gases, air is the only environmental compartment in which they will be found. In air, these hydrocarbons undergo photodegradation by reaction with hydroxyl radicals with half-lives ranging from 3.2 days for n-butane to 7 days for propane.

Other adverse effects: None anticipated.

Section 13: Disposal Consideration

This material is a gas and would not typically be managed as a waste.

Section 14: Transport Information

U.S. Department of Transportation (DOT)

Shipping Description: UN1978, Propane, 2.1,
Non-Bulk Package Marking: Propane, UN1978
Non-Bulk Package Labeling: Flammable Gas
Bulk Package/Placard Marking: Flammable gas / 1978
Packaging - References: 169570 – Propane 49 CFR: 173.306; 173.304; 173.314 & .315 (Exceptions; Non-bulk; Bulk)
Hazardous Substance: See Section 15 for RQ`s
Emergency Response Guide: 115
Note: For domestic transportation only, UN1075 may be substituted for the UN number shown as long as the substitution is consistent on package markings, shipping papers, and emergency response information. See 49 CFR 172.102 Special Provision 19.

Containers of NON-ODORIZED liquefied petroleum gas must be marked either NON-ODORIZED or NOT ODORIZED as of September 30, 2006. [49 CFR 172.301(f), 326(d), 330(c) and 338(e)]

International Maritime Dangerous Goods (IMDG)

Shipping Description: UN1978, Propane, 2.1
Non-Bulk Package Marking: Propane, UN1978
Labels: Flammable Gas
Placards/Marking (Bulk): Flammable gas / 1978
Packaging - Non-Bulk: P200
EMS: F-D, S-U

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #: UN1978
Proper Shipping Name: Propane
Hazard Class/Division: 2.1
Non-Bulk Package Marking: Propane, UN1978
Labels: Flammable Gas
ERG Code: 10L
Note: Special provision A1 applies to this product.

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

JP Energy Pinnacle Propane Pinnacle Propane EXPRESS

Section 15: Regulatory Information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health Hazard:	Yes
Chronic Health Hazard:	No
Fire Hazard:	Yes
Pressure Hazard:	yes
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Chemical Name	Concentration[1]	de minimis
Propene	<20	1.0%

EPA (CERCLA) Reportable Quantity (in pounds):
EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

California Proposition 65:
WARNING: Chemicals known to the State of California to cause cancer, birth defects or other reproductive harm are created by the combustion of propane.

Canada:
Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

WHMIS Hazard Class:
A - Compressed gases
B1 - Flammable gas

National Chemical Inventories
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

JP Energy Pinnacle Propane Pinnacle Propane EXPRESS

Section 16: Other Information

Date of Issue:
5/12/2015

Revised Sections or Basis for Revision:
Periodic review and update

Precautionary Statement(s):
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P243: Take precautionary measures against static discharge.
P381: Eliminate all ignition sources if safe to do so.
P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P410+P403: Protect from sunlight. Store in a well ventilated place.

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling
Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection
Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire
Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit
Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and implied Warranties:
The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared.
HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: PROPANE (ODORIZED)
Product Description: Hydrocarbon Gas

Intended Use: Fuel gas

COMPANY IDENTIFICATION

Supplier: **XTO Energy Inc.**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Flammable gas: Category 1. Gas under pressure: Liquefied gas.
Simple Asphyxiant

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. -- No smoking.P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so.P410 + P403: Protect from sunlight. Store in a well-ventilated place.

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

Contact with liquefied gas can cause damage (frostbite) due to rapid evaporative cooling. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Material can accumulate static charges which may cause an ignition. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Continued exposure to odorized gas may reduce or eliminate ability to smell the odorant. People with impaired ability to detect odor due to colds, allergies, injuries, etc. must be especially cautious. Odor must not be used exclusively as a safety measure. Proper respiratory protection and fire/explosion precautions should be utilized when odor is first detected. Exposure to concentrations above 10% of the LEL may cause a general central nervous system (CNS) depression typical of anesthetic gases or intoxicants. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0
HMIS Hazard ID:	Health:	1	Flammability:	4	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
PROPANE	74-98-6	90 - < 100%	H220, H280
PROPYLENE	115-07-1	1 - < 5%	H220, H280, H402

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury. If frostbite occurs, immerse involved area in water at body temperature. Keep immersed for 20 to 40 minutes. Seek medical assistance.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

Not Applicable

NOTE TO PHYSICIAN

This material, or a component, may be associated with cardiac sensitization following very high exposures (well above occupational exposure limits) or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine. Administration of such substances should be avoided.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Stop leak if you can do it without risk. Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Flammable Gas. Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: <-40°C (-40°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 2.0 UEL: 9.5
Autoignition Temperature: 410°C (770°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of the spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that provide chemical resistance and, when necessary, heat-resistance and/or thermal insulation are recommended. Note: gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Small spills: normal work clothes are usually adequate. Large spills: full body suit of chemical and thermal resistant material is recommended. Chemical goggles and face shield are recommended if contact with liquefied gas is possible.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. Allow liquid to evaporate from the surface. All equipment used when handling the product must be grounded. Do not direct water at spill or source of leak. Do not touch or walk through spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Allow liquid to evaporate from the surface. See Land Spill section of the (M)SDS for advice for gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Do not enter storage areas or confined spaces unless adequately ventilated. Ethyl mercaptan is added to gas as an odorant to aid in the detection of the gas in case of leak or accidental discharge. Since ethyl mercaptan is reactive, a reduction in its effectiveness may occur during shipping and storage of the odorized gas. Therefore, odor must not be used exclusively as a safety measure. Handle gas with strict adherence to established safety procedures. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Material may contain trace amounts of naturally occurring radioactive material (NORM), which will accumulate in process equipment and storage vessels. Material can accumulate static charges which may cause an electrical spark (ignition source). Auto-refrigeration: Drains can be plugged and valves may become inoperable because of the formation of ice when expanding vapors or vaporizing liquids cause temperatures to drop below the freezing point of water.

Static Accumulator: This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The type of container used to store the material may affect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
PROPANE		TWA	1800 mg/m3	1000 ppm	N/A	OSHA Z1
PROPYLENE		TWA	500 ppm		N/A	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Self-contained breathing apparatus

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: Face shield is recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Gas
Form: Liquified
Color: Colorless
Odor: Mercaptan
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.5 - 0.6

Flammability (Solid, Gas): Flammable - Category 1
Flash Point [Method]: <-40°C (-40°F) [ASTM D-93]
Flammable Limits (Approximate volume % in air): LEL: 2.0 UEL: 9.5
Autoignition Temperature: 410°C (770°F)
Boiling Point / Range: -89°C (-128°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): 1.6 at 101 kPa
Vapor Pressure: > 133 kPa (1000 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/A
Solubility in Water: Negligible
Viscosity: N/A
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Avoid heat, sparks, open flames and other ignition sources.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 4 hour(s) LC50 > 20 mg/l (Gas)	Minimally Toxic. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	N/A
Skin	
Acute Toxicity: No end point data for material.	N/A
Skin Corrosion/Irritation: No end point data	N/A

for material.	
Eye	
Serious Eye Damage/Irritation: No end point data for material.	N/A
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer.
Aspiration: No end point data for material.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 474
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 422
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 412 413 422

OTHER INFORMATION

For the product itself:

May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Exposure to rapidly expanding gas or vaporizing liquid may cause frostbite (cold burn). Exposure to this material, or one of its components, in situations where there is the potential for high levels, such as in confined spaces or with abuse, may result in abnormal heart rhythm (arrhythmia). High-level exposure to hydrocarbons (above occupational exposure limits) may initiate arrhythmia in a worker that is undergoing stress or is taking a heart-stimulating substance such as epinephrine, a nasal decongestant, or an asthma or cardiovascular drug. Simple asphyxiant: Acts by displacing oxygen in the lungs thereby diminishing the supply of oxygen available to the blood and tissues. Symptoms include shortness of breath, rapid heart rate, incoordination, lethargy, headaches, nausea, vomiting, and disorientation. Continued lack of oxygen may result in convulsions, loss of consciousness and death. Since exercise increases the tissue need for oxygen, symptoms will occur more quickly during exertion in an oxygen-deficient environment. Oxygen in enclosed spaces should be maintained at 21 percent by volume.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Material -- Highly volatile, will partition rapidly to air. Not expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

Atmospheric Oxidation:

Material -- Expected to degrade at a moderate rate in air

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with

governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: PROPANE
Hazard Class & Division: 2.1
ID Number: 1978
Packing Group: (N/A)
ERG Number: 115
Label(s): 2.1
Transport Document Name: UN1978, PROPANE, 2.1

LAND (TDG)

Proper Shipping Name: PROPANE
Hazard Class & Division: 2.1
UN Number: 1978
Packing Group: (N/A)
Special Provisions: 29, 42
ERAP Index Number: 3 000

SEA (IMDG)

Proper Shipping Name: PROPANE
Hazard Class & Division: 2.1
EMS Number: F-D, S-U
UN Number: 1978
Packing Group: (N/A)
Marine Pollutant: No
Label(s): 2.1
Transport Document Name: UN1978, PROPANE, 2.1 (-40°C c.c.)

AIR (IATA)

Proper Shipping Name: PROPANE
Hazard Class & Division: 2.1
UN Number: 1978
Packing Group: (N/A)
Label(s) / Mark(s): 2.1
Transportation Limitations: CARGO AIRCRAFT ONLY
Transport Document Name: UN1978, PROPANE, 2.1

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC,

KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Flammable (gases, aerosols, liquids, or solids), Gas under Pressure, Simple Asphyxiant

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
PROPYLENE	115-07-1	1 - < 5%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
BUTANE	106-97-8	19
PROPANE	74-98-6	4, 13, 16, 17, 18, 19
PROPYLENE	115-07-1	1, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

WARNING: Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights.

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H220: Extremely flammable gas; Flammable Gas, Cat 1
H280: Contains gas under pressure; may explode if heated; Pressurized Gas
H402: Harmful to aquatic life; Acute Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Mailing Address information was modified.
Section 01: Product Description information was modified.
Section 04: First Aid Inhalation information was modified.
Section 08: Respiratory Protection information was modified.
Section 09: Melting Point C(F) information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0, 0 PPEC: DF

DGN: 7135455VUS (1013847)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

ThermoFisher SCIENTIFIC

SAFETY DATA SHEET

Creation Date 19-Nov-2009 **Revision Date** 24-Dec-2021 **Revision Number** 8

1. Identification

Product Name **Propylene Glycol**

Cat No. : **P355-1; P355-4; P355-20; P355-200; S801501; XXBA147**

CAS No 57-55-6
Synonyms 1,2-Propanediol; 1,2-Dihydroxypropane; Methyl Glycol (USP/FCC)

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements
None required

Hazards not otherwise classified (HNOC)

Received by OCD: 4/14/2025 11:49:46 AM

None identified

3. Composition/Information on Ingredients

Component	CAS No	Weight %
1,2-Propylene glycol	57-55-6	>95

4. First-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.

Ingestion Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

Most important symptoms and effects No information available.

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Unsuitable Extinguishing Media No information available

Flash Point 99 °C / 210.2 °F

Method - No information available

Autoignition Temperature 400 °C / 752 °F

Explosion Limits
- **Upper** 12.6 vol %
- **Lower** 2.6 vol %
- **Sensitivity to Mechanical Impact** No information available
- **Sensitivity to Static Discharge** No information available

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Carbon monoxide (CO). Carbon dioxide (CO_2).
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	1	N/A

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

6. Accidental release measures

Personal Precautions Use personal protective equipment as required. Ensure adequate ventilation.

Environmental Precautions Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Ensure adequate ventilation. Wear personal protective equipment/face protection.

Storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Acids.

8. Exposure controls / personal protection

Exposure Guidelines

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Viscous liquid Liquid
Appearance	Clear Colourless
Odor	Odorless
Odor Threshold	No information available
pH	6.5-7.5 100g/l aq. sol
Melting Point/Range	-60 °C / -76 °F
Boiling Point/Range	187 °C / 368.6 °F
Flash Point	99 °C / 210.2 °F
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	12.6 vol %
Lower	2.6 vol %
Vapor Pressure	0.13 mbar @ 20 °C
Vapor Density	2.62 (Air = 1.0)
Specific Gravity	1.03 - 1.04
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	400 °C / 752 °F
Decomposition Temperature	No information available

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Viscosity	45 mPa.s at 20 °C
Molecular Formula	C3 H8 O2
Molecular Weight	76.10

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Hygroscopic.

Conditions to Avoid Incompatible products. Excess heat. Exposure to moist air or water.

Incompatible Materials Strong oxidizing agents, Acids

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,2-Propylene glycol	LD50 = 20 g/kg (Rat)	LD50 = 20800 mg/kg (Rabbit)	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
1,2-Propylene glycol	57-55-6	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

Released to Imaging: 4/22/2025 3:42:03 PM

12. Ecological information

Ecotoxicity

.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
1,2-Propylene glycol	EC50: = 19000 mg/L, 96h (Pseudokirchneriella subcapitata)	LC50: 41 - 47 mL/L, 96h static (Oncorhynchus mykiss) LC50: = 51400 mg/L, 96h static (Pimephales promelas) LC50: = 51600 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 710 mg/L, 96h (Pimephales promelas)	= 710 mg/L EC50 Photobacterium phosphoreum 30 min	EC50: > 1000 mg/L, 48h Static (Daphnia magna)

Persistence and Degradability Miscible with water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
1,2-Propylene glycol	-0.9

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT Not regulated
TDG Not regulated
IATA Not regulated
IMDG/IMO Not regulated

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
1,2-Propylene glycol	57-55-6	X	ACTIVE	-

Legend:
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
1,2-Propylene glycol	57-55-6	X	-	200-338-0	X	X	X	X	X	KE-29267

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Received by OCD: 4/14/2025 11:49:46 AM

U.S. Federal Regulations

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
1,2-Propylene glycol	-	X	X	-	X

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Slight risk, Grade 1

Authorisation/Restrictions according to EU REACH

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
1,2-Propylene glycol	57-55-6	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
1,2-Propylene glycol	57-55-6	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Creation Date	19-Nov-2009
Revision Date	24-Dec-2021
Print Date	24-Dec-2021
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Released to Imaging: 4/22/2025 3:42:03 PM

GENERAL MSDS ASSISTANCE: QUINCY COMPRESSOR 217.222.7700				
ACUTE HEALTH*	FIRE	REACTIVITY	HAZARD RATING KEY:	0 - LEAST 1 – SLIGHT 2 – MODERATE 3 – HIGH 4 - EXTREME
0	1	0		
*For acute and chronic health effects refer to the discussion in Section VI.				

SECTION I PRODUCT NAME AND INFORMATION

PRODUCT (TRADE NAME AND SYNONYMS): QuinCip® Reciprocating Air Compressor Oil-ISO 100
CHEMICAL NAME: Mixture (see below)
CHEMICAL FAMILY: Petroleum Hydrocarbon; Lubricating Oil

NO.	COMPOSITION	CAS#	PERCENT
P	Quin-Cip® ISO 100 Oil	Mixture	100
1	Sol. Ref., Hydrotreated Heavy Paraffinic Dist.	64742-54-7	99
2	Minor Additives	Mixture	<1

SECTION II COMPONENTS AND HAZARD STATEMENT

This product is non-hazardous. This product and its components are not classified as carcinogens by IARC, NTP or OSHA. The health effects noted below are consistent with requirements under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION III PHYSICAL DATA

Appearance:	Pale Yellow Oil
Boiling Point:	Not Available
Vapor Pressure:	Not Available
Specific Gravity (water=1):	0. 8816
Volatiles, Percent by Volume:	0%
Odor:	Slight Hydrocarbon
Solubility in Water:	Negligible
Evaporation Rate (butyl acetate=1):	Not Available
Viscosity (CS @ 104°F):	95-105
Melting Point:	0°F

SECTION IV FIRE AND EXPLOSION HAZARDS

Flash Point (PMCC):	425°F
Flammable Limits:	Not Available
Autoignition Temperature:	No Data
HMIS Ratings:	
Health:	0
Flammability:	1
Reactivity:	0
NFPA Ratings:	Not Established

Extinguishing Media: Dry chemical; CO_2 foam; water spray (fog)
Unusual Fire and Explosion Hazards: None

Special Fire Fighting Techniques: Materials will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water. Do not use a direct stream of water. Product will float and can be reignited on surface of water.

SECTION V REACTIVITY DATA

Stability: **Stable**

Hazardous Polymerization: Will not occur

Conditions to Avoid: heat, open flames, and oxidizing materials

Hazardous Decomposition Products: Thermal decomposition products are highly dependent on the combustion conditions. A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon monoxide and other unidentified organic compounds may be formed upon combustion.

SECTION VI HEALTH HAZARD DATA

Occupational Exposure Limits

	OSHA		ACGIH	
NO.	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL
P	5 MG/M3*	None	5 MG/M3*	10 MG/M3*

*Oil Mist, Mineral

Acute Toxicity Data

NO.	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LD50
P	>5.0 G/KG, Rat*	>2.0 G/KG, Rabbit*	Not Available

*Eye Contact: Product is presumed to be non-irritating to the eyes.
*Skin Contact: Product is presumed to be non-irritating to the skin. Prolonged and repeated contact may result in skin disorders such as dermatitis, oil acne or folliculitis. Accidental release under high-pressure applications may result in injection of oil into the skin causing local necrosis.
Inhalation: The inhalation of vapors (generated at high temperatures only) or oil mist may cause a mild irritation of the upper respiratory tract.
*Ingestion: Product is considered no more than slightly toxic if ingested.
Signs & Symptoms: Irritation as noted above. Necrosis may be evidenced by delayed onset of pain and tissue damage a few hours following high-pressure injection.
Aggravated Medical Conditions: Preexisting skin and respiratory disorders may be aggravated by exposure to this product.
*Based on essentially similar product testing.

First Aid Procedures:

Ingestion: DO NOT INDUCE VOMITING. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice. *NOTE TO PHYSICIAN: In general, emesis induction is unnecessary in high viscosity, low volatility products, i.e., most oils and greases.*

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention.

Eye Contact: Flush eyes with water. If irritation occurs, get medical attention.

Skin Contact: Remove contaminated clothing and wipe excess oil off. Wash with soap and water or a waterless hand cleaner followed by soap and water. If irritation occurs, get medical attention. If material is injected under the skin, get medical attention promptly to prevent serious damage; do not wait for symptoms to develop.

SECTION VII PERSONAL PROTECTION INFORMATION

Respiratory Protection: If exposure may or does exceed occupational exposure limits (SEC. VI) use a NIOSH-approved respirator to prevent overexposure. In accord with 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors and particulates.
Protective Clothing: Wear chemical-resistant gloves and other protective clothing as required to minimize prolonged skin contact. No special eye protection is routinely necessary. Test data from published literature and/or glove and clothing manufacture indicate the best protection is provided by nitrile gloves.

SECTION VIII SAFE HANDING AND STORAGE

Handling: Minimize prolonged skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles, including shoes that cannot be decontaminated.

Storage: Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

SECTION IX SPILL OR LEAK PROCEDURES

In Case of Spill: May burn although not readily ignitable. Use cautious judgement when cleaning up large spills.
LARGE SPILLS Wear respirator and protective clothing as appropriate. Shut off source of leak if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; dispose of properly. Flush area with water to remove trace residue.
SMALL SPILLS Take up with an absorbent material and dispose of properly.

SECTION X WASTE DISPOSAL METHODS

Incinerate this product and all associated wastes in a licensed facility in accordance with Federal, state and local regulations.

SECTION XI SPECIAL NOTES

Department of Transportation Classification: Not hazardous by D.O.T. regulations
Other Regulatory Controls: The components of this product are listed on the EPA/TSCA inventory of chemical substances. In accordance with SARA Title III, Section 313, the EDS should always be copied and sent with the MSDS.
State Regulatory Info: Based on information available to Quincy Compressor, this product does not contain any chemical substance regulated by a specific state list.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, QUINCY COMPRESSOR MAKES NO WARRANTY, EXPRESSED OR IMPLIED, REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. QUINCY COMPRESSOR ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

Date Updated: May 2016

BE SAFE: READ OUR PRODUCT SAFETY INFORMATION . . . AND PASS IT ON (PRODUCT LIABILITY LAW REQUIRES IT)

SAFETY DATA SHEET

SDS 0004

==========

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

HMIS CODES

PRODUCT NAME

RectorSeal No. 7

Health 2

Flammability 3

Reactivity 0

PRODUCT CODES

PPI B

17432

CHEMICAL FAMILY

Organic

USE

Pipe Thread Sealant

MANUFACTURER'S NAME

The RectorSeal Corporation

2601 Spenwick Drive

Houston, Texas 77055 USA

EMERGENCY TELEPHONE NO.

Chemtrec 24 Hours

(800)424-9300 USA

(703)527-3887 International

DATE OF VALIDATION

March 14, 2013

TECHNICAL SERVICE TELEPHONE NO.

(800)231-3345 or (713)263-8001

DATE OF PREPARATION

March 14, 2013

==========

Section 2 -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

OSHA Hazards

Flammable liquid, Target Organ Effect, Irritant

TARGET ORGANS

Liver, KidneyLiver, Kidney

GHS CLASSIFICATION

PHYSICAL HAZARDS: Flammable Liquid, Category 3

HEALTH HAZARDS

Acute Toxicity:

Oral: Category 4

Dermal: Category 5

Inhalation: Category 4

Skin Corrosion/Irritation: Category 3

Serious Eye Damage/Eye Irritation: Category 2A

Skin Sensitization: Not Classified

Respiratory Sensitization: Not Classified

Germ Cell Mutagenicity: Not Classified

Carcinogenicity: See Section 11

Reproductive Toxicology: Not Classified

Target Organ Systemic Toxicity - Single Exposure: Category 3

Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

GHS Label elements, including precautionary statements

Pictogram: Flammable, Harmful / Irritant

Signal Word: Danger

Hazard Statements:

H226 - Flammable liquid and vapour.

H302 - Harmful if swallowed.

H313 - May be harmful in contact with skin.

H316 - Causes mild skin irritation.

H318 - Causes serious eye damage.

H319 - Causes serious eye irritation

H335 + H336 - May cause respiratory irritation, and drowsiness or dizziness.

Precautionary Statements:

P102 - Keep out of reach of children.

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P240 - Ground/Bond container and receiving equipment

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P262 - Do not get in eyes, on skin, or on clothing.

P264 - Wash hands thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P362 - Take off contaminated clothing and wash before reuse.

EUH066 - Repeated exposure may cause skin dryness or cracking

Precautionary Statements - EU No. 1272/2008

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R phrases mentioned in this Section, see Section 16

Symbol(s) Xi - Irritant

F - Highly flammable

R -phrase(s)

R11 - Highly flammable

R36 - Irritating to eyes

R66 - Repeated exposure may cause skin dryness or cracking

R67 - Vapors may cause drowsiness and dizziness

R-code(s) F;R11 - Xi;R36 - R66 - R67

SUMMARY OF ACUTE HAZARDS

Irritation to eyes, nose and throat; drowsiness, narcosis, tremors and other CNS effects at high concentration.

ROUTE OF EXPOSURE, SIGNS AND SYMPTOMS

INHALATION

Nasal and respiratory irritation, dizziness, narcosis, headache, nausea, CNS depression and unconsciousness.

EYE CONTACT

Watering, blurred vision, inflammation and irritation which can result in corneal injury.

SKIN CONTACT

Irritation, dermatitis.

INGESTION

Nausea, vomiting; CNS depression; irritation of gastrointestinal tract, liver and peritoneal wall; lung congestion.

SUMMARY OF CHRONIC HAZARDS

Skin irritation and dermatitis. Possible liver and kidney damage.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver or kidneys may have increased susceptibility to excessive exposures.

==========

Section 3 -- COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Diacetone Alcohol

PERCENTAGE BY WEIGHT: 24.7

CAS NUMBER: 123-42-2

EC# : 204-626-7

INGREDIENT: Ethyl Acetate

PERCENTAGE BY WEIGHT: 3.76

CAS NUMBER: 141-78-6

EC# : 205-500-4

INGREDIENT: Methyl Isobutyl Ketone

PERCENTAGE BY WEIGHT: 0.1

CAS NUMBER: 108-10-1

EC# : 203-550-1

==========

Section 4 -- FIRST AID MEASURES

If INHALED: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

If on SKIN: Immediately flush with large amounts of water for at least 15 minutes. Get prompt medical attention.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

If SWALLOWED: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

==========

Section 5 -- FIRE FIGHTING MEASURES

EXTINGUSING MEDIA

Foam, dry chemical, carbon dioxide or water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable - ambient flash point. Vapors heavier than air and may travel along the ground or to low spots at considerable distances to a source of ignition resulting in potential flashback. Burning liquid may float on water. Heat may build up pressure and rupture containers.

==========

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition. Use absorbent materials to prevent footing hazard and to contain. Ventilate area with natural or explosion-proof, forced air ventilation. Avoid flushing into sewers, drains, waterways, and soil. Wear protective clothing and respiratory protection during cleanup.

==========

Section 7 -- HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed and upright when not in use. Do not store near heat, sparks, or open flames.

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues; treat as if full and observe all products precautions. Do not reuse empty containers. KEEP OUT OF REACH OF CHILDREN.

==========

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT UNITS

Diacetone Alcohol

ACGIH TLV 50 ppm

OSHA PEL 50 ppm

Ethyl Acetate

ACGIH TLV 400 ppm

OSHA PEL 400 ppm

Methyl Isobutyl Ketone

ACGIH TLV 50 ppm

OSHA PEL 100 ppm

RESPIRATORY PROTECTION (SPECIFY TYPE): In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air purifying or supplied air respirators.

VENTILATION - LOCAL EXHAUST: Acceptable

SPECIAL: Explosion-proof equipment.

MECHANICAL (GENERAL): Preferable

OTHER: N/A

PROTECTIVE GLOVES: Wear rubber gloves.

EYE PROTECTION: Chemical splash goggles (ANSI Z-87.1 or equivalent)

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Coveralls recommended.

WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

==========

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 322 F (161 C) @ 760mm Hg

SPECIFIC GRAVITY (H20 = 1): 1.46

VAPOR PRESSURE (mm Hg): 0.3 @ 68 F (20 C)

MELTING POINT: N/A

VAPOR DENSITY (AIR = 1): 1.1

EVAPORATION RATE (ETHYL ACETATE = 1): 0.14

APPEARANCE/ODOR: Black Paste/Mild Odor

SOLUBILITY IN WATER: Insoluble

VOLATILE ORGANIC COMPOUNDS(VOC)Content

(Theoretical Percentage By Weight): 28% or (280 g/L)

FLASH POINT 77 F (25 C) SETA CC

LOWER EXPLOSION LIMIT N/D

UPPER EXPLOSION LIMIT N/D

==========

Section 10 -- STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Heat, sparks, open flames, and strong oxidizing.

Temperatures above 500 F (260 C).

INCOMPATIBILITY (MATERIALS TO AVOID): Gaseous oxygen, strong oxidizing

materials, molten alkali metals.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO2 and fragmented hydrocarbons.

HAZARDOUS POLYMERIZATION: Will not occur.

==========

Section 11 -- TOXICOLOGY INFORMATION

CHRONIC HEALTH HAZARDS

No ingredients in this product is an IARC, NTP or OSHA Lister carcinogen.

TOXICOLOGY DATA

Ingredient Name

Diacetone Alcohol

Oral-Rat LD50:4000 mg/kg

Inhalation-Human TCLo: 100 ppm

Ethyl Acetate

Oral rat LD50: 5620 mg/kg

Inhalation rat LC50: 200 gm/m3

Skin rabbit LD50: > 20 ml/kg

Methyl Isobutyl Ketone

Oral rat LD50: 2080 mg/kg

Skin rabbit > 20 mL/kg; irritation eye rabbit

==========

Section 12 -- Ecological Information

ECOLOGICAL DATA

Ingredient Name

Diacetone Alcohol

Food Chain Concentration Potential N/A

WATERFOWL TOXICITY N/A

BOD N/A

AQUATIC TOXICITY N/A

Ethyl Acetate

Food Chain Concentration Potential N/A

WATERFOWL TOXICITY LC50/96-Hr values for fish are >100 mg/l

BOD N/A

AQUATIC TOXICITY N/A

Methyl Isobutyl Ketone

Food Chain Concentration Potential N/A

WATERFOWL TOXICITY N/A

BOD N/A

AQUATIC TOXICITY N/A

==========

Section 13 -- DISPOSAL CONSIDERATIONS

Waste Classification: RCRA Hazardous Waste, DOO1

Disposal Method: Approved incineration

Waste from this product is considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.

==========

Section 14 -- TRANSPORTATION INFORMATION

DOT: UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, ERG#128

Quarts and less: UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, Limited Quantities or Ltd Qty

OCEAN (IMDG): UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, MFAG#3-07

Quarts and less: UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate), Class 3, PG III, Limited Quantities or Ltd Qty

AIR (IATA): UN1993, Flammable liquid n.o.s. (contains diacetone alcohol & ethyl acetate),Class 3, PG III, ERG#128

==========

Section 15 -- REGULATORY INFORMATION

REGULATORY DATA

Ingredient Name

Diacetone Alcohol

SARA 313 N/A

TSCA Inventory Yes

CERCLA RQ N/A

RCRA Code N/A

Ethyl Acetate

SARA 313 N/A

TSCA Inventory Yes

CERCLA RQ N/A

RCRA Code U112

Methyl Isobutyl Ketone

SARA 313 N/A

TSCA Inventory Yes

CERCLA RQ N/A

RCRA Code U161

==========

Section 16 -- OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made. Consult RectorSeal for further information: (713) 263-8001

SAFETY DATA SHEET

SDS 0011

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
RectorSeal No. 5

PRODUCT CODES
25112, 25191, 25271, 25300, 25431, 25551, 25552, 25631, 25633, 25780, 25790, 25793

CHEMICAL FAMILY
Organic

USE
Pipe Thread Sealant

HMIS CODES

Health	1
Flammability	2
Reactivity	0
PPI	B

MANUFACTURER'S NAME
The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

EMERGENCY TELEPHONE NO.
Chemtrec 24 Hours
(800)424-9300 USA
(703)527-3887 International

DATE OF VALIDATION
January 23, 2015

TECHNICAL SERVICE TELEPHONE NO.
(800)231-3345 or (713)263-8001

DATE OF PREPARATION
January 9, 2013

Section 2 -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
OSHA Hazards
Combustable
TARGET ORGANS
Not Classified
GHS CLASSIFICATION
PHYSICAL HAZARDS
Combustable liquid (Category 4)
HEALTH HAZARDS
Acute Toxicity:
Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified
Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Skin Sensitization: Not Classified
Respiratory Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: See Section 11
Reproductive Toxicology: Not Classified
Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified
Aspiration Toxicity: Not Classified

GHS Label elements, including precautionary statements
Pictogram: Harmful / Irritant
Signal Word: Warning
Hazard Statements
H303 - May be harmful if swallowed.
H313 - May be harmful in contact with skin.
H335 + H336 - May cause respiratory irritation, and drowsiness or dizziness.
Precautionary Statements
P102 - Keep out of reach of children.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P240 - Ground/Bond container and receiving equipment
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P362 - Take off contaminated clothing and wash before reuse.
EUH066 - Repeated exposure may cause skin dryness or cracking
Precautionary Statements - EU No. 1272/2008

SUMMARY OF ACUTE HAZARDS
Irritation to eyes, nose and throat; drowsiness, narcosis, tremors and other CNS effects at high concentration.
ROUTE OF EXPOSURE, SIGNS AND SYMPTOMS
INHALATION

Nasal and respiratory irritation, dizziness, narcosis, headache, nausea, CNS depression and unconsciousness.

EYE CONTACT

Watering, blurred vision, inflammation and irritation which can result in corneal injury.

SKIN CONTACT

Irritation, dermatitis.

INGESTION

Nausea, vomiting; CNS depression; irritation of gastrointestinal tract, liver and peritoneal wall; lung congestion.

SUMMARY OF CHRONIC HAZARDS

Skin irritation and dermatitis. Possible liver and kidney damage.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver or kidneys may have increased susceptibility to excessive exposures.

Section 3 -- COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Diacetone Alcohol
PERCENTAGE BY WEIGHT: 20-30
CAS NUMBER: 123-42-2
EC# : 204-626-7

Section 4 -- FIRST AID MEASURES

If INHALED:	If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.
If on SKIN:	Wash with soap and water. If irritation occurs, seek medical attention.
If in EYES:	Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If SWALLOWED:	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Section 5 -- FIRE FIGHTING MEASURES

EXTINGUSING MEDIA

Foam, dry chemical, carbon dioxide or water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustible - moderate flash point. Vapors heavier than air and may travel along the ground or to low spots at considerable distances to a source of ignition resulting in potential flashback. Burning liquid may float on water. Heat may build up pressure and rupture containers.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition. Use absorbent materials to prevent footing hazard and to contain. Ventilate area with natural or explosion-proof, forced air ventilation. Avoid flushing into sewers, drains, waterways, and soil. Wear protective clothing and respiratory protection during cleanup.

Section 7 -- HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed and upright when not in use. Do not store near heat, sparks, or open flames.

OTHER PRECAUTIONS: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues; treat as if full and observe all products precautions. Do not reuse empty containers. KEEP OUT OF REACH OF CHILDREN.

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT	UNITS
Diacetone Alcohol	
ACGIH TLV	50 ppm
OSHA PEL	50 ppm

RESPIRATORY PROTECTION (SPECIFY TYPE): In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air purifying or supplied air respirators.

VENTILATION - LOCAL EXHAUST: Acceptable

SPECIAL: Explosion-proof equipment.

MECHANICAL (GENERAL): Preferable

OTHER: N/A
PROTECTIVE GLOVES: Wear rubber gloves.
EYE PROTECTION: Chemical splash goggles (ANSI Z-87.1 or equivalent)
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Coveralls recommended.
WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	322 F (161 C) @ 760mm Hg
SPECIFIC GRAVITY (H20 = 1):	1.38
VAPOR PRESSURE (mm Hg):	0.3 @ 68 F (20 C)
MELTING POINT:	N/A
VAPOR DENSITY (AIR = 1):	1.1
EVAPORATION RATE (ETHYL ACETATE = 1):	0.14
APPEARANCE/ODOR:	Yellow Paste/Mild Odor
SOLUBILITY IN WATER:	23%
VOLATILE ORGANIC COMPOUNDS(VOC)Content (Theoretical Percentage By Weight):	23% or (317 g/L)
Flash POINT	150 F (65 C) SETA CC
LOWER EXPLOSION LIMIT	N/D
UPPER EXPLOSION LIMIT	N/D

Section 10 -- STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: Heat, sparks, open flames, and strong oxidizing. Temperatures above 500 F (260 C).
INCOMPATIBILITY (MATERIALS TO AVOID): Gaseous oxygen, strong oxidizing materials, molten alkali metals.
HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO2 and fragmented hydrocarbons.
HAZARDOUS POLYMERIZATION: Will not occur.

Section 11 -- TOXICOLOGY INFORMATION

CHRONIC HEALTH HAZARDS
No ingredients in this product is an IARC, NTP or OSHA Lister carcinogen.

TOXICOLOGY DATA
Ingredient Name

Diacetone Alcohol		
	Oral-Rat	LD50:4000 mg/kg
	Inhalation-Human	TCLo: 100 ppm

Section 12 -- Ecological Information

ECOLOGICAL DATA
Ingredient Name

Diacetone Alcohol		
	Food Chain Concentration Potential	N/A
	WATERFOWL TOXICITY	N/A
	BOD	N/A
	AQUATIC TOXICITY	N/A

Section 13 -- DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste
Disposal Method: Approved landfill
Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.

Section 14 -- TRANSPORTATION INFORMATION

DOT:	Non-Regulated
OCEAN (IMDG):	Non-Regulated
AIR (IATA):	Non-Regulated
WHMIS (CANADA):	Non-Regulated

Section 15 -- REGULATORY INFORMATION

REGULATORY DATA
Ingredient Name

Diacetone Alcohol		
	SARA 313	N/A
	TSCA Inventory	Yes
	CERCLA RQ	N/A

RCRA Code N/A

Section 16 -- OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made. Consult RectorSeal for further information: (713) 263-8001

Page 1065 of 1315

SAFETY DATA SHEET

RECTORSEAL® TRU-BLU™

Vibration resistant pipe thread sealant

Section 1 – Product and Company Information

Product Name
Rectorseal® Tru-Blue™

Product Codes
31300, 31431, 31551, 31552, 31631, 31780, 31782, 31785

Chemical Family
Organic

Use
Pipe thread sealant

Manufacturer's Name
The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation
June 14, 2016

Date of Preparation
June 14, 2016

HMIS Codes

Health	1
Flammability	2
Reactivity	0
PPI	B

Emergency Telephone No.
Chemtrec 24 Hours
(800)-424-9300 USA
(703)-527-3887 International

Technical Service Telephone No.
(800)-231-3345 or (713)-263-8001

Section 2 – Hazards Identification

EMERGENCY OVERVIEW

OSHA Hazards
Combustable

Target Organs
Not Classified

GHS CLASSIFICATION

Physical Hazards
Combustable liquid (Category 4)

Health Hazards

Acute Toxicity:
Oral: Not Classified
Dermal: Not Classified
Inhalation: Not Classified

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1066 of 1315

Skin Corrosion/Irritation: Not Classified
Serious Eye Damage/Eye Irritation: Not Classified
Skin Sensitization: Not Classified
Respiratory Sensitization: Not Classified
Germ Cell Mutagenicity: Not Classified
Carcinogenicity: See Section 11
Reproductive Toxicology: Not Classified
Target Organ Systemic Toxicity - Single Exposure: Not Classified
Target Organ Systemic Toxicity - Repeated Exposure: Not Classified

Aspiration Toxicity: Not Classified

GHS Label elements, including precautionary statements

GHS07: Exclamation Mark
Signal Word: **Warning**

Hazard Statements
H303 - May be harmful if swallowed.
H313 - May be harmful in contact with skin.
H335 + H336 - May cause respiratory irritation, and drowsiness or dizziness.

Precautionary Statements
P102 - Keep out of reach of children.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P240 - Ground/Bond container and receiving equipment
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P362 - Take off contaminated clothing and wash before reuse.

EUH066 - Repeated exposure may cause skin dryness or cracking
Precautionary Statements - EU No. 1272/2008

Summary Of Acute Hazards

Irritation to eyes, nose and throat; drowsiness, narcosis, tremors and other CNS effects at high concentration.

Route Of Exposure, Signs And Symptoms

INHALATION
Nasal and respiratory irritation, dizziness, narcosis, headache, nausea, CNS depression and unconsciousness.

EYE CONTACT
Watering, blurred vision, inflammation and irritation which can result in corneal injury.

SKIN CONTACT

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1067 of 1315

Irritation, dermatitis.

INGESTION

Nausea, vomiting; CNS depression; irritation of gastrointestinal tract, liver and peritoneal wall; lung congestion.

SUMMARY OF CHRONIC HAZARDS

Skin irritation and dermatitis. Possible liver and kidney damage.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Individuals with pre-existing or chronic diseases of the eyes, skin, respiratory system, cardiovascular system, gastrointestinal system, liver or kidneys may have increased susceptibility to excessive exposures.

Section 3 – Composition/Information on Ingredients

Ingredient:	Diacetone Alcohol
Percentage By Weight:	20-30
CAS Number:	123-42-2
EC#:	204-626-7

Section 4 – First Aid Measures

If inhaled:	If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.
If on skin:	Wash with soap and water. If irritation occurs, seek medical attention
If in eyes:	Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If swallowed:	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Section 5 – Fire Fighting Measures

Flash point:	150°F (65°C)
LEL:	N/D
UEL:	N/D

Extinguishing Media

Foam, dry chemical, carbon dioxide or water fog.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus (SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).

Unusual Fire And Explosion Hazards: Combustible – moderate flash point. Vapors heavier than air and may travel along the ground or to low spots at considerable distances to a source of ignition resulting in potential flashback. Burning liquid may float on water. Heat may build up pressure and rupture containers.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1068 of 1315

Section 6 – Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Remove all sources of ignition. Use absorbent materials to prevent footing hazard and to contain. Ventilate area with natural or explosion-proof, forced air ventilation. Avoid flushing into sewers, drains, waterways, and soil. Wear protective clothing and respiratory protection during cleanup.

Section 7 – Handling and Storage

Precautions To Be Taken In Handling And Storing: Keep container closed and upright when not in use. Do not store near heat, sparks, or open flames.

Other Precautions: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues; treat as if full and observe all products precautions. Do not reuse empty containers.

KEEP OUT OF REACH OF CHILDREN.

Section 8 – Exposure Controls/Personal Protection

Ingredient	Units
Diacetone Alcohol	
ACGIH TLV:	50 ppm
OSHA PEL:	50 ppm

Respiratory Protection (Specify Type): In confined poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air purifying or supplied air respirators.

Ventilation – Local Exhaust: Acceptable

Special: Explosion-proof equipment.

Mechanical (General): Preferable

Other: N/A

Protective Gloves: Wear rubber gloves.

Eye Protection: Chemical splash goggles (ANSI Z-87.1 or equivalent)

Other Protective Clothing Or Equipment: Coveralls recommended.

Work/Hygienic Practices: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1069 of 1315

Section 9 – Physical and Chemical Properties

Boiling point:	322°F (161°C) @ 760 mmHg
Specific gravity (H20 = 1):	1.38
Vapor pressure (mmHg):	0.3 @ 68°F (20°C)
Melting point:	N/A
Vapor Density (Air = 1):	1.1
Evaporation rate (Ethyl Acetate = 1):	0.14
Appearance/Odor:	Blue paste/Mild odor
Solubility in water:	23%
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	23% or (317 g/L)

Section 10 – Stability and Reactivity

Stability: Stable

Conditions To Avoid: Heat, sparks, open flames, and strong oxidizing. Temperatures above 500°F (260°C).

Incompatibility (Materials To Avoid): Gaseous oxygen, strong oxidizing materials, molten alkali metals.

Hazardous Decomposition Products: CO, CO_2 and fragmented hydrocarbons.

Hazardous Polymerization: Will not occur.

Section 11 – Toxicology Information

Chronic Health Hazards

No ingredient in this product is an IARC, NTP or OSHA Lister carcinogen.

Toxicology Data

Ingredient Name

Diacetone Alcohol	
Oral-Rat LD50:	4000 mg/kg
Inhalation-Human TCLo:	100 ppm

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1070 of 1315

Section 12 – Ecological Information

Ecological Data

Ingredient Name:	Diacetone Alcohol
Food Chain Concentration Potential	N/A
Waterfowl Toxicity	N/A
BOD	N/A
Aquatic Toxicity	N/A

Section 13 – Disposal Considerations

Waste Classification: Non-regulated solid waste

Disposal Method: Approved landfill

Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.

Section 14 – Transportation Information

DOT:	Non-regulated
Ocean (IMDG):	Non-regulated
Air (IATA):	Non-regulated
WHMIS (Canada):	Non-regulated

Section 15 – Regulatory Information

Regulatory Data

Ingredient Name:	Diacetone Alcohol
SARA 313	N/A
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Section 16 – Other Information

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made.

Consult RectorSeal for further information: (713) 263-8001

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

MATERIAL SAFETY DATA SHEET

MSDS 0077

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

HMIS CODES

PRODUCT NAME
RectorSeal T Plus 2

Health	1
Flammability	1
Reactivity	0
PPI	B

PRODUCT CODES
23710, 23631, 23551, 23431, 23391, 23271, 23191, 23112

CHEMICAL FAMILY:
Organic

USE
Pipe Thread Sealant

MANUFACTURER'S NAME
The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

EMERGENCY TELEPHONE NO.
Chemtrec 24 Hours
(800) 424-9300

VALIDATION DATE
February 10, 2006

TECHNICAL SERVICE TELEPHONE NO.
(800) 231-3345

REVISION DATE
February 10, 2006

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS

None as defined by OSHA Hazard Communication Standard 29 CFR 1910.1200.

Section 3 -- HAZARDS IDENTIFICATION

SUMMARY OF ACUTE HAZARDS
May produce slight to moderate skin and eye irritation.

ROUTE OF EXPOSURE, SIGNS AND SYMPTOMS

INHALATION
None known.

EYE CONTACT
Irritation, watering may occur.

SKIN CONTACT
Frequent or prolonged contact may irritate and cause dermatitis.

INGESTION
May cause nausea and vomiting. Not expected to produce toxic effects unless large amounts are ingested.

SUMMARY OF CHRONIC HAZARDS
None known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Individuals with pre-existing or chronic diseases of the eyes, skin or persons with chemical sensitivity may have increased susceptibility to excessive exposures.

Section 4 -- FIRST AID MEASURES

If INHALED:	N/A
If on SKIN:	Wash with soap and water. Seek medical attention if irritation persists.
If in EYES:	Flush with large amounts of water.

Get medical attention if irritation persists.
If SWALLOWED: If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
>300 F (149 C) SETA CC	N/D	N/D

EXTINGUSING MEDIA
Foam, dry chemical, carbon dioxide or water fog.
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus SCBA) and other protective clothing. Hazardous decomposition products possible (see Section 10).
UNUSUAL FIRE AND EXPLOSION HAZARDS: Heat may build up pressure and rupture closed containers. Above 500 F (260 C) the fumes are acutely toxic.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wipe or scrape up spilled material to prevent footing hazard and place in trash.

Section 7 -- HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed and upright when not in use.
OTHER PRECAUTIONS: Avoid prolonged or repeated contact with skin or clothing. Empty containers may contain residues; treat as if full and observe all products precautions. Do not reuse empty containers.
KEEP OUT OF REACH OF CHILDREN.

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION (SPECIFY TYPE): None required.
VENTILATION - LOCAL EXHAUST: N/A
SPECIAL: N/A
MECHANICAL (GENERAL): N/A
OTHER: N/A
PROTECTIVE GLOVES: Wear rubber gloves.
EYE PROTECTION: Chemical splash goggles (ANSI Z-87.1 or equivalent)
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Coveralls recommended.
WORK/HYGIENIC PRACTICES: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	N/D
SPECIFIC GRAVITY (H20 = 1):	1.32
VAPOR PRESSURE (mm Hg):	< 1 @ 77 F (25 C)
MELTING POINT:	N/A
VAPOR DENSITY (AIR = 1):	N/A
EVAPORATION RATE (ETHYL ACETATE = 1):	N/A
APPEARANCE/ODOR:	White Paste/Slight Odor
SOLUBILITY IN WATER:	Negligible

VOLATILE ORGANIC COMPOUNDS(VOC)Content

(Theoretical Percentage By Weight): 0% or (0 g/L)

Section 10 -- STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: None known.
INCOMPATIBILITY (MATERIALS TO AVOID): Gaseous oxygen and strong oxidizing materials.
HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO2 and fragmented hydrocarbons.
HAZARDOUS POLYMERIZATION: Will not occur.

Section 11 -- TOXICOLOGY INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

TOXICOLOGY DATA
Ingredient Name

	Oral-Rat	LD50: N/A
	Inhalation-Rat	LC50: N/A

Section 12 -- Ecological Information

ECOLOGICAL DATA
Ingredient Name

	Food Chain Concentration Potential	N/A
	WATERFOWL TOXICITY	N/A
	BOD	N/A
	AQUATIC TOXICITY	N/A

Section 13 -- DISPOSAL CONSIDERATIONS

Waste Classification: Non-regulated solid waste
Disposal Method: Approved landfill
Waste from this product is not considered hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.

Section 14 -- TRANSPORTATION INFORMATION

DOT:	Non-Regulated
OCEAN (IMDG):	Non-Regulated
AIR (IATA):	Non-Regulated
WHMIS (CANADA):	Non-Regulated

Section 15 -- REGULATORY INFORMATION

REGULATORY DATA
Ingredient Name

	SARA 313	N/A
	TSCA Inventory	All components listed
	CERCLA RQ	N/A
	RCRA Code	N/A

Section 16 -- OTHER INFORMATION

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made. Consult RectorSeal for further
information: (713) 263-8001

Page 1075 of 1315

SAFETY DATA SHEET

Section 1 – Product & Company Identification

Product Name:
RIDGID Dark Thread Cutting Oil

Product Catalog No.:
11471, 11491, 41590, 41600, 41610, 70830

Recommended Use:
Thread Cutting

Restrictions on Use:
Use in the manufacturing process only

Company Information:

North America
Ridge Tool Company
400 Clark Street
Elyria, Ohio 44035-6001
1-800-519-3456
(8:00 am – 5:00 pm EST, M-F)
Emergency Telephone
call 9-1-1 or local emergency number
www.RIDGID.com

Australia
Ridge Tool Australia
127 Metrolink Circuit
Campbellfield, VIC 3061
1-800-743-443
(8:30 am – 5:00 pm AEST, M-F)
Emergency Telephone
call 000 or local emergency number
www.RIDGID.com.au

Issue Date: March 27, 2017

Section 2 – Hazards Identification

This product is classified as not hazardous per US OSHA 29CFR 1910.1200 (HazCom 2012) and Canada's Hazardous Products Regulations (WHMIS 2015).

GHS Label Elements: Not applicable

Section 3 – Composition / Information On Ingredients

Component:	CAS #	% By Weight
Mineral Oil	Confidential	40-100%

This product does not contain silicone or chlorinated additives.

Specific chemical identities and/or exact percentages have been withheld as trade secrets.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1076 of 1315

Section 4 – First Aid Measures

INGESTION:

Rinse mouth thoroughly. Call a Poison Center or doctor if you feel unwell. Do NOT induce vomiting.

INHALATION:

Move to fresh air. Call a Poison Center or doctor if you feel unwell.

SKIN CONTACT:

Remove contaminated/saturated clothing and shoes. Wash contact areas with soap and water. If skin irritation occurs: Get medical advice/attention.

EYE CONTACT:

Flush thoroughly with water. If irritation occurs, get medical assistance. Continue to rinse for at least 15 minutes.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED

Symptoms:

No data available.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treatment:

Get medical attention as appropriate or if symptoms persist

Section 5 – Fire Fighting Measures

GENERAL FIRE HAZARDS:

No unusual fire or explosion hazards noted.

SUITABLE (AND UNSUITABLE) EXTINGUISHING MEDIA

Suitable extinguishing media:

No data available.

Unsuitable extinguishing media:

Do not use water jet as an extinguisher, as this will spread the fire.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:

Heat may cause the containers to pressurize and possibly rupture. During fire, gases hazardous to health may be formed.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1077 of 1315

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special firefighting procedures:

No data available.

Special protective equipment for fire-fighters:

Firefighters must use standard protective equipment appropriate for Industrial fires.

Section 6 – Accidental Release Measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

See Section 8 of the SDS for Personal Protective Equipment. Do not handle damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Ensure adequate ventilation.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Absorb with sand or other inert absorbent. Stop the flow of material, if this is without risk.

ENVIRONMENTAL PRECAUTIONS:

Avoid release to the environment. Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so and protect against releases into the environment. Remediate as appropriate.

Section 7 – Handling And Storage

PRECAUTIONS FOR SAFE HANDLING:

Observe good industrial hygiene practices. Wear appropriate personal protective equipment. Do not expose to intense heat as product may expand and pressurize container. End-users should follow industry best practices for handling and using this product. Guidance may be found using the current version of ASTM Standard E1497-05: Standard Practice for Selection and Safe Use of Water-Miscible and Straight Oil Metal Removal Fluids

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Store in original tightly closed container. Avoid contact with oxidizing agents. Store away from incompatible materials.

SHELF LIFE:

720 days

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1078 of 1315

Section 8 – Exposure Controls / Personal Protection

EXPOSURE LIMITS:

Chemical name	type	Exposure Limit Values	Source
Mineral oil - Mist.	PEL	5 mg/m^3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Mineral oil - Mist.	STEL	10 mg/m^3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PROTECTIVE MEASURES:

Use personal protective equipment as required.

RESPIRATORY PROTECTION:

In case of inadequate ventilation use suitable respirator. Seek advice from supervisor on the company's respiratory protection standards.

EYE PROTECTION:

Wear safety glasses with side shields (or goggles).

SKIN AND BODY PROTECTION:

Wear protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

HYGIENE MEASURES:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Contaminated work clothing should not be allowed out of the workplace. Discard contaminated footwear that cannot be cleaned. Avoid contact with skin, eyes, and clothing.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1079 of 1315

Section 9 – Physical And Chemical Properties

Appearance	
Physical State	Liquid
Form	No data available
Color	Black
Odor	Mild petroleum
Odor Threshold	No data available
pH	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	196 °C (385 °F)
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%)	No data available
Flammability limit - lower (%)	No data available
Explosive limit – upper (%)	No data available
Explosive limit – lower (%)	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	0.878
Solubility(ies)	
Solubility in water	Insoluble
Solubility (other)	No data available
Partition coefficient (n-octanol/water)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	42.5 mm^2/s (40 °C, measured)
VOC	2 g/l

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1080 of 1315

Section 10 – Stability And Reactivity

REACTIVITY:
Not reactive during normal use.

CHEMICAL STABILITY:
No data available.

POSSIBILITY OF HAZARDOUS REACTIONS:
None under normal conditions.

CONDITIONS TO AVOID:
Avoid heat or contamination.

INCOMPATIBLE MATERIALS:
No data available.

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

Section 11 – Toxicological Information

INFORMATION ON LIKELY ROUTES OF EXPOSURE

Ingestion:
May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation:
Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact:
Prolonged skin contact may cause redness and irritation.

Eye contact:
Eye contact is possible and should be avoided.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1081 of 1315

INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity

Oral Product:

ATEmix (): 2000 - 5000 mg/kg

Dermal Product:

ATEmix (): 2000 - 5000 mg/kg

Inhalation Product:

ATEmix (, 4h): > 5000 mg/l dusts, mists and fumes

Repeated dose toxicity Product:

No data available.

Skin Corrosion/Irritation Product:

No data available.

Serious Eye Damage/Eye Irritation Product:

No data available.

Respiratory or Skin Sensitization Product:

No data available.

Carcinogenicity Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro Product:

No data available.

In vivo Product:

No data available.

Reproductive toxicity Product:

No data available.

Specific Target Organ Toxicity - Single Exposure Product:

No data available.

Specific Target Organ Toxicity - Repeated Exposure Product:

No data available.

Aspiration Hazard Product:

No data available.

Other effects:

No data available

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1082 of 1315

Section 12 – Ecological Information

GENERAL INFORMATION:

This product has not been evaluated for ecological toxicity or other environmental effects.

Section 13 – Disposal Consideration

DISPOSAL INSTRUCTIONS:

Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. It is the responsibility of the product user or owner to determine at the time of disposal, which waste regulations must be applied.

CONTAMINATED PACKAGING:

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14 – Transportation Information

This material is not subject to transport regulations.

Section 15 – Regulatory Information

US FEDERAL REGULATIONS

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories - None

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

US STATE REGULATIONS

US. California Proposition 65

No component is regulated by CA Prop 65.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1083 of 1315

Product Name ..... : RIDGID Dark Thread Cutting Oil

Section 16 – Other Information

Prepared by:. . . . . Ridge Tool Company (Operating Standard 6-103)

Issue Date: . . . . . March 27, 2017
Last Revision Date: . . . . . May 29, 2015

RIDGE TOOL BELIEVES THE STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE RELIABLE BUT THEY ARE GIVEN WITHOUT WARRANTY OR GUARANTEE OF ANY KIND, EXPRESSED OR IMPLIED, AND WE ASSUME NO RESPONSIBILITY FOR ANY LOSS, DAMAGE OR EXPENSE, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THEIR USE.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1084 of 1315

SAFETY DATA SHEET

1. Identification

Product identifier SCRUBS® Hand Cleaner Towels

Other means of identification

Part Number 42201, 42210, 42225, 42230, 42232, 42256, 42260, 42272, 42274, 42280

Recommended use A deep cleaning hand cleaner towel designed for removing heavy dirt, oil and greases from hands.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name ITW Pro Brands

Address 805 E. Old 56 Highway
Olathe, KS 66061

Country (U.S.A.)
Tel: +1 800-443-9536

In Case of Emergency 1-800-535-5053 (Infotrac)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Alcohols, C12-15, ethoxylated		68131-39-5	1 - 3
Distillates Petroleum Hydrotreated Light		64742-47-8	1 - 3
d-limonene		5989-27-5	1 - 3
Neopentyl Glycol		126-30-7	0.1 - 1
Phenoxyethanol		122-99-6	0.1 - 1
Sodium Dodecanol Sulfosuccinate		577-11-7	0.1 - 1

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1085 of 1315

Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Mechanically pick up material and place in a proper container for disposal. Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

U.S. - OSHA

Components	Type	Value	Form
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)	PEL	5 mg/m3	Oil mist

ACGIH

Components	Type	Value	Form
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)	TWA	5 mg/m3	Oil mist

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1086 of 1315

Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Colorless-blue / white
Odor	Citrus
Odor threshold	Not available.
pH	6
Melting point/freezing point	Not available.
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	> 1
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Miscible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	0.995
VOC	0 % per US State and Federal Consumer Product Regulations

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1087 of 1315

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic

Components	Species	Test Results
Alcohols, C12-15, ethoxylated (CAS 68131-39-5)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours
Oral		
LD50	Rat	> 5000 mg/kg
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
Vapor		
LC50	Rat	> 0.1 mg/l, 8 Hours
Oral		
LD50	Rat	> 5000 mg/kg
d-limonene (CAS 5989-27-5)		
Acute		
Oral		
LD50	Rat	> 2000 mg/kg
Neopentyl Glycol (CAS 126-30-7)		
Acute		
Oral		
LD50	Rat	> 6400 mg/kg
Phenoxyethanol (CAS 122-99-6)		
Acute		
Dermal		
LD50	Rabbit	> 2200 mg/kg. 24 Hours
Oral		
LD50	Rat	1400 mg/kg
Sodium Dodecanol Sulfosuccinate (CAS 577-11-7)		
Acute		
Dermal		
LD50	Rabbit	> 10000 mg/kg, 24 Hours

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1088 of 1315

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

d-limonene (CAS 5989-27-5) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

Further information This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Alcohols, C12-15, ethoxylated (CAS 68131-39-5)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	0.37 - 0.43 mg/l, 48 hours
Fish	LC50	Channel catfish (Ictalurus punctatus)	1.04 - 1.39 mg/l, 96 hours
Distillates Petroleum Hydrotreated Light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours
d-limonene (CAS 5989-27-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	69.6 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	0.619 - 0.796 mg/l, 96 hours
Phenoxyethanol (CAS 122-99-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	337 - 352 mg/l, 96 hours
Sodium Dodecanol Sulfosuccinate (CAS 577-11-7)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	20 - 40 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

d-limonene	4.232
Phenoxyethanol	1.16

Mobility in soil Not established.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1089 of 1315

Other adverse effects	None known.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
General information	This material is not regulated by any mode of transportation.

15. Regulatory information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1090 of 1315

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 04-11-2019

Revision date 06-03-2019

Version # 02

Disclaimer ITW Pro Brands cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information Accidental release measures: Methods and materials for containment and cleaning up
Physical & Chemical Properties: Multiple Properties
Transport Information: Proper Shipping Name/Packing Group
HazReg Data: International Inventories
GHS: Classification

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Safety Data Sheet
Oil Solutions™ Step 1
05/09/14
Version 01

Section 1. Identification.

1.1 Product Identifier

Product Name **Oil Solutions™ Step 1**

1.2 Relevant Identified Users of the Substance and Uses Advised Against

Relevant Uses Component for Step 1/Step 2 Oil Spill Cleanup Product
Uses Advised Against None Known

1.3 Details of the Supplier of the Safety Data Sheet

Oil Solutions International
35 Mill St.
Amityville, NY 11701
Phone: 631-608-8889; After Hours: 631-608-8888
Fax: 516-221-7099
Website: www.cleaningupoil.com

Section 2. Hazards Identification.

2.1 Signal Word and Pictogram(s): None, Non-Hazardous

2.1 GHS Classification of the Substance

Physical Hazards

Explosives	Not Applicable
Flammable Gases	Not Applicable
Flammable Aerosols	Not Applicable
Oxidizing Gases	Not Applicable
Gases Under Pressure	Not Applicable
Flammable Liquids	Not Applicable
Flammable Solids	Not Applicable
Self-Reactive Substances and Mixtures	Not Applicable
Pyrophoric Liquids	Not Applicable
Pyrophoric Solids	Not Applicable
Self-heating Substances and Mixtures	Not Applicable
Substance contacting water and Emit flammable gases	Not Applicable
Oxidizing Liquids	Not Applicable
Oxidizing Solids	Not Applicable
Organic Peroxides	Not Applicable

Corrosive to Metals	Not Applicable
Health Hazards	
Acute Toxicity	
Oral	Category 5
Skin	Category 5
Inhalation (Gas)	Classification Not Available
Inhalation (Vapor)	Classification Not Available
Inhalation (Dust, Mist)	Classification Not Available
Skin Corrosion/Irritation	Category 5, Mild Skin Irritation
Serious Eye Damage/Irritation	Category 2, Could Cause Mild Eye Irritation
Respiratory Sensitization	Category 2
Skin Sensitization	Classification Not Available
Germ Cell Mutagenicity	Not Classified
Carcinogenicity	Classification Not Available
Reproductive Toxicity	Classification Not Available
Specific Target Organ Toxicity	
Single Exposure	Category 3
Repeated Exposure	Category 2
Aspiration Hazard	Classification Not Available
Environmental Hazards	
Aquatic Toxicity	
Acute	Classification Not Available
Chronic	Classification Not Available

This product is not hazardous as defined by the US Occupational Safety and Health Administration (OSHA) under its Hazard Communication (HCS), 29 CFR 1910.1200.

UN Class and UN Number	Non-Regulated Commodity
Adverse Human Health Effects	Not available
Physical and Chemical Hazards	Not available
Environmental Effects	Not available

Section 3. Composition/Information on Ingredients.

3.1 Product Type - Mixture

Chemical Name	Concentration	CAS No.
Sodium Silicate	<18%	1344-09-8
Surfactant	<2%	-
Surfactant	<2%	-
Water	>78%	7732-15-5

The specific chemical substance identity and CAS Number are being withheld as a trade secret.

Section 4. First Aid Measures

4.1 Description of First Aid Measures

Eye Contact	Gently rinse the eyes and under the eyelids with water for at least 15 minutes. Remove contact lenses if present and easy to do so. Get medical attention if eye irritation persists.
Skin Contact	Immediately remove all contaminated clothing. Rinse skin with plenty of water.
Inhalation	Remove to fresh air and keep at rest in a comfortable position for breathing. If signs/symptoms continue, get medical attention.
Ingestion	Rinse mouth with water and drink plenty of water afterwards. Get medical advice. Do not induce vomiting.

Section 5. Fire-Fighting Measures.

5.1 Extinguishing Media
Use water, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special Hazard
The aqueous mixture is not flammable or combustible. Toxic gases (carbon monoxide) may form when other substances nearby are burned without sufficient oxygen.

5.3 Advice for Firefighters
Firefighters should wear proper protective equipment (helmet with face shield, bunker coats, gloves and rubber boots), including a pressure demand MSHA/NIOSH approved self-contained breathing apparatus. Keep personnel removed from and upwind of fire.

Section 6. Accidental Release Measures.

6.1 Personal Precautions, Protective Equipment and Emergency Procedures
Wear appropriate respiratory protection and protective clothing. See Section 8.

6.2 Methods and Material for Containment and Cleaning Up
Use good housekeeping practices. Ventilate area. Contain spill with Step 2 of the Step 1/Step 2 oil spill clean-up product. Shovel and sweep up or use industrial vacuum cleaner after drying. Put into containers for disposal.

Section 7. Handling and Storage.

7.1 Handling

Ensure adequate ventilation. Avoid contact with skin and eyes. Wash hands thoroughly after handling

7.2 Storage

Keep containers tightly closed in a dry, cool, well-ventilated area. Segregate from acids. Do not allow to freeze.

Section 8. Exposure Controls/Personal Protection.

8.1 Control Parameters

Occupational Exposure Limit Monitoring	Not Applicable for product, but applicable for the spilled substance being cleaned up.

8.2 Exposure Controls

Respiratory Protection	If engineering contols do not maintain performance to a level that is adequate to protect worker health, a NIOSH-approved respirator should be worn. In accordance with 29 CFR 1910.134, use either an atmosphere-supplying or an air-purifying respirator for organic vapors and dusts.
Protective Clothing	Safety glasses and protective clothing and gloves should be worn when product is being used in spill cleanup.
Protective Measures	Adequate ventilation and/or engineering controls are required when product used to clean up hydrocarbon spills.

Section 9. Physical and Chemical Properties.

9.1 Information on Basic Physical and Chemical Properties

Appearance	Colorless to light yellow liquid
Odor	Mild odor
Boiling Point (deg. F)	Approximately 212 ^{o}F
Melting Point (deg. F)	Not Applicable
Flash Point	Not Flammable
pH	11.5
Specific Gravity (H_2O=1)	1.08 g/ml
Solubility in Water	Very Soluble
Vapor Pressure (mm Hg)	Not Applicable
Vapor Density (Air = 1)	Heavier than air
Evaporation Rate - (Butyl Acetate = 1)	Similar to water

Section 10. Stability and Reactivity.

10.1 Chemical Stability

This product is considered a stable material under normal storage and handling conditions.

10.2 Conditions to Avoid

Avoid contact with acids, aluminum, magnesium, calcium and zinc.

10.3 Hazardous Decomposition Products

None

Section 11. Toxicological Information.

11.1 Information on Toxicological Effects

Acute Toxicity	
Oral LD_{50}	No Information Available
Dermal LD_{50}	No Information Available
Inhalation LC_{50}	No Information Available
Routes Exposure	
Inhalation	No Information Available
Ingestion	No Information Available
Dermal	No Information Available
Skin Corrosion/Irritation	No Information Available
Serious Eye Damage/ Irritation	No Information Available
Respiratory Sensitization	No Information Available
Skin Sensitization	No Information Available
Mutagenicity	No Information Available
Carcinogenicity	No Information Available
Reproductive Toxicity	No Information Available
Specific Target Organ	
Single Exposure	No Information Available
Repeated Exposure	No Information Available
Aspiration Toxicity	No Information Available

Section 12. Ecological Information.

12.1 Ecotoxicological Data

No Information Available

12.2 Persistence and Degradability
No Information Available

12.3 Mobility in Soil
No Information Available

12.4 Other Adverse Effects
No Information Available

Section 13. Disposal Considerations.

13.1 Waste Treatment Methods
All Oil Solutions Step 1 material should be disposed in conformance with applicable laws and regulations using good engineering practices. The best method is to mix the Oil Solutions Step 1 with Oil Solutions Step 2 to form a solid, allow for drying, and then dispose the solid.

Section 14. Transport Information.

14.1 UN Number
Non-Regulated Commodity

14.2 Proper Shipping Name
Not Applicable

14.3 Transport Hazard Class(es)
Not Hazardous by DOT

Section 15. Regulatory Information.

15.1 Inventory Status
Not Listed

16.1 US Federal Regulations
Clean Water Act, SARA 313, SARA 311/312: Not applicable or not hazardous

Section 16. Other Information.

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Oil Solutions International makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANYTY. Any use of this data and information must be determined by the proper person to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Oil Solutions International, and may

be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Safety Data Sheet
Oil Solutions™ Step 2
05/09/14
Version 01

Section 1. Identification.

1.1 Product Identifier

Product Name **Oil Solutions™ Step 2**

1.2 Relevant Identified Users of the Substance and Uses Advised Against

Relevant Uses Component for Step 1/Step 2 Oil Spill Cleanup Product
Uses Advised Against None Known

1.3 Details of the Supplier of the Safety Data Sheet

Oil Solutions International
35 Mill St.
Amityville, NY 11701
Phone: 631-608-8889; After Hours: 631-608-8888
Fax: 516-221-7099
Website: www.cleaningupoil.com

Section 2. Hazards Identification.

2.1 Signal Word and Pictogram(s)

Warning

2.1 GHS Classification of the Substance

Could cause skin irritation. Could cause serious eye irritation.

Physical Hazards	
Explosives	Not Applicable
Flammable Gases	Not Applicable
Flammable Aerosols	Not Applicable
Oxidizing Gases	Not Applicable
Gases Under Pressure	Not Applicable
Flammable Liquids	Not Applicable
Flammable Solids	Not Applicable
Self-Reactive Substances and Mixtures	Not Applicable
Pyrophoric Liquids	Not Applicable
Pyrophoric Solids	Not Applicable
Self-heating Substances and Mixtures	Not Applicable
Substance contacting water	

And emit flammable gases	Not Applicable
Oxidizing Liquids	Not Applicable
Oxidizing Solids	Not Applicable
Organic Peroxides	Not Applicable
Corrosive to Metals	Not Applicable

Health Hazards

Acute Toxicity	
Oral	Classification Not Available
Skin	Classification Not Available
Inhalation (Gas)	Classification Not Available
Inhalation (Vapor)	Classification Not Available
Inhalation (Dust, Mist)	Classification Not Available
Skin Corrosion/Irritation	Category 3, Mild Skin Irritation
Serious Eye Damage/Irritation	Category 2, Could Cause Eye Irritation
Respiratory Sensitization	Classification Not Available
Skin Sensitization	Classification Not Available
Germ Cell Mutagenicity	Classification Not Available
Carcinogenicity	Classification Not Available
Reproductive Toxicity	Classification Not Available
Specific Target Organ Toxicity	
Single Exposure	Category 3
Repeated Exposure	Category 2
Aspiration Hazard	Classification Not Available

Environmental Hazards

Aquatic Toxicity	
Acute	Classification Not Available
Chronic	Classification Not Available

This product is not hazardous as defined by the US Occupational Safety and Health Administration (OSHA) under its Hazard Communication (HCS), 29 CFR 1910.1200.

UN Class and UN Number	Non-Regulated Commodity
Adverse Human Health Effects	Not available
Physical and Chemical Hazards	Not available
Environmental Effects	Not available

Section 3. Composition/Information on Ingredients.

3.1 Product Type - Mixture

Chemical Name	Concentration	CAS No.
Weak Acid*	-	-

Salt*	-	-
Polymer*	-	-
Water	<60%	7732-15-5

*The specific chemical substance identity and CAS Number are being withheld as a trade secret.

Section 4. First Aid Measures

4.1 Description of First Aid Measures

Eye Contact	Immediately flush eyes and under the eyelids with water for at least 15 minutes. Remove contact lenses if present. Get medical attention if eye irritation persists.
Skin Contact	Remove all contaminated clothing. Rinse skin with plenty of water.
Inhalation	Remove to fresh air and keep at rest in a comfortable position for breathing. If signs/symptoms continue, get medical attention.
Ingestion	Rinse mouth with water and drink plenty of water afterwards. Get medical advice. Do not induce vomiting.

Section 5. Fire-Fighting Measures.

5.1 Extinguishing Media
Use water, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special Hazard
The aqueous mixture is not flammable or combustible. Toxic gases (carbon monoxide) may form when other substances nearby are burned without sufficient oxygen.

5.3 Advice for Firefighters
Firefighters should wear proper protective equipment (helmet with face shield, bunker coats, gloves and rubber boots), including a pressure demand MSHA/NIOSH approved self-contained breathing apparatus. Keep personnel removed from and upwind of fire.

Section 6. Accidental Release Measures.

6.1 Personal Precautions, Protective Equipment and Emergency Procedures
Wear appropriate respiratory protection and protective clothing. See Section 8.

6.2 Methods and Material for Containment and Cleaning Up

Use good housekeeping practices. Ventilate area. Contain spill with Step 2 of the Step 1/Step 2 oil spill clean-up product. Shovel and sweep up or use industrial vacuum cleaner after drying. Put into containers for disposal.

Section 7. Handling and Storage.

7.1 Handling

Ensure adequate ventilation. Avoid contact with skin and eyes. Wash hands thoroughly after handling

7.2 Storage

Keep containers tightly closed in a dry, cool, well-ventilated area. Segregate from acids. Do not allow to freeze.

Section 8. Exposure Controls/Personal Protection.

8.1 Control Parameters

Occupational Exposure Limit Monitoring	Not Applicable for product, but applicable for the spilled substance being cleaned up.

8.2 Exposure Controls

Respiratory Protection	If engineering contols do not maintain performance to a level that is adequate to protect worker health, a NIOSH-approved respirator should be worn. In accordance with 29 CFR 1910.134, use either an atmosphere-supplying or an air-purifying respirator for organic vapors and dusts.
Protective Clothing	Safety glasses and protective clothing and gloves should be worn when product is being used in spill cleanup.
Protective Measures	Adequate ventilation and/or engineering controls are required when product used to clean up hydrocarbon spills.

Section 9. Physical and Chemical Properties.

9.1 Information on Basic Physical and Chemical Properties

Appearance	Colorless liquid
Odor	Odorless
Boiling Point (deg. F)	Approximately 212 ^{o}F/100 ^{o}C
Melting Point (deg. F)	Not Applicable
Flash Point	Not Flammable
pH	3

Specific Gravity (H_2O=1)	1.19 g/ml
Solubility in Water	Very Soluble
Vapor Pressure (mm Hg)	Not Applicable
Vapor Density (Air = 1)	Heavier than air
Evaporation Rate - (Butyl Acetate = 1)	Similar to water

Section 10. Stability and Reactivity.

10.1 Chemical Stability
This product is a stable material under normal storage and handling conditions.

10.2 Conditions to Avoid
Avoid contact with bases.

10.3 Hazardous Decomposition Products
None

Section 11. Toxicological Information.

11.1 Information on Toxicological Effects

Acute Toxicity	
Oral LD_{50}	No Information Available
Dermal LD_{50}	No Information Available
Inhalation LC_{50}	No Information Available
Routes Exposure	
Inhalation	No Information Available
Ingestion	No Information Available
Dermal	No Information Available
Skin Corrosion/Irritation	No Information Available
Serious Eye Damage/ Irritation	No Information Available
Respiratory Sensitization	No Information Available
Skin Sensitization	No Information Available
Mutagenicity	No Information Available
Carcinogenicity	No Information Available
Reproductive Toxicity	No Information Available
Specific Target Organ	
Single Exposure	No Information Available
Repeated Exposure	No Information Available
Aspiration Toxicity	No Information Available

Section 12. Ecological Information.

12.1 Ecotoxicological Data
No Information Available

12.2 Persistence and Degradability
No Information Available

12.3 Mobility in Soil
No Information Available

12.4 Other Adverse Effects
No Information Available

Section 13. Disposal Considerations.

13.1 Waste Treatment Methods
All Oil Solutions Step 1 material should be disposed in conformance with applicable laws and regulations using good engineering practices. The best method is to mix the Oil Solutions Step 2 with Oil Solutions Step 1 to form a solid, allow for drying, and then dispose the solid.

Section 14. Transport Information.

14.1 UN Number
Non-Regulated Commodity

14.2 Proper Shipping Name
Not Applicable

14.3 Transport Hazard Class(es)
Not Hazardous by DOT

Section 15. Regulatory Information.

15.1 Inventory Status
Not Listed

16.1 US Federal Regulations
Clean Water Act, SARA 313, SARA 311/312: Not applicable, hazardous or reportable.

Section 16. Other Information.

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Oil Solutions International makes no guarantee of the accuracy or completeness of the data and shall not be liable for

any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANYTY. Any use of this data and information must be determined by the proper person to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Oil Solutions International, and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Page 1105 of 1315

SAFETY DATA SHEET

Issuing Date 1/29/2018

The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier **VP363**

Product Name **Victor V Snake-A-Way Snake Repelling Granules**

Other means of identification

Synonyms None

Size 1.75 lb

Recommended use of the chemical and restrictions on use

Recommended Use Repellant, Pest, Non-Aerosol

Uses advised against It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Details of the supplier of the safety data sheet

Supplier Name Woodstream Corporation

Supplier Address 69 North Locust St.
Lititz
PA
17543
US

Supplier Phone Number Phone:(717) 626-2125
Fax:(717) 626-1912
Contact Phone(717) 626-2125

Emergency telephone number (800) 424-9300

Regulatory Licenses EPA Reg. No. 58630-1-36488

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1B

GHS Label elements, including precautionary statements

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1106 of 1315

Emergency Overview

Signal word **Danger**

Hazard Statements
Causes skin irritation
May cause genetic defects
May cause cancer
May form combustible dust concentrations in air

Appearance Light tan **Physical State** Granular Solid **Odor** Naphthalenic

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
Specific treatment (see supplemental first aid instructions on this label)

Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity
61.9% of the mixture consists of ingredient(s) of unknown toxicity

Other information

May be harmful if swallowed
Very toxic to aquatic life with long lasting effects

Interactions with Other Chemicals
Use of alcoholic beverages may enhance toxic effects.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1107 of 1315

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Sulfur	7704-34-9	15 - 40	*
Naphthalene	91-20-3	5 - 10	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

General Advice Show this safety data sheet to the doctor in attendance.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin Contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1108 of 1315

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical
Avoid generation of dust. Fine dust dispersed in air may ignite.

Hazardous Combustion Products
Carbon oxides.

Explosion Data
Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge Yes.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Avoid generation of dust. Do not breathe dust. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges.
Other Information	Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions

Environmental Precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so. Prevent dust cloud.
Methods for cleaning up	Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1109 of 1315

7. HANDLING AND STORAGE

STORAGE & DISPOSAL

PESTICIDE STORAGE: Store only in original container, in a cool, dry, and well-ventilated location inaccessible to children and pets.

PESTICIDE DISPOSAL AND CONTAINER HANDLING: Non-refillable container. Do not reuse or refill this container. If Empty: Place in trash or offer for recycling if available. If Partly Filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

Incompatible Products Strong acids. Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m³ (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m³ (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m³ STEL: 15 ppm STEL: 75 mg/m³

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and Body Protection Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves.

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced. ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Do not breathe dust.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1110 of 1315

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Granular, Solid		
Appearance	Light tan	**Odor**	Naphthalenic
Color	No information available	**Odor Threshold**	No information available

Property	Values	Remarks Method
pH	UNKNOWN	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	831 degrees F	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	0.04 mm Hg	None known
Vapor density	No data available	None known
Specific Gravity	0.432	None known
Water Solubility	Insoluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing Properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1111 of 1315

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Excessive heat. Heating in air. Dust formation.

Incompatible materials
Strong acids. Strong oxidizing agents. Strong bases.

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye Contact	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to eyes. May cause redness, itching, and pain.
Skin Contact	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to skin.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfur 7704-34-9	> 3000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 9.23 mg/L (Rat) 4 h
Naphthalene 91-20-3	-	> 20 g/kg (Rabbit)	> 340 mg/m³ (Rat) 1 h

Information on toxicological effects

Symptoms Erythema (skin redness). May cause redness and tearing of the eyes.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1112 of 1315

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects Contains a known or suspected mutagen.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Naphthalene 91-20-3	A3	Group 2A Group 2B	Reasonably Anticipated	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic Toxicity Contains a known or suspected mutagen. Possible risk of irreversible effects. Contains a known or suspected carcinogen. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.

Target Organ Effects Respiratory system. Eyes. Skin. May affect the genetic material in germ cells (sperm and eggs). Gastrointestinal tract (GI). Blood. Central Nervous System (CNS). Kidney. Liver. Nasal cavities.

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
2,721.00 mg/kg

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1113 of 1315

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Sulfur 7704-34-9		96h LC50: = 866 mg/L (Brachydanio rerio) 96h LC50: < 14 mg/L (Lepomis macrochirus) 96h LC50: > 180 mg/L (Oncorhynchus mykiss)		
Naphthalene 91-20-3	72h EC50: = 0.4 mg/L (Skeletonema costatum)	96h LC50: 5.74 - 6.44 mg/L (Pimephales promelas) 96h LC50: = 1.6 mg/L (Oncorhynchus mykiss) 96h LC50: 0.91 - 2.82 mg/L (Oncorhynchus mykiss) 96h LC50: = 1.99 mg/L (Pimephales promelas) 96h LC50: = 31.0265 mg/L (Lepomis macrochirus)	EC50 = 0.93 mg/L 30 min EC50 > 20 mg/L 18 h	48h LC50: = 2.16 mg/L 48h EC50: = 1.96 mg/L 48h EC50: 1.09 - 3.4 mg/L

Persistence and Degradability
No information available.

Bioaccumulation

Chemical Name	Log Pow
Naphthalene 91-20-3	3.3

Other adverse effects
No information available.

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1114 of 1315

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging Dispose of contents/containers in accordance with local regulations.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Naphthalene 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145		U165

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Naphthalene 91-20-3			Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	

California Hazardous Waste Codes 232

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Naphthalene 91-20-3	Toxic

14. TRANSPORT INFORMATION

DOT NOT REGULATED
Proper Shipping Name NON REGULATED
Hazard Class N/A

TDG Not regulated

MEX Not regulated

ICAO Not regulated

IATA Not regulated

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1115 of 1315

Proper Shipping Name	NON REGULATED
Hazard Class	N/A

IMDG/IMO Not Regulated

UN-No.	
Proper Shipping Name	
Hazard Class	
Marine Pollutant	
Description	

RID	Not regulated
ADR	Not regulated
ADN	Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Naphthalene - 91-20-3	91-20-3	5 - 10	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Naphthalene 91-20-3	100 lb	X	X	X

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Naphthalene 91-20-3	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 0.454 kg final RQ

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1116 of 1315

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Naphthalene - 91-20-3	Carcinogen

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Pesticide Label Signal Word: Caution

Harmful if swallowed or absorbed through skin. Harmful if inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust.

ENVIRONMENTAL HAZARDS:

This product is toxic to fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazards** 2 *	**Flammability** 1	**Physical Hazard** 0	**Personal Protection** X

Chronic Hazard Star Legend * = Chronic Health Hazard

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 16-Oct-2012
Revision Date 14-Feb-2015
Revision Note No information available

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1117 of 1315

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Version: 2.0
Revision Date: 03/18/2020

SAFETY DATA SHEET

1. Identification

Product identifier: SPRAYWAY GLASS CLEANER

Other means of identification
SDS number: RE1000000075

Recommended restrictions
Product use: Cleaner
Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name:	Sprayway, Inc.
Address:	1000 INTEGRAM DR. Pacific, MO 63069
Telephone:	1-630-628-3000
Fax:	

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Gases under pressure	Compressed gas

Label Elements

Hazard Symbol:

Signal Word:	Warning
Hazard Statement:	Contains gas under pressure; may explode if heated.
Precautionary Statements	
Storage:	Protect from sunlight. Store in a well-ventilated place.
Hazard(s) not otherwise classified (HNOC):	None.

Released to Imaging: 4/22/2025 3:42:03 PM

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Ethanol	64-17-5	1 - <5%
Ethanol, 2-butoxy-	111-76-2	1 - <5%
Propane	74-98-6	1 - <5%
Butane	106-97-8	1 - <5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Pressurized container may explode when exposed to heat or flame.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Stop the flow of material, if this is without risk. Absorb with sand or other inert absorbent.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling: Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Protect from sunlight. Store in a cool place. Aerosol Level 1

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
Ethanol	REL	1,000 ppm	1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	1,000 ppm	1,900 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	1,000 ppm	1,900 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	1,000 ppm		US. ACGIH Threshold Limit Values (2009)
Ethanol, 2-butoxy-	TWA	20 ppm		US. ACGIH Threshold Limit Values (2008)
	REL	5 ppm	24 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	50 ppm	240 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	25 ppm	120 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Propane	REL	1,000 ppm	1,800 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	1,000 ppm	1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	1,000 ppm	1,800 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Butane	REL	800 ppm	1,900 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	STEL	1,000 ppm		US. ACGIH Threshold Limit Values (03 2018)
	TWA	800 ppm	1,900 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Morpholine	REL	20 ppm	70 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	STEL	30 ppm	105 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	20 ppm		US. ACGIH Threshold Limit Values (2008)
	TWA	20 ppm	70 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	30 ppm	105 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Released to Imaging: 4/22/2025 3:42:03 PM

	PEL	20 ppm	70 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
2-Propanol, 2-methyl-	STEL	150 ppm	450 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	100 ppm	300 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	100 ppm	300 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	100 ppm		US. ACGIH Threshold Limit Values (2008)
	STEL	150 ppm	450 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	REL	100 ppm	300 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Silica	REL		6 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA		20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA		6 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA		0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
2,6-Octadienal, 3,7-dimethyl- - Inhalable fraction and vapor.	TWA	5 ppm		US. ACGIH Threshold Limit Values (01 2010)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Ethanol, 2-butoxy- (Butoxyacetic acid (BAA), with hydrolysis: Sampling time: End of shift.)	200 mg/g (Creatinine in urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection: Wear goggles/face shield.

Skin Protection
Hand Protection: No data available.

Other: No data available.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: Spray Aerosol
Color: No data available.
Odor: No data available.
Odor threshold: No data available.
pH: 8.7 - 9.7
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.

Released to Imaging: 4/22/2025 3:42:03 PM

Flash Point:	Not applicable
Evaporation rate:	No data available.
Flammability (solid, gas):	Non-flammable Aerosol
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	5,515 - 6,894 hPa (20 °C)
Vapor density:	No data available.
Density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	No data available.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Released to Imaging: 4/22/2025 3:42:03 PM

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 36,844.23 mg/kg

Dermal
Product: ATEmix: 32,120.9 mg/kg

Inhalation
Product: ATEmix: 690.87 mg/l
ATEmix : 172.72 mg/l

Repeated dose toxicity
Product: No data available.

Specified substance(s):

Ethanol	NOAEL (Rat(Male), Oral, 7 - 14 Weeks): 10 %(m) Oral Experimental result, Key study
Ethanol, 2-butoxy-	NOAEL (Rat(Female), Inhalation, 2 yr): < 31 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female), Oral, 90 d): < 82 mg/kg Oral Experimental result, Key study NOAEL (Rabbit(Female, Male), Dermal, 90 d): > 150 mg/kg Dermal Experimental result, Key study
Propane	NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study
Butane	LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):

Ethanol	in vivo (Rabbit): Not irritant Experimental result, Key study
Ethanol, 2-butoxy-	in vivo (Rabbit): Irritating Experimental result, Key study

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):

Ethanol	Rabbit, 1 - 24 hrs: Not irritating
Ethanol, 2-butoxy-	Rabbit, 24 - 72 hrs: Irritating

Respiratory or Skin Sensitization
Product: No data available.

Specified substance(s):

Ethanol	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Ethanol, 2-butoxy-	Skin sensitization:, in vivo (Guinea pig): Non sensitising

Carcinogenicity
Product: No data available.

Released to Imaging: 4/22/2025 3:42:03 PM

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Ethanol	LC 50 (Pimephales promelas, 96 h): 15.3 g/l Experimental result, Key study
Ethanol, 2-butoxy-	LC 50 (Oncorhynchus mykiss, 96 h): 1,474 mg/l Experimental result, Key study
Propane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study
Butane	LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Ethanol	LC 50 (Ceriodaphnia dubia, 48 h): 5,012 mg/l Experimental result, Key study
Ethanol, 2-butoxy-	EC 50 (Daphnia magna, 48 h): 1,550 mg/l Experimental result, Key study
Butane	LC 50 (Daphnia sp., 48 h): 69.43 mg/l QSAR QSAR, Key study

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.
Specified substance(s):	
Ethanol	NOAEL (Oryzias latipes): 7,900 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
Ethanol, 2-butoxy-	NOAEL (Danio rerio): > 100 mg/l Experimental result, Key study

Aquatic Invertebrates

Product:	No data available.
Specified substance(s):	
Ethanol	LC 50 (Daphnia magna): 454 mg/l Experimental result, Key study NOAEL (Daphnia magna): 9.6 mg/l Experimental result, Key study
Ethanol, 2-butoxy-	EC 10 (Daphnia magna): 134 mg/l Experimental result, Key study EC 50 (Daphnia magna): 297 mg/l Experimental result, Key study

Toxicity to Aquatic Plants

Product:	No data available.

Persistence and Degradability

Biodegradation

Product:	No data available.
Specified substance(s):	
Ethanol	95 % Detected in water. Experimental result, Key study
Ethanol, 2-butoxy-	90.4 % Detected in water. Experimental result, Key study
Propane	100 % (385.5 h) Detected in water. Experimental result, Key study 50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study
Butane	100 % (385.5 h) Detected in water. Experimental result, Key study

BOD/COD Ratio

Product:	No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product:	No data available.
Specified substance(s):	
Ethanol	Cyprinus carpio, Bioconcentration Factor (BCF): 4.5 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Supporting study

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.

Mobility in soil: No data available.

Released to Imaging: 4/22/2025 3:42:03 PM

Known or predicted distribution to environmental compartments

Ethanol	No data available.
Ethanol, 2-butoxy-	No data available.
Propane	No data available.
Butane	No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal instructions: Wash before disposal. Dispose to controlled facilities.

Contaminated Packaging: No data available.

14. Transport information

DOT

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, non-flammable
Transport Hazard Class(es)	
Class:	2.2
Label(s):	–
Packing Group:	II
Marine Pollutant:	No
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IMDG

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, non-flammable
Transport Hazard Class(es)	
Class:	2
Label(s):	–
EmS No.:	
Packing Group:	–
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IATA

UN Number:	UN 1950
Proper Shipping Name:	Aerosols, non-flammable
Transport Hazard Class(es):	
Class:	2.2
Label(s):	–
Packing Group:	–
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.
Cargo aircraft only:	Allowed.

Released to Imaging: 4/22/2025 3:42:03 PM

15. Regulatory information

US Federal Regulations

Restrictions on use: Not known.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Ethanol	lbs. 100
Propane	lbs. 100
Butane	lbs. 100
Morpholine	lbs. 100
Nitrous acid, sodium salt (1:1)	lbs. 100
2-Propanol, 2-methyl-	lbs. 100

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not listed.

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Ethanol	lbs. 100
Ethanol, 2-butoxy-	
Propane	lbs. 100
Butane	lbs. 100
Morpholine	lbs. 100
Nitrous acid, sodium salt (1:1)	lbs. 100
2-Propanol, 2-methyl-	lbs. 100

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Ethanol	10000 lbs
Ethanol, 2-butoxy-	10000 lbs
Propane	10000 lbs
Butane	10000 lbs
Morpholine	10000 lbs
Nitrous acid, sodium salt (1:1)	10000 lbs
2-Propanol, 2-methyl-	10000 lbs
Silica	10000 lbs
2,6-Octadienal, 3,7-dimethyl-	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
Ethanol, 2-butoxy-	N230 lbs	N230 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Ethanol
Ethanol, 2-butoxy-
Propane
Butane

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Ethanol
Ethanol, 2-butoxy-
Propane
Butane

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

Released to Imaging: 4/22/2025 3:42:03 PM

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Ontario Inventory:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Mexico INSQ:	Not in compliance with the inventory.
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.
Philippines PICCS:	Not in compliance with the inventory.
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

Issue Date:	03/18/2020
Revision Information:	No data available.
Version #:	2.0
Further Information:	No data available.
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

Date Issued : 10/12/2018
SDS No : Triple S_DC Gold

SSS DC Gold Disinfectant Cleaner

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SSS DC Gold Disinfectant Cleaner
GENERAL USE: Disinfectant, Virucide, Fungicide
PRODUCT DESCRIPTION: Neutral Disinfectant and Detergent
PRODUCT CODE: 13028, 13029
CHEMICAL FAMILY: Quaternary Ammonium Chloride

DISTRIBUTOR
Triple S
2 Executive Park Drive
Billerica, MA 01862
http://www.triple-s.com
Customer Service: 978-667-7900

24 HR. EMERGENCY TELEPHONE NUMBERS
888-779-1339

EPA REG. NO.: 10324-154-12120

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATIONS

Health:
Eye Corrosion, Category 1
Skin Irritation, Category 2
Acute Toxicity (Oral), Category 5

Environmental:
Acute Hazards to the Aquatic Environment, Category 1

GHS LABEL

Corrosion

Environment

SIGNAL WORD: DANGER

HAZARD STATEMENTS
H318: Causes serious eye damage.
H315: Causes skin irritation.
H302: Harmful if swallowed.
H401: Toxic to aquatic life.

PRECAUTIONARY STATEMENT(S)

Prevention:
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P273: Avoid release to the environment.
P102: Keep out of reach of children.
P264: Wash hands thoroughly after handling.
P234: Keep only in original packaging.

Response:
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor/physician.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P363: Wash contaminated clothing before reuse.
P391: Collect spillage.

Storage:
P405: Store locked up.

Disposal:

P501: Dispose of contents/container according to all local, state and Federal regulations.

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Pink Liquid

IMMEDIATE CONCERNS: Causes irreversible eye damage and skin burns.

POTENTIAL HEALTH EFFECTS

EYES: Corrosive, contact causes severe eye burns.

SKIN: Contact causes severe skin irritation and possible burns.

SKIN ABSORPTION: Harmful if absorbed through skin.

INGESTION: Harmful if swallowed.

REPRODUCTIVE TOXICITY

TERATOGENIC EFFECTS: None known.

CARCINOGENICITY: None known.

MUTAGENICITY: None known.

ROUTES OF ENTRY: Eye, skin, ingestion.

WARNING CAUTION LABELS: Irritant

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS
Alkyl dimethylbenzyl ammonium chloride(C12-C16)	1.69	68424-85-1
Didecyl dimethyl ammonium chloride	2.535	7173-51-5
Nonylphenol Ethoxylate	0 - 5	127087-87-0
Tetrasodium ethylenediamine tetraacetate	0 - 5	64-02-8
Dye	< 0.1	TS
Fragrance	< 1	TS
Water	85 - 95	7732-18-5

COMMENTS: If CAS number is "TS", the specific chemical identity has been withheld as a trade secret.

4. FIRST AID MEASURES

EYES: Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Seek medical attention immediately.

SKIN: Remove contaminated clothing. Immediately flush with water followed by washing with mild soap. Seek medical attention.

INGESTION: Get immediate medical attention. Do not induce vomiting unless instructed to do so by poison center or physician.

INHALATION: Remove victim to fresh air and monitor. Seek medical advise if irritation persists.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Severe burning sensation, damage marked by burns.

SKIN: Burning sensation, redness.

INGESTION: Irritation of mouth, throat, along with stomach upset, vomiting.

INHALATION: Irritation of nose, throat and lungs with coughing, sneezing, possible difficulty breathing.

ACUTE EFFECTS: Corrosive to eyes. Causes moderate to severe skin irritation. Harmful if swallowed.

NOTES TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

FLAMMABLE CLASS: None

EXTINGUISHING MEDIA: Not required.

EXPLOSION HAZARDS: None

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition products may include: Carbon dioxide, Carbon monoxide, nitrogen oxides.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Avoid runoff into storm sewers and ditches which lead to waterways.

LARGE SPILL: Avoid walking in material. Prevent product from entering into stream, soil, storm sewer or other bodies of water.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Avoid discharges into open waterways.

LAND SPILL: Avoid discharge to soil.

AIR SPILL: NA = Not Applicable

GENERAL PROCEDURES: Isolate spill or leak area immediately. Keep unauthorized personnel away. Do not touch or walk through spilled material. Prevent entry into waterways, sewers, or confined areas. Absorb with dry earth, sand or other non-

combustible material and transfer to containers.
RELEASE NOTES: Product is toxic to fish and aquatic invertebrates.
SPECIAL PROTECTIVE EQUIPMENT: Eye protection, rubber gloves, rubber boots to protect feet.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Do not contaminate water, food, or feed by storage or disposal.
HANDLING: Avoid contact with skin and eyes. Wash hands before eating, drinking, smoking or using toilet facilities.
STORAGE: Store only in original container. Do not reuse empty container. If a leaky container must be contained within another, mark the outer container to identify the contents. Store pesticides away from food, pet food, feed, and water sources.Keep this product under locked storage sufficient to make it inaccessible to children or persons unfamiliar with its proper use.
STORAGE TEMPERATURE: Store at ambient temperatures.
STORAGE PRESSURE: Store at ambient atmospheric pressure.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT
EYES AND FACE: Chemical splash goggles.
SKIN: Rubber or other chemical resistant gloves.
RESPIRATORY: A respirator is not needed under normal and intended conditions of product use.
WORK HYGIENIC PRACTICES: Wash with soap and water after handling. Do not eat, drink or smoke while using product.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
ODOR: Lemon
ODOR THRESHOLD: Not Established
COLOR: Pink
pH: 6.0 to 8.0
PERCENT VOLATILE: >90
FLASH POINT AND METHOD: None
FLAMMABLE LIMITS: N/A
AUTOIGNITION TEMPERATURE: NA = Not Applicable
VAPOR PRESSURE: 20 mm Hg at (68°F)
VAPOR DENSITY: ~ 1 Air = 1
BOILING POINT: 212° F; 100° C
FREEZING POINT: 32° F; 0° C
THERMAL DECOMPOSITION: Not Available
SOLUBILITY IN WATER: Complete
EVAPORATION RATE: (Water =1) 1.0
DENSITY: 8.35 at 20°C (68°F)
SPECIFIC GRAVITY: 1.001 grams/ml. at 20°C (68°F)
VISCOSITY: Water thin.
(VOC): None

10. STABILITY AND REACTIVITY

REACTIVITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Not Established
HAZARDOUS DECOMPOSITION PRODUCTS: None Expected.
INCOMPATIBLE MATERIALS: Strong oxidizers

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Chemical Name	ORAL LD_{50} (rat)	DERMAL LD_{50} (rabbit)
Alkyl dimethylbenzyl ammonium chloride(C12-C16)	450 mg/kg (rat)	3342 mg/kg (rabbit)
Didecyl dimethyl ammonium chloride	268 mg/kg (mouse)	2730 mg/kg (rabbit)
Nonylphenol Ethoxylate	16000 mg/kg (rat)	4490 mg/kg (rabbit)
Tetrasodium ethylenediamine tetraacetate	3030 mg/kg (rat)	> 5000 mg/kg (rabbit)

DERMAL LD_{50}: > 2000 mg/kg male and female rabbits.
ORAL LD_{50}: > 1000 mg/kg Male and Female rats.
SKIN CORROSION/IRRITATION: Corrosive

GERM CELL MUTAGENICITY: No known significant effects or critical hazards.
CARCINOGENICITY
IARC: No products were found.
REPRODUCTIVE TOXICITY: No known significant effects or critical hazards.
STOT-SINGLE EXPOSURE: No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Not Established
ECOTOXICOLOGICAL INFORMATION: This product is toxic to fish and aquatic invertebrates.
AQUATIC TOXICITY (ACUTE): Not Established
CHEMICAL FATE INFORMATION: This product is biodegradable.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Attempt to use product completely in accordance with intended use. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at your local office, or the nearest EPA regional office for guidance.
FOR LARGE SPILLS: Consult with local and state authorities for large volume disposal.
EMPTY CONTAINER: Triple rinse container promptly after emptying. Fill container 1/4 full with water and recap. Shake for 10 seconds. Drain and repeat. Offer for recycling if available or puncture and dispose in a sanitary landfill, or by other procedures approved by state and local authorities.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)
PROPER SHIPPING NAME: Not regulated.
PLACARDS: None
LABEL: None
U.S. CUSTOMS HARMONIZATION NUMBER: 3808.94.0000
AIR (ICAO/IATA)
SHIPPING NAME: Not regulated.
VESSEL (IMO/IMDG)
SHIPPING NAME: Not regulated.

15. REGULATORY INFORMATION

UNITED STATES
SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
311/312 HEALTH HAZARDS: Health - Acute
313 REPORTABLE INGREDIENTS: No listed substance
302/304 EMERGENCY PLANNING
EMERGENCY PLAN: No listed substance
TSCA (TOXIC SUBSTANCE CONTROL ACT)
TSCA REGULATORY: All ingredients are listed on the TSCA Chemical Inventory.
STATES WITH SPECIAL REQUIREMENTS

Chemical Name	Requirements
Nonylphenol Ethoxylate	Massachusetts Right to Know Substance New Jersey Right To Know Substance Pennsylvania Right to Know Substance

CALIFORNIA PROPOSITION 65: No listed substance
FIFRA (FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT): Regulated

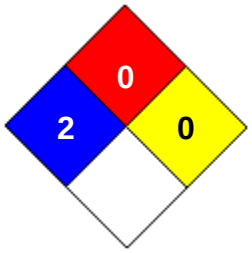
16. OTHER INFORMATION

Date Prepared: 10/12/2018

HMIS RATING

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	B

NFPA CODES



MANUFACTURER DISCLAIMER: This company cannot anticipate all conditions of handling and use of this product. Therefore, this company accepts no responsibility for results obtained by the application of this information, or the safety and suitability of the product either alone or in combination with other products. It is the responsibility of the employer and/or user to provide a safe workplace, using health and safety information contained herein as a guide. This company will accept no liability for damages or losses incurred from the improper handling and use of this product.

Safety Data Sheet
Startex Denatured Alcohol

Version 1.2 Revision Date: 03/20/2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Startex Denatured Alcohol

Recommended use of the chemical and restrictions on use

Recommended use : Alcohol solvent

Manufacturer or supplier's details

Company : Nexeo Solutions LLC - STARTEX™
Address 3 Waterway Square Place Suite 1000
The Woodlands, TX. 77380
United States of America

Emergency telephone number:
Health North America: 1-855-NEXEO4U (1-855-639-3648)
Health International: 1-855-NEXEO4U (1-855-639-3648)
Transport North America: CHEMTREC (1-800-424-9300)

Additional Information: : Responsible Party: Product Safety Group
E-Mail: msds@nexeosolutions.com
SDS Requests: 1-855-429-2661
SDS Requests Fax: 1-281-500-2370
Website: www.nexeosolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	:	Category 2
Acute toxicity (Oral)	:	Category 4
Acute toxicity (Inhalation)	:	Category 4
Acute toxicity (Dermal)	:	Category 4
Eye irritation	:	Category 2A
Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 1 (Eyes, Central nervous system)
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)

GHS Label element

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled
H319 Causes serious eye irritation.
H335 + H336 May cause respiratory irritation, and drowsiness or dizziness.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H371 May cause damage to organs.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P242 Use only non-sparking tools.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P202 Do not handle until all safety precautions have been read and understood.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P270 Do not eat, drink or smoke when using this product.
P281 Use personal protective equipment as required.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P363 Wash contaminated clothing before reuse.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical Name	Weight %
64-17-5	Ethanol	70 - 90
67-56-1	Methanol	20 - 30
141-78-6	Ethyl acetate	1 - 5
64742-49-0	Naphtha (petroleum), hydrotreated light	0.1 - 1
64742-89-8	Solvent naphtha (pet), lt aliph.	0.1 - 1
142-82-5	Heptane	0.1 - 1

Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Show this safety data sheet to the doctor in attendance.

If inhaled : If symptoms persist, call a physician.

In case of skin contact : If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Take victim immediately to hospital.
Do not induce vomiting without medical advice.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO2)

		Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides
Specific extinguishing methods	:	Use a water spray to cool fully closed containers.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	:	Avoid formation of aerosol.

Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharges.
Provide sufficient air exchange and/or exhaust in work rooms.
Container may be opened only under exhaust ventilation hood.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
64-17-5	Ethanol	TWA	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m3	OSHA P0
		STEL	1,000 ppm	ACGIH
67-56-1	Methanol	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1
		STEL	250 ppm 325 mg/m3	OSHA P0
		TWA	200 ppm 260 mg/m3	OSHA P0
141-78-6	Ethyl acetate	TWA	400 ppm	ACGIH
		TWA	400 ppm 1,400 mg/m3	NIOSH REL

		TWA	400 ppm 1,400 mg/m3	OSHA Z-1
		TWA	400 ppm 1,400 mg/m3	OSHA P0
64742-49-0	Naphtha (petroleum), hydrotreated light	TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	400 ppm 1,600 mg/m3	OSHA P0
64742-89-8	Solvent naphtha (pet), lt aliph.	TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	400 ppm 1,600 mg/m3	OSHA P0
142-82-5	Heptane	TWA	85 ppm 350 mg/m3	NIOSH REL
		C	440 ppm 1,800 mg/m3	NIOSH REL
		TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	400 ppm 1,600 mg/m3	OSHA P0
		STEL	500 ppm 2,000 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : colourless, white

Odour : ester-like

Odour Threshold : No data available

pH	:	No data available
Freezing Point (Melting point/freezing point)	:	No data available
Boiling Point (Boiling point/boiling range)	:	63 - 79 °C (145 - 174 °F)
Flash point	:	-1 °C (30 °F) Method: Tag closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	4.9 %(V)
Vapour pressure	:	1.0830 PSI @ 20 °C (68 °F)
Relative vapour density	:	1.5(Air = 1.0)
Relative density	:	0.797Reference substance: (water = 1)
Density	:	No data available
Solubility(ies) Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	293 °C
Thermal decomposition	:	No data available
VOC	:	100.0 % / 786.06 g/l / 6.56 lb/gal
Non VOC	:	0.00 % / 0.00 g/l / 0.00 lb/gal
VOC Vapor Pressure	:	1.0830 PSI
Hazardous Air Pollutants (HAPS)	:	19.9 % / 156.27 g/l / 1.30 lb/gal

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.

Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Alkali metals Ammonia Oxidizing agents peroxides Strong acids
Hazardous decomposition products	:	Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: 422.91 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 12.69 mg/l Exposure time: 4 h Test atmosphere: vapour
Acute dermal toxicity	:	Acute toxicity estimate: 1,269 mg/kg

Components:

67-56-1:

Acute oral toxicity	:	LDLo (Humans): 143 mg/kg Assessment: The component/mixture is toxic after single ingestion.
Acute inhalation toxicity	:	Assessment: The component/mixture is toxic after short term inhalation. Remarks: Supporting toxicological evidence is limited for this classification. This harmonized classification will replace the indicated classification due to industry leaders and the EU Harmonized Classification (Annex VII).
Acute dermal toxicity	:	LDLo (Monkey): 393 mg/kg Assessment: The component/mixture is toxic after single contact with skin.

Skin corrosion/irritation

Components:

64742-49-0:

Species: Rabbit
Result: Irritating to skin.

64742-89-8:
Species: Rabbit
Exposure time: 4 h
Result: Irritating to skin.

142-82-5:
Species: Rabbit
Exposure time: 24 h
Result: Irritating to skin.
Remarks: Based on a similar product formulation.

Serious eye damage/eye irritation

Product:
Result: Irritating to eyes.

Components:
64-17-5:
Species: Rabbit
Result: Irritating to eyes.

141-78-6:
Species: Rabbit
Result: Irritating to eyes.

Germ cell mutagenicity

Components:
64742-89-8:
Germ cell mutagenicity - Assessment : Mutagenicity classification not possible from current data

Carcinogenicity

Components:
64742-89-8:
Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

IARC	Group 2B: Possibly carcinogenic to humans	
	64742-49-0	Naphtha (petroleum), hydrotreated light
	64742-89-8	Solvent naphtha (pet), lt aliph.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.	

NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

Components:

64742-89-8:

Reproductive toxicity - Assessment		Some evidence of adverse effects on sexual function and fertility, based on animal experiments.
Teratogenicity - Assessment	:	Embryotoxicity classification not possible from current data.

STOT - single exposure

Components:

67-56-1:
Target Organs: Eyes, Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

141-78-6:
Exposure routes: Inhalation
Target Organs: Central nervous system
Assessment: May cause drowsiness or dizziness., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

64742-49-0:
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

64742-89-8:
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

142-82-5:
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Aspiration toxicity

Components:

64742-49-0:
Aspiration Toxicity - Category 1

64742-89-8:
May be fatal if swallowed and enters airways.

142-82-5:
May be fatal if swallowed and enters airways.

Further information

Product:
Remarks: Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

64742-49-0:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 10 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 3.71 mg/l Exposure time: 96 h
Chronic aquatic toxicity- Assessment	:	Toxic to aquatic life with long lasting effects.

64742-89-8:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 8.2 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4.5 mg/l Exposure time: 48 h Test Type: Immobilization
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 3.7 mg/l Exposure time: 96 h Test Type: static test
Chronic aquatic toxicity- Assessment	:	Toxic to aquatic life with long lasting effects.

142-82-5:

Toxicity to fish	:	LC50 (Carassius auratus (goldfish)): 4 mg/l Exposure time: 24 h

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.5 mg/l Exposure time: 48 h Test Type: static test
Toxicity to fish (Chronic toxicity)	:	NOELR (Oncorhynchus mykiss (rainbow trout)): 1.284 mg/l Exposure time: 28 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.17 mg/l Exposure time: 21 d
Acute aquatic toxicity- Assessment	:	Very toxic to aquatic life.
Chronic aquatic toxicity- Assessment	:	Very toxic to aquatic life with long lasting effects.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact NEXEO's Environmental Services Group at 800-637-7922.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN1987, ALCOHOLS, N.O.S., (ETHANOL, METHANOL), 3, II

IATA (International Air Transport Association):
UN1987, ALCOHOLS, N.O.S., (ETHANOL, METHANOL) , 3, II

IMDG (International Maritime Dangerous Goods):
UN1987, ALCOHOLS, N.O.S., (ETHANOL, METHANOL), 3, II, Flash Point:-1 °C(30 °F)

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : B2: Flammable liquid
D1B: Toxic Material Causing Immediate and Serious Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Methanol	67-56-1	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Chronic (Delayed) Health Hazard
Immediate (Acute) Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

67-56-1 Methanol

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

67-56-1 Methanol

110-54-3	Hexane
108-88-3	Toluene
100-41-4	Ethylbenzene
71-43-2	Benzene

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

64-17-5	Ethanol
67-56-1	Methanol
141-78-6	Ethyl acetate
110-82-7	Cyclohexane
108-88-3	Toluene
100-41-4	Ethylbenzene
71-43-2	Benzene

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

110-82-7	Cyclohexane
108-88-3	Toluene
100-41-4	Ethylbenzene
71-43-2	Benzene

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

110-82-7	Cyclohexane
108-88-3	Toluene
100-41-4	Ethylbenzene
71-43-2	Benzene

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

64-17-5	Ethanol	70 - 90 %
67-56-1	Methanol	20 - 30 %
141-78-6	Ethyl acetate	1 - 5 %

Pennsylvania Right To Know

64-17-5	Ethanol	70 - 90 %
67-56-1	Methanol	20 - 30 %
141-78-6	Ethyl acetate	1 - 5 %
110-82-7	Cyclohexane	0 - 0.1 %

New Jersey Right To Know

64-17-5	Ethanol	70 - 90 %
67-56-1	Methanol	20 - 30 %
141-78-6	Ethyl acetate	1 - 5 %

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

100-41-4	Ethylbenzene
71-43-2	Benzene

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

67-56-1	Methanol

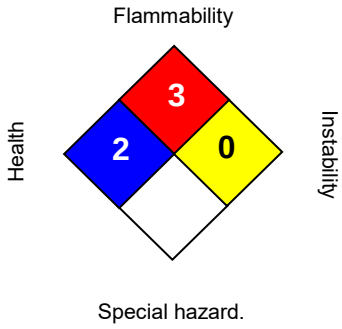
108-88-3	Toluene
71-43-2	Benzene

The components of this product are reported in the following inventories:

TSCA	:	On TSCA Inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL.
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Revision Date : 03/20/2017

Material number:
16109579, 16066726, 16066709, 16061938, 16066729, 16066728, 16066727, 16066706, 16066708, 16066707, 16066705, 16056002, 16056003, 16056001, 16056000, 16055999,

STARTEX®

Safety Data Sheet
Startex Denatured Alcohol

Version 1.2 Revision Date: 03/20/2017

16055998, 16055997

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50		Lethal Concentration 50%	

Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Snoop® liquid leak detector**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Liquid leak detector

1.3 Details of the supplier of the safety data sheet

Manufacturer • Swagelok Manufacturing Company

29495 F.A. Lennon Dr.
Solon, OH 44139
United States

Telephone (General) • 440-349-5600

1.4 Emergency telephone number

Manufacturer • (800)-424-9300 - Chemtrec

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Not classified

DSD/DPD • Not classified

2.2 Label Elements

CLP

Hazard statements • No label element(s) required

DSD/DPD

Risk phrases • No label element(s) required

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD • This product is not considered dangerous under the European Directive 1999/45/EC.

UN GHS

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2.1 Classification of the substance or mixture

UN GHS

- Not classified

2.2 Label elements

UN GHS

Hazard statements

- No label element(s) required

2.3 Other hazards

UN GHS

- According to the Globally Harmonized System for Classification and Labeling (GHS) this product is not considered hazardous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements

- No label element(s) required

2.3 Other hazards

OSHA HCS 2012

- This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Not classified

2.2 Label elements

WHMIS

- No label element(s) required.

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**

Water	**CAS:**7732-18-5 **EC Number:**231-791-2	> 99%	Ingestion/Oral-Rat LD50 • >90 mL/kg	**EU DSD/DPD:** Not Hazardous **EU CLP:** Not Hazardous **OSHA HCS 2012:** Not Hazardous	NDA
Isopropylamine alkyl (C9-17BR) benzenesulfonate	**CAS:**68649-00-3 **EINECS:**272-018-9	< 0.255%	NDA	**UN GHS:** Not Classified **EU DSD/DPD:** Not Classified **EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	**CAS:**26264-05-1 **EINECS:**247-556-2	< 0.205%	NDA	**UN GHS:** Skin Irrit. 2; Eye Irrit. 2; Acute Tox. 4 (orl) **EU DSD/DPD:** Xi; R36/38; Xn; R22 **EU CLP:** Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Irrit. 2, H315 **OSHA HCS 2012:** Skin Irrit. 2; Eye Irrit. 2; Acute Tox. 4 (orl)	NDA
Benzene, (tetrapropenyl) derivs.	**CAS:**68512-02-7 **EINECS:**270-954-2	< 0.015%	NDA	**EU CLP:** Community workplace exposure limit **OSHA HCS 2012:** Exposure limits	NDA
Isopropylamine	**CAS:**75-31-0 **EC Number:**200-860-9 **EU Index:**612-007-00-1	< 0.001%	NDA	**EU CLP:** Community workplace exposure limit **OSHA HCS 2012:** Exposure limits	NDA

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Get medical attention if symptoms occur.

Skin
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. IF ON SKIN: Wash with plenty of soap and water. Get medical attention if symptoms occur.

Eye
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.

Ingestion
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Material is non-combustible. In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing
- No data available.

Media

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- No unusual fire or explosion hazards anticipated.

Hazardous Combustion Products
- None known.

5.3 Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection.
Wear positive pressure self-contained breathing apparatus (SCBA).
Keep unauthorized personnel away.
Stay upwind.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Do not touch or walk through spilled material. Stay upwind.

Emergency Procedures
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away.

6.2 Environmental precautions

- No special precautions required.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Stop leak if you can do it without risk.
SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.
LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use good safety and industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Store in a cool/low-temperature, well-ventilated, dry place.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	China	Germany DFG
Isopropylamine	STELs	10 ppm STEL	10 ppm STEL	10 ppm STEV; 24 mg/m3 STEV	24 mg/m3 STEL	Not established
	TWAs	5 ppm TWA	5 ppm TWA	5 ppm TWAEV; 12 mg/m3 TWAEV	12 mg/m3 TWA	Not established

(75-31-0)	Ceilings	Not established	Not established	Not established	Not established	10 ppm Peak; 24 mg/m3 Peak
	MAKs	Not established	Not established	Not established	Not established	5 ppm TWA MAK; 12 mg/m3 TWA MAK

Exposure Limits/Guidelines (Con't.)

	Result	Germany TRGS	Korea	OSHA
Isopropylamine (75-31-0)	STELs	Not established	10 ppm STEL (Serial No. 454); 24 mg/m3 STEL (Serial No. 454)	Not established
	TWAs	5 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, ceiling factor 2); 12 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, ceiling factor 2)	5 ppm TWA (Serial No. 454); 12 mg/m3 TWA (Serial No. 454)	5 ppm TWA; 12 mg/m3 TWA

Exposure Control Notations

Germany DFG

•Isopropylamine (75-31-0): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)

Exposure Limits Supplemental

ACGIH

•Isopropylamine (75-31-0): **TLV Basis - Critical Effects:** (eye damage; upper respiratory tract irritation)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory
- Under normal conditions of use no special protection is required.

Eye/Face
- Goggles are reccommended when Snoop could splash in eyes.

Skin/Body
- Rubber gloves are recommended to minimize exposure.

Environmental Exposure Controls
- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Colorless liquid with neutral odor.
Color	Colorless	Odor	Neutral
Odor Threshold	Data lacking		
General Properties			
Boiling Point	212 F(100 C)	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	6 to 7.5
Specific Gravity/Relative Density	= 1	Density	1 g/mL
Water Solubility	Soluble	Viscosity	Data lacking
Explosive Properties	Data lacking	Oxidizing Properties:	Data lacking
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No data available

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- None

10.5 Incompatible materials

- Strong oxidizers, alkali metals, and compounds that react exothermically with water.

10.6 Hazardous decomposition products

- None

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Other Material Information

- Exposure to this material under normal conditions of use is not expected to cause any hazards. No toxicological information is available for this material.

Components		
Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1) (< 0.205%)	26264-05-1	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 1300 mg/kg; **Irritation:** Eye-Rabbit • 100 µL 24 Hour(s) • Severe irritation; Skin-Rabbit • 0.5 mL

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
Aspiration Hazard	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
Carcinogenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
Germ Cell Mutagenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
Skin corrosion/Irritation	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
Skin sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
STOT-RE	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
STOT-SE	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
Toxicity for Reproduction	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
Respiratory sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking
Serious eye damage/Irritation	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking **UN GHS** • Data lacking

Potential Health Effects

Inhalation

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available.

Key to abbreviations

LD = Lethal Dose

Section 12 - Ecological Information

12.1 Toxicity

- No known ecological effects.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user
- None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- None

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Benzene, (tetrapropenyl) derivs.	68512-02-7	No	No	No
Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	No	No	No
Isopropylamine	75-31-0	Yes	Yes	Yes
Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	No	No	No
Water	7732-18-5	No	No	No

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**China**	**EU EINECS**	**EU ELNICS**
Benzene, (tetrapropenyl) derivs.	68512-02-7	Yes	No	Yes	Yes	No
Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Yes	No	Yes	Yes	No
Isopropylamine	75-31-0	Yes	No	Yes	Yes	No
Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Yes	No	No	Yes	No
Water	7732-18-5	Yes	No	Yes	Yes	No

Inventory (Con't.)				
Component	**CAS**	**Japan ENCS**	**Korea KECL**	**TSCA**
Benzene, (tetrapropenyl) derivs.	68512-02-7	No	Yes	Yes
Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	No	Yes	Yes
Isopropylamine	75-31-0	Yes	Yes	Yes
Isopropylamine alkyl (C9-17BR)	68649-00-3	No	No	Yes

benzenesulfonate				
Water	7732-18-5	No	Yes	Yes

Australia

Labor

Australia - Work Health and Safety Regulations - Hazardous Substances Requiring Health Monitoring

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Australia - High Volume Industrial Chemicals List

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	
• Water	7732-18-5	
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Australia - List of Designated Hazardous Substances - Classification

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	F+, Xi R12, R36/37/38
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Environment

Australia - National Pollutant Inventory (NPI) Substance List

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Australia - Ozone Protection Act - Scheduled Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Australia - Priority Existing Chemical Program

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed

• Isopropylamine	75-31-0	B2, D1B, E
• Water	7732-18-5	Uncontrolled product according to WHMIS classification criteria
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Canada - WHMIS - Ingredient Disclosure List

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	1 %
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	F+; R12 Xi; R36/37/38
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	F+ Xi R:12-36/37/38 S:(2)-16-26-29
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	S:(2)-16-26-29
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan

Labor

Japan - ISHL Dangerous Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Flammable substance
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Designated Carcinogens

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Harmful Substances Prohibited for Manufacture

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Harmful Substances Subject to Obtaining Permission for Manufacturing

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Prevention of Lead Poisoning

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed

• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Mutagens - Existing Chemicals

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Mutagens - New Chemicals

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Notifiable Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	>1 % weight [Table 9, 45]
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Environment

Japan - Air Pollution Control Law - Emission Standards for Air Pollutants

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Environmental Quality Standards - Annual Air Quality

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Environmental Quality Standards - Daily Air Quality

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Environmental Quality Standards - Groundwater

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Environmental Quality Standards - Hourly Air Quality

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Environmental Quality Standards - Soil Pollution

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Environmental Quality Standards - Public Water/Groundwater - Monitored Substances and Guideline Values

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Environmental Quality Standards - Public Water - Protection of Human Health

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Fluorocarbons Recovery and Destruction Law

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Offensive Odor Regulations - Specified Offensive Odor Substances - Maximum Permissible Concentration (MPCs)

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex A Group I

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex A Group II

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex B Group I

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex B Group II

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex B Group III

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex C Group I

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex C Group II

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex C Group III

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Ozone Depleting Substances - Annex E

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Pollutant Release Transfer Register (PRTR) - Class 1 Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed

• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Pollutant Release Transfer Register (PRTR) - Class 2 Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Other

Japan - Drinking Water Quality Standards - Supplied Water Quality Standard Values

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Drinking Water Quality Standards - Quality Control Guideline Values

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Drinking Water Quality Standards - Quality Control Guideline Values - Pesticides

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Chemical Substance Control Law (CSCL) - Examined Existing Chemical Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Fire Service Law - Hazardous Materials

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Group 4 - Flammable liquids I (listed under Special flammables)
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Harmful Substances in Household Products

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Prevention of Tetraalkyl Lead Poisoning

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Japanese Pharmacopoeia Listing - Synthetics

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	(including purified, water injection, and sterile purified)
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Japanese Pharmacopoeia Listing - Naturally Occurring Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Chemical Substance Control Law (CSCL) - Monitoring Chemical Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Poisonous and Deleterious Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Chemical Substance Control Law (CSCL) - Specified Chemical Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Poisonous and Deleterious Substances - Substances Not Considered Deleterious

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed

• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - Poisonous and Deleterious Substances - Substances Not Considered Poisonous

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Japan - ISHL Working Environment Evaluation Standards - Administrative Control Levels

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Korea

Labor

Korea - ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Korea - ISHA - Harmful Substances Requiring Permission

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Korea - ISHA - Name, Toxicity and Protective Measures of New Chemical Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Environment

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Observational Chemicals

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Other

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Prohibited Chemicals

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed

• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Restricted Chemicals

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Korea - MOE - Toxic Chemicals Control Act (TCCA) - Toxic Chemicals

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	5000 lb TQ
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed

• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Benzenesulfonic acid, dodecyl-, compd. with 2-propanamine (1:1)	26264-05-1	Not Listed
• Isopropylamine	75-31-0	Not Listed
• Water	7732-18-5	Not Listed
• Benzene, (tetrapropenyl) derivs.	68512-02-7	Not Listed
• Isopropylamine alkyl (C9-17BR) benzenesulfonate	68649-00-3	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H302 - Harmful if swallowed
  H315 - Causes skin irritation
  H319 - Causes serious eye irritation
  R22 - Harmful if swallowed.
  R36/38 - Irritating to eyes and skin.

Last Revision Date
- 12/February/2015

Preparation Date
- 27/February/2012

Other Information
- Telephone (General): 440-349-5600.

Disclaimer/Statement of Liability
- The information herein is given in good faith but no warranty, expressed or implied, is made.

Key to abbreviations

NDA = No Data Available

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **SYNTURION 6**
Product Description: Synthetic Base Stocks and Additives
Product Code: 201560B01510, 604603-00, 97U848
Intended Use: Lubricant

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see (M)SDS Section 15).

CLASSIFICATION:

Acute inhalation toxicant: Category 4. Aspiration toxicant: Category 1.

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H304: May be fatal if swallowed and enters airways. H332: Harmful if inhaled.

Precautionary Statements:
P261: Avoid breathing mist / vapours. P271: Use only outdoors or in a well-ventilated area.P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P331: Do NOT induce vomiting.P405: Store locked up.P501: Dispose of contents and container in accordance with local regulations.

Contains: DODECENE, DIMER WITH 1-DECENE, HYDROGENATED; HYDROGENATED POLYOLEFIN

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation. Airborne low-viscosity branched alkanes can affect lungs.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	2	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	2	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
1-DECENE, DIMER HYDROGENATED	68649-11-6	40 - < 50%	H304, H332
DODECENE, DIMER WITH 1-DECENE, HYDROGENATED	151006-58-5	40 - < 50%	H304, H332

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by

a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >140°C (284°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for

advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid breathing mists or vapors. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
1-DECENE, DIMER HYDROGENATED	Aerosols (thoracic fraction)	TWA	1 mg/m3		N/A	ExxonMobil

DODECENE, DIMER WITH 1-DECENE, HYDROGENATED	Aerosols (thoracic fraction)	TWA	1 mg/m3		N/A	ExxonMobil

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided whenever the material is heated or mists are generated.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Particulate air-purifying respirator approved for dust / oil mist is recommended.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Colorless
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.797
Flammability (Solid, Gas): N/A
Flash Point [Method]: >140°C (284°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: 310°C (590°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Negligible
Viscosity: 5.7 cSt (5.7 mm2/sec) at 40 °C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -54°C (-65°F)

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Moderately toxic. Based on assessment of the components.
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	May be fatal if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Contains:

Low-viscosity branched alkanes: Acute exposures to high aerosol levels are harmful to lungs.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Majority of components -- Expected to be inherently biodegradable

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, ENCS, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Acute Toxicity (any route of exposure), Aspiration Hazard

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1
H332: Harmful if inhaled; Acute Tox Inh, Cat 4

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
GHS Precautionary Statements - Prevention information was modified.
Hazard Identification: Physical/Chemical Hazard information was added.
Hazard Identification: Physical/Chemical Hazard information was deleted.
Section 09: Vapor Pressure information was added.
Section 12: Ecological Information - Acute Aquatic Toxicity information was added.
Section 12: Ecological Information - Acute Aquatic Toxicity information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 1A, 0, 2, 0, 0, 1 PPEC: AP

DGN: 2008249XUS (1012147)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Page 1183 of 1315

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: June 01, 2017 Revision: June 01, 2017

1 Identification

· **Product identifier**

· **Trade name: Tap Magic EP-EXTRA Liquid**
· **Product code:** No other identifiers

· **Recommended use and restriction on use**
· **Recommended use:** Machining, Cutting, Tapping, and Metal Processing.
· **Restrictions on use:**
After use of this product, clean and lubricate metal surfaces to avoid staining and/or corrosion.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
The Steco Corporation
2330 Cantrell Road
Little Rock, AR 72203 USA
(501) 375-5644

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

· **Classification of the substance or mixture**
The product is not classified as hazardous according to the Globally Harmonized System (GHS).

· **Label elements**
· **GHS label elements**
This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission. GHS labeling is not required per 29CFR1910.1200(b)(5)(v). The labeling below applies to industrial/professional products.
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:** Not regulated.
· **Signal word:** Not regulated.
· **Hazard statements:** Not regulated.
· **Precautionary statements:** Not regulated.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**		
64742-53-6	Distillates (petroleum), hydrotreated light naphthenic Asp. Tox. 1, H304	50-60%

· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.

(Cont'd. on page 2)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1184 of 1315

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: June 01, 2017 Revision: June 01, 2017

Trade name: Tap Magic EP-EXTRA Liquid

(Cont'd. of page 1)

For the wording of the listed Hazard Statements refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Wash with soap and water.
If skin irritation is experienced, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Gastric or intestinal disorders when ingested.
· **Indication of any immediate medical attention and special treatment needed:**
If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
Water fog / haze
Foam
Fire-extinguishing powder
Carbon dioxide
· **For safety reasons unsuitable extinguishing agents:** Water stream.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
For large spills, wear protective clothing.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
· **Environmental precautions**
Do not allow to enter sewers/ surface or ground water.
Prevent from spreading (e.g. by damming-in or oil barriers).
Inform respective authorities in case of seepage into water course or sewage system.

(Cont'd. on page 3)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1185 of 1315

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: June 01, 2017 Revision: June 01, 2017

Trade name: Tap Magic EP-EXTRA Liquid

(Cont'd. of page 2)

· **Methods and material for containment and cleaning up**
Use inert material (clay, sawdust, kaolin) to absorb material and sweep up. Prevent spilled material from entering sewers, drains, bodies of water.
Send for recovery or disposal in suitable receptacles.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
Use only in well ventilated areas.
Keep out of reach of children.
Avoid breathing mist, vapors, or spray.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:**
Store in cool, dry conditions in well sealed receptacles.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
· **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid close or long term contact with the skin.
Avoid contact with the eyes.
· **Engineering controls:** Provide adequate ventilation.
· **Breathing equipment:** Not required under normal conditions of use.
· **Protection of hands:** Wear protective gloves to handle contents of damaged or leaking units.

(Cont'd. on page 4)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1186 of 1315

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: June 01, 2017 Revision: June 01, 2017

Trade name: Tap Magic EP-EXTRA Liquid

(Cont'd. of page 3)

· **Eye protection:**

Safety glasses

· **Body protection:** Protection may be required for spills.

· **Limitation and supervision of exposure into the environment**
No relevant information available.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **Appearance:**	
Form:	Liquid
Color:	Amber colored
· **Odor:**	Mild
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Melting point/Melting range:**	Not determined.
· **Boiling point/Boiling range:**	Not determined.
· **Flash point:**	>150 °C (>302 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidizing properties:**	Not determined.
· **Vapor pressure:**	Not determined.
· **Density:**	
Relative density:	0.93
Vapor density:	Not determined.
Evaporation rate:	Not determined.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity**	
Dynamic:	Not determined.
Kinematic at 40 °C (104 °F):	24 mm²/s

(Cont'd. on page 5)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1187 of 1315

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: June 01, 2017 Revision: June 01, 2017

Trade name: Tap Magic EP-EXTRA Liquid

(Cont'd. of page 4)

· **Other information** No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Reacts with strong alkali.
Reacts with strong oxidizing agents.
Toxic fumes may be released if heated above the decomposition point.
Reacts with certain metals.
· **Conditions to avoid** Excessive heat.
· **Incompatible materials** Oxidizers
· **Hazardous decomposition products**

Under fire conditions only:
Chlorine compounds
Halogenated hydrocarbons

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **LD/LC50 values that are relevant for classification:** None.
· **Primary irritant effect:**
· **On the skin:** Based on available data, the classification criteria are not met.
· **On the eye:** Based on available data, the classification criteria are not met.
· **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**
None of the ingredients are listed.

· **NTP (National Toxicology Program):**
None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**
None of the ingredients are listed.

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.
Skin contact.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

(Cont'd. on page 6)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1188 of 1315

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: June 01, 2017 Revision: June 01, 2017

Trade name: Tap Magic EP-EXTRA Liquid

(Cont'd. of page 5)

· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity** No relevant information available.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:** Avoid transfer into the environment.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Contact waste processors for recycling information.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	Not regulated.
· **UN proper shipping name**	
· **DOT, ADR, IMDG, IATA**	Not regulated.
· **Transport hazard class(es)**	
· **DOT, ADR, IMDG, IATA**	
· **Class**	Not regulated.
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Not regulated.

(Cont'd. on page 7)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1189 of 1315

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: June 01, 2017 Revision: June 01, 2017

Trade name: Tap Magic EP-EXTRA Liquid

(Cont'd. of page 6)

· **Environmental hazards**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **United States (USA)**

· **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

(Cont'd. on page 8)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1190 of 1315

Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: June 01, 2017 Revision: June 01, 2017

Trade name: Tap Magic EP-EXTRA Liquid

(Cont'd. of page 7)

· **Canadian Domestic Substances List (DSL):**

All ingredients are listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** June 01, 2017 / -

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: l'Institut national de recherche sur la sécurité et la santé au travail / National Institute for Occupational Safety (États-Unis)
OSHA: Occupational Safety & Health Administration
Asp. Tox. 1: Aspiration hazard – Category 1

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: TERESSTIC 150
Product Description: Base Oil and Additives
Product Code: 201560305545, 604462-00, 97Q129
Intended Use: Circulating oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77253 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary

from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
2,6-DI-TERT-BUTYLPHENOL	128-39-2	0.1 - < 0.25%	H315, H400(M factor 1), H410(M factor 1)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >252°C (486°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways,

sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Brown
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.883 [ASTM D1298]
Flammability (Solid, Gas): N/A
Flash Point [Method]: >252°C (486°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F) [Estimated]
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa [Estimated]
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
Evaporation Rate (n-butyl acetate = 1): N/D

pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
Solubility in Water: Negligible
Viscosity: 150 cSt (150 mm2/sec) at 40 °C | 14.5 cSt (14.5 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: -9°C (16°F) [ASTM D97]
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for	Not expected to be a skin sensitizer. Based on assessment of the

material.	components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may

reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 01: Company Contact Methods information was modified.
Section 01: Company Mailing Address information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is

included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2026165XUS (1013894)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **TERESSTIC 220**
Product Description: Base Oil and Additives
Product Code: 201560305550, 604470-00, 97P931
Intended Use: Lubricant

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
22777 Springwoods Village Parkway
Spring, TX 77389 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-662-4525
MSDS Internet Address	www.exxon.com, www.mobil.com

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1910.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
2,6-DI-TERT-BUTYLPHENOL	128-39-2	0.1 - < 0.25%	H315, H400(M factor 1), H410(M factor 1)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >220°C (428°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove

manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Brown
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.888
Flammability (Solid, Gas): N/A
Flash Point [Method]: >220°C (428°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 220 cSt (220 mm2/sec) at 40 °C | 18.8 cSt (18.8 mm2/sec) at 100°C [ASTM D 445]
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -6°C (21°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data	Not expected to be a reproductive toxicant. Based on assessment

for material.	of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

Contains:
Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AIIC, DSL, ENCS, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
2-METHYLNAPHTHALENE	91-57-6	18
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Section 09: Viscosity information was modified.
Section 15: List Citations Table information was modified.
Section 15: National Chemical Inventory Listing information was modified.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2026166XUS (1017316)

Copyright 2002 Exxon Mobil Corporation, All rights reserved

Received by OCD: 4/14/2025 11:49:46 AM

EASTMAN

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Therminol® 55 Heat Transfer Fluid

Product No.: E3412601

Additional identification

Chemical name: benzene, C14-30-alkyl derivatives
CAS-No.: 68855-24-3

Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Heat transfer fluids
Uses advised against: None known.

Details of the supplier of the safety data sheet

Manufacturer / Supplier

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnmsds@eastman.com

Emergency telephone number:

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

SECTION 2: Hazards identification

Hazard Classification:

Health Hazards

Aspiration Hazard	Category 1

OSHA Specified Hazards: not applicable

Warning label items including precautionary statement:

Pictogram:

Signal Words: Danger

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

Released to Imaging: 4/22/2025 3:42:03 PM

Hazard Statement(s): H304: May be fatal if swallowed and enters airways.

Precautionary Statement:

Response: P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331: Do NOT induce vomiting.

Storage: P405: Store locked up.

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None known.

SECTION 3: Composition/information on ingredients

Substances / Mixtures

General information:

Chemical name	Concentration	Additional identification	Notes
benzene, C14-30-alkyl derivatives	100%	CAS-No.: 68855-24-3	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
# This substance has workplace exposure limit(s).

SECTION 4: First aid measures

General: Get medical attention if symptoms occur. Show this safety data sheet to the doctor in attendance. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Place unconscious person on the side in the recovery position and ensure breathing can take place. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Description of first aid measures

Inhalation: Move into fresh air and keep at rest. For breathing difficulties, oxygen may be necessary. Consult a physician for specific advice.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms occur.

Skin contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

Ingestion: If swallowed, rinse mouth with water (only if the person is conscious). Call a physician or poison control center immediately. Do NOT induce vomiting. Never give liquid to an unconscious person. Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. Loosen tight clothing such as a collar, tie, belt or waistband. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms and effects, both acute and delayed: The liquid may irritate the skin. Contact with hot material can cause thermal burns which may result in permanent damage.

Indication of any immediate medical attention and special treatment needed

Hazards: Ingestion may result in vomiting; aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis.

Treatment: If swallowed: Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Persons who have inhaled vapours or smoke fumes have to be put under medical observation for at least 48 hours, due to the delayed appearance of poisoning.

SECTION 5: Firefighting measures

General Fire Hazards: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Keep upwind. In case of fire and/or explosion do not breathe fumes. This product is not classified as a fire-resistant heat transfer fluid. Precautions to avoid sources of ignitions should be taken.

Extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Special hazards arising from the substance or mixture: May ignite at high temperature. During fire, gases hazardous to health may be formed. Risk of chemical pneumonia after aspiration. Hazardous Combustion Products : carbon dioxide, carbon monoxide , soot .

Advice for firefighters

Special fire fighting procedures: In case of fire: Evacuate area. Move container from fire area if it can be done without risk. Use water spray to keep fire-exposed containers cool. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

EASTMAN

Personal precautions, protective equipment and emergency procedures:	No action shall be taken involving any personal risk or without suitable training. Keep unauthorized personnel away. Ventilate closed spaces before entering them. Avoid inhalation of vapors and spray mists. Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Caution: Contaminated surfaces may be slippery. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Clear up spills immediately and dispose of waste safely. Do not contaminate water sources or sewer.
Methods and material for containment and cleaning up:	Small Liquid Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Large Spillages: Dike for later disposal. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Otherwise, absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Prevent runoff from entering drains, sewers, or streams. For waste disposal, see section 13 of the SDS.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SECTION 7: Handling and storage:

Precautions for safe handling:	Do not handle until all safety precautions have been read and understood. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Avoid heat, sparks, open flames and other ignition sources. An eye wash bottle must be available at the work site. Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Do not taste or swallow. Do not breathe mist or vapor from heated material. In case of inadequate ventilation, use respiratory protection. Do not get in eyes and avoid contact with skin and clothing. Wash promptly with soap and water if skin becomes contaminated. Remove contaminated clothing and wash it before reuse. Destroy or thoroughly clean contaminated shoes. Drain or remove substance from equipment prior to break-in or maintenance. Handle in accordance with good industrial hygiene and safety practice. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities:	Store in a cool, dry place out of direct sunlight. Keep container tightly closed and in a well-ventilated place. Keep upright. Keep in original container. Store locked up. Store away from incompatible materials. Keep away from food, drink and animal feeding stuffs. Store in accordance with local/regional/national/international regulations.
Specific end use(s):	www.therminol.com/products/

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

Received by OCD: 4/14/2025 11:49:46 AM

SECTION 8: Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Country specific exposure limits have not been established or are not applicable unless listed below.

Exposure controls

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information: An eye wash bottle must be available at the work site. Provide access to washing facilities including soap, skin cleanser and fatty cream.

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommendations: Wear safety glasses with side shields (or goggles). Use safety goggles and face shield in case of splash risk.

Skin protection

Hand Protection: It is a good industrial hygiene practice to minimize skin contact. If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations. When material is heated, wear gloves to protect against thermal burns.

Other: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommendations: Apron or other light protective clothing and boots. If prolonged or repeated contact is likely, chemical resistant clothing is recommended. Promptly remove non-impervious clothing that becomes wet or contaminated.

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

Released to Imaging: 4/22/2025 3:42:03 PM

Respiratory Protection: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Wash at the end of each work shift and before eating, smoking and using the toilet. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs.

Environmental Controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Do not contaminate water sources or sewer.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Form:	Clear Liquid
Color:	Yellow
Odor:	Characteristic
Odor Threshold:	
pH:	No data available.
Melting Point	-54 °C
Boiling Point:	351 °C (1,013 hPa)
Flash Point:	166 °C (Pensky-Martens Closed Cup)
Evaporation Rate:	No data available.
Flammability (solid, gas):	not applicable
Flammability Limit - Upper (%)–:	No data available.
Flammability Limit - Lower (%)–:	No data available.
Vapor pressure:	0.0228 kPa (93 °C)
Vapor density (air=1):	No data available.
Specific Gravity:	0.876 (15 °C)
Solubility(ies)	
Solubility in Water:	0.001 g/l (25 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	log Pow: 6.6

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

EASTMAN

Autoignition Temperature:	343 °C (ASTM E659)
Decomposition Temperature:	No data available.
Dynamic viscosity:	No data available.
Kinematic viscosity:	19 mm2/s (40 °C) | 3.5 mm2/s (100 °C)
Explosive properties:	Not classified.
Oxidizing properties:	Not classified.

SECTION 10: Stability and reactivity

Reactivity:	Material is stable under normal conditions.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	None under normal conditions.
Conditions to Avoid:	Heating in air. Heat, sparks, flames.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decomposition Products:	Emits acrid smoke and fumes when heated to decomposition.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation:	At elevated temperatures, vapor may be irritating.
Ingestion:	May be fatal if swallowed and enters airways.
Skin contact:	Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Eye contact:	None known.

Information on toxicological effects

Oral

Product: Oral LD-50: (Rat): > 15,800 mg/kg Not classified.
Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Dermal

Product: Dermal LD-50: (Rabbit): > 7,940 mg/kg
Not classified.

Inhalation

Product: LC50 (,): Not classified. No data available.

Repeated dose toxicity

Product: NOAEL (Rat(Male and Female), in feed): >= 65.9 mg/kg
NOEL (Rat(Male and Female), Inhalation - dust and mist): >= 36 mg/m³
NOEL (Rat(Male and Female), in feed): 1000 ppm

Skin Corrosion/Irritation

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

Product: (Rabbit, 24 h): slight irritation
Prolonged or repeated skin contact may cause drying, cracking, or irritation.

Serious Eye Damage/Eye Irritation

Product: (Rabbit, 24 h): slight irritation

Respiratory or Skin Sensitization

Product: Skin Sensitization: (Guinea Pig): non-sensitizing

Carcinogenicity

Product: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Toxicity to reproduction

Product: No data available.

Specified substance(s):

benzene, C14-30-alkyl derivatives

OECD Test No. 422: Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test (Rat, Male and Female); NOAEL: 1,000 mg/kg; Gavage (Oral); Remarks: Read-across from a similar material
OECD Test No. 416: Two-Generation Reproduction Toxicity Study (Rat, Male and Female); NOAEL: 50 mg/kg; NOAEL: 50 mg/kg; NOAEL: 50 mg/kg; Gavage (Oral); Remarks: Read-across from a similar material

Developmental toxicity

Product: No data available.

Specified substance(s):

benzene, C14-30-alkyl derivatives

Rat; NOAEL: 1,600 mg/kg; Gavage (Oral); EPA OTS 798.4900

Germ Cell Mutagenicity

In vitro

Product: Mutagenicity - Bacterial (Bacterial Reverse Mutation Assay): negative
Mutagenicity - Mammalian (In vitro Mammalian Chromosome Aberration Test): negative
Mutagenicity - Mammalian (In vitro Mammalian Cell Gene Mutation Test): negative

In vivo

Product: Mutagenicity: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: Inhalation - dust and mist: Respiratory system - Not classified.

Specific Target Organ Toxicity - Repeated Exposure

Product: Oral: Not classified.
Inhalation - dust and mist: Not classified.

Aspiration Hazard

Product: May be fatal if swallowed and enters airways.

Other effects: No data available.

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

Released to Imaging: 4/22/2025 3:42:03 PM

EASTMAN

SECTION 12: Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: LC-50 (Oncorhynchus mykiss, 96 h): > 1,000 mg/l EL50 method of the water accommodated fraction (W.A.F.)

Aquatic Invertebrates

Product: EC-50 (Daphnia magna, 48 h): > 600 mg/l EL50 method of the water accommodated fraction (W.A.F.)

Chronic hazards to the aquatic environment:

Fish

Product: NOEC : No data available.

Aquatic Invertebrates

Product: NOEC: (Daphnia magna, 21 d): 0.0075 mg/l Read-across from a similar material

Toxicity to Aquatic Plants

Product: EC-50 (Selenastrum capricornutum, 72 h): > 1,000 mg/l EL50 method of the water accommodated fraction (W.A.F.)

Persistence and Degradability

Biodegradation

Product: Not readily degradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: Bioconcentration Factor (BCF): 3.16 Potential to bioaccumulate is low.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: 6.6

Mobility in Soil: Log Koc: > 6.3 Read-across from a similar material

Other Adverse Effects: No data available.

SECTION 13: Disposal considerations

Waste treatment methods

General information: The generation of waste should be avoided or minimized wherever possible.

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

EASTMAN

Disposal methods:

This material when discarded may be a hazardous waste as that term is defined by the Resource Conservation and Recovery Act (RCRA), 40 CFR 261.24, due to its toxicity characteristic. This material should be analyzed in accordance with Method 1311 for the compound D018 BENZENE.Consult 40 CFR 268.40 or appropriate local regulations for concentration based standards.This product meets the criteria for a synthetic used oil under the U.S. EPA Standards for the Management of Used Oil (40 CFR 279). Those standards govern recycling and disposal in lieu of 40 CFR 260 -272 of the Federal hazardous waste program in states that have adopted these used oil regulations. Consult your attorney or appropriate regulatory official to be sure these standards have been adopted in your state. Recycle or burn in accordance with the applicable standards.Eastman Chemical Company operates a used fluid return program for certain fluids under these used oil standards. Contact your Sales Representative for details.
Do not allow to enter drains, sewers or watercourses.

Since emptied containers retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT

Class not regulated

IMDG - International Maritime Dangerous Goods Code

Class not regulated

IATA

Class not regulated

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture.:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.
WHMIS (Canada) Status: controlled
WHMIS (Canada) Hazard Classification: D/2/B

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

Received by OCD: 4/14/2025 11:49:46 AM

EASTMAN

SARA 311-312 Hazard Classification(s):
immediate (acute) health hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List
NONE

OSHA: hazardous

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.KE-02159

Philippines Inventory (PICCS) : This product is listed on the Philippine Inventory or otherwise complies with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 3, Flammability - 1, Chemical Reactivity - 0

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Revision Information:	Not relevant.
Key literature references and sources for data:	www.therminol.com/products/
Training information:	No data available.
Issue Date:	05/10/2015
SDS No.:	
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

©COPYRIGHT 2015 BY EASTMAN CHEMICAL COMPANY

Released to Imaging: 4/22/2025 3:42:03 PM

SAFETY DATA SHEET
Valve-Regulated Lead-Acid Battery

1. IDENTIFICATION

1.1 Product Non-spillable Lead-Acid Battery

Trade name : Triumph-HP, Triumph T-GEL, Triumph UPS, Triumph-FT, Lead-X, PLT-UPS

1.2 Supplier

HBL Power Systems Ltd 8-2-601, Road No. 10, Banjara Hills Hyderabad - 500 034, Telangana India Tel: +91 (0)40 2335 5575 Fax: +91 (0)40 2335 3189	**HBL America, Inc** 712 Brook St., Suite 107 Rocky Hill, CT 06067 USA Tel.: +1 (860) 257-9800 Fax: +1 (860) 436-2366

1.3 Emergency contact :

For hazardous materials incidents – spill, leak, fire, exposure or accident

India: J. Santosh Kumar at **(8096) 907-024** or G N Misra at **(8096) 995-553**

US, Canada, Puerto Rico, US Virgin Islands: Chemtel at **1-800-255-3924**

All other countries: Chemtel collect at **+01-813-248-0585**

2. HAZARDS

No hazards occur during the normal operation of a Lead Acid Battery as it is described in the instructions for use that are provided with the Battery. Lead-acid Batteries have three significant characteristics:

- They contain an electrolyte which contains diluted sulfuric acid. Sulfuric acid may cause severe chemical burns.
- During the charging process or during operation they might develop hydrogen gas and oxygen, which under certain circumstances may result in an explosive mixture.
- They can contain a considerable amount of energy, which may be a source of high electrical current and a severe electrical shock in the event of a short circuit.

The Batteries have to be marked with the symbols listed under item 15.

3. COMPOSITION[3]

CAS no.	Description	Content[1] [% of weight]	Hazard Information
7439-92-1	Lead Grid (metallic lead, lead alloys with possible traces of additives)	~ 32	

CAS no.	Description	Content[1] [% of weight]	Hazard Information
7439-92-1	Active Mass (Battery Oxide, inorganic lead compounds)	~ 32	H412 (R52/53) H360D / H360f[2]
7664-93-9	Electrolyte[4] (diluted sulfuric acid with additives)	~ 29	H 314
	Plastic Container / Plastic Parts[5]	~ 7	

1. contents may vary due to the design of the Battery
2. As result of the harm to the unborn children Lead compounds are classified as toxic for reproduction
3. see chapter 12 – Ecological Information
4. Density of the electrolyte varies in accordance to the state of charge
5. Composition of the plastic may vary due to different customer requirements

4. FIRST AID MEASURES

This information is of relevance only if the Battery is broken and this result in a direct contact with the ingredients.

4.1 General

Electrolyte
(diluted sulfuric acid): sulfuric acid acts corrosively and damages skin
Lead compounds: lead compounds are classified as toxic for reproduction if swallowed

4.2 Electrolyte

Skin contact: rinse with water, remove and wash wetted clothing
Inhalation of acid mist: inhale fresh air; seek advice of a medical doctor
Contact with the eyes: rinse under running water for minimum 15 minutes, seek advice of a medical doctor
If swallowed: drink lot of water immediately, swallow activated carbon, do not induce vomiting, and seek advice of a medical doctor

4.3 Lead Compounds

Skin contact: clean with water and soap
Contact with the eyes: rinse under running water for minimum 15 minutes, seek advice of a medical doctor

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: Carbon dioxide (CO2) or dry powder extinguishing agents

Unsuitable: Do not use water if battery voltage is above 120 V

5.2 Special protective equipment

Protective goggles, acid respirator, acid-resistant covering (gloves, sleeves, boot covers, etc)

6. ACCIDENTAL RELEASE MEASURES

This information is of relevance only if the battery is broken and the ingredients are released. In the case of spillage, use a bonding agent, such as sand, to absorb spilt acid; use lime / sodium carbonate for neutralization. Dispose of with due regard to the federal, state and local regulations. Keep out of sewers, storm drains, lakes, rivers, streams and other bodies of water.

7. HANDLING AND STORAGE

Store indoors in a cool, dry location with a temperature range of -40° to +55ºC for fully charged cells. If less than fully charged, the lower limit should not fall below:

- -30ºC at 75% state of charge
- -20ºC at 50% state of charge
- and -10ºC at 25% state of charge

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Lead and Lead Compounds

No exposure to lead and lead-containing battery paste during normal conditions of use.

8.2 Electrolyte

Exposure to sulfuric acid and acid mist might occur during filling and charging. Occupational exposure limits for sulfuric acid mist are:

Hazard Class:	Skin corrosive 1A	
Protective equipment:	P280, Wear protective gloves/protective clothing and eye/face protection.	
CAS-No:	7664-93-9	
Hazard Statement:	H314	Cause severe skin burns and eye damage
Precautionary Statements:	P102	Store away and keep out of reach of children
	P210	Keep away from heat/sparks/open flames – No Smoking
	P303/P361/P353	If on Skin or Clothing, remove immediately all clothing, rinse skin with water, take a shower and seek medical advice
	P305+P351+P338	If in contact with eyes rinse immediately with plenty of water, remove contact lenses and seek medical advice
	P309	If exposed or if you feel unwell seek medical advice immediately (show the label where possible)

9. PHYSICAL & CHEMICAL PROPERTIES

	Lead and Lead compounds	**Electrolyte** (diluted sulfuric acid, 30 to 44%)
Appearance		
form :	solid	liquid
color :	grey	colorless
odor :	odorless	odorless
Safety-related data		
solidification point :	327 °C	-35 to -60 °C
boiling point :	1740 °C	approx. 108 to 114 °C
solubility in water :	very low (0.15 mg/l)	complete
density (20°C) :	11.35 g/cm³	1.2 to 1.33 g/cm³
vapor pressure (20°C) :	N.A.	14,6 mbar

Lead and Lead compounds used in Lead-Acid batteries are poorly soluble in water; Lead can be dissolved in an acidic or alkaline environment only.

10. STABILITY AND REACTIVITY

10.1 Sulfuric Acid

- Corrosive, non-flammable liquid
- Thermal decomposition at 338° C.

- Destroys organic materials such as cardboard, wood, textiles.
- Reacts with metals, producing hydrogen
- Vigorous reactions on contact with sodium hydroxide and alkalis.

11. TOXICOLOGICAL INFORMATION

This information does not apply to the finished product, only its compounds in case of a broken container.

11.1 Electrolyte

Sulfuric Acid is intensely corrosive to skin and mucous membranes. Inhalation of mist may cause damage to the respiratory tract.

Acute toxicity data

- LD50 (oral, rat) = 2.140 mg/kg
- LC50 (inhalation, rat) = 510 mg/m³/2h

11.2 Lead and Lead compounds

Lead and its compounds used in a lead-acid battery may cause damage to the blood, nerves and kidneys when ingested. The lead contained in the active material is classified as toxic for reproduction.

12. ECOLOGICAL INFORMATION

This information is of relevance if the battery is broken and the ingredients are released to the environment.

12.1 Electrolyte (diluted sulfuric acid)

In order to avoid damage to the sewage system, the acid has to be neutralised by means of lime or sodium carbonate before disposal. Ecological damage is possible by change of PH. The electrolyte solution reacts with water and organic substances, causing damage to flora and fauna. The electrolyte may also contain soluble components of lead that can be toxic to aquatic environments.

12.2 Lead and Lead compounds

Chemical and physical treatment is required for the elimination from water. Waste water containing lead must not be disposed of in an untreated condition.

The former classification of Lead compounds as toxic for the aquatic environment R50/53 had been triggered from test results generated in the 80's for soluble Lead compounds (Lead Acetate). The hardly soluble Lead compounds such as Battery Lead Oxide were not tested at this time. Tests on Battery Lead Oxide were carried out in 2001 and 2005. The respective test results conclude that Battery Lead Oxide is not toxic for the environment, neither R50 nor R50/53 nor R51/53. From this it follows that the general classification for Lead compounds (R50/53) does not apply to Battery Lead Oxide. As the result of this the Risk Phrase R52/53 (GHS:H412; Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment) applies to Battery Lead Oxide.

Effects of Battery Lead Oxide in the aquatic environment:

- Toxicity for fish: 96 h LC 50 > 100 mg/l
- Toxicity for daphnia: 48 h EC 50 > 100 mg/l
- Toxicity for alga: 72 h IC 50 > 10 mg/l

The results demonstrate these Battery Lead Oxide compounds in a concentration of 100 mg/l have no adverse effect on fish and daphnia. A concentration of these Battery Lead Oxide of 10 mg/l has no adverse effect on the rate of growth and the biomass. For the classification according to Directive 67/548/EEC the most sensitive adverse effect has to be considered. As a result of the toxicity for alga at > 10 mg/l Battery Lead Oxide has to be classified according to the R-Phrases 52/53 (GHS H412; Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment).

13. DISPOSAL CONSIDERATIONS

Spent lead-acid batteries are subject to regulation of the EU Battery Directive (2006/66/EU) and its adoptions into national legislation.

Spent Lead-Acid batteries (EWC 160601) are recycled in lead refineries (secondary lead smelters). The components of a spent Lead-Acid battery are recycled or re-processed.

At the points of sale, the manufacturers and importers of batteries, respectively the metal dealers take back spent batteries, and render them to the secondary lead smelters for processing.
To simplify the collection and recycling or re-processing process, spent Lead-Acid batteries must not be mixed with other batteries.

By no means may the electrolyte (diluted sulfuric acid) be emptied in an inexpert manner. This process is to be carried out by the processing companies only.

14. TRANSPORT INFORMATION

14.1 Land transport according to ADR / RID

- Hazard class: 8
- UN No: 2800
- Proper shipping Name: BATTERIES, WET, NON-SPILLABLE
- Packaging group: Exempt
- Packaging instruction: P003
- Hazard label: 8

14.2 Sea Transport according to IMDG Code

- Hazard class: 8
- UN No: 2800
- Proper shipping Name: BATTERIES, WET, NON-SPILLABLE
- Packaging group: Exempt
- Packaging instruction: P003, PP11
- Hazard label: 8
- EMS: F-A, S-B

Special Provision 238 a + b: no transport as dangerous goods (non-spillable batteries are not subject to other requirements of IMDG Code if they meet the requirements according to special provision 238. **An appropriate manufactures declaration is necessary**. Batteries which do not meet requirements according to Special Provision 238 have to be packed as described under 14.1.2 Sea transportation IMDG Code according to packaging instruction P901 and carried as dangerous goods according to UN 2794.).

14.3 Air transport according to IATA DGR

- Hazard class: 8

- UN No: 2800
- Proper shipping Name: BATTERIES, WET, NON-SPILLABLE
- Packaging group: Exempt
- Packaging instruction: 872
- Hazard label: 8

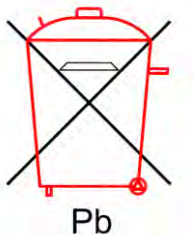
Special Provision A67: no transport as dangerous goods (non-spillable batteries are not subject to other requirements of IATA-DGR if they meet the requirements according to special provision A67. Provided that battery terminals are protected against short-circuit. **An appropriate manufactures declaration is necessary**. Batteries which do not meet requirements according to Special Provision A67 have to be packed as described under 14.1.1 Air transport IATA-DGR according to packaging instruction 870 and carried as dangerous goods according to UN 2794.).

Notes:

1. As per the Special provision 238 a+b, Batteries, Wet, Non-Spillable electric storage is Non-Hazardous in nature. The Batteries are capable of withstanding the vibration and pressure test along with temperature test at 55deg.C.
- The battery and outer packing box shall be marked or labeled with “NON SPILLABLE” or “NON SPILLABLE BATTERY”

15. REGULATORY INFORMATION

In accordance with EU Battery Directive and the respective national legislation, Lead-Acid batteries have to be marked by a crossed out dust bin with the chemical symbol for lead shown below, together with the ISO return/recycling symbol.



In addition Lead-Acid batteries have to be labelled with the hazard symbols described below:

Labelling might vary due to application and dimension of the Battery. The manufacturer, respectively the importer of the batteries shall be responsible for placing the symbols (a minimum size is specified). In addition, consumer/user information on the significance of the symbols may be attached.

16. OTHER INFORMATION

16.1 Issue Date

March 1, 2016

16.2 Material Safety Data Sheet

The European Directive 91/155/EEC which described the requirements for Material Safety Data Sheets had been repealed by the Regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals on June 1st, 2007 (REACH-Regulation 1907/2006/EC). **The requirement to publish a Material Safety Data Sheet applies to all suppliers of substances and preparations.**

As already defined under the former Directive there is no requirement to develop and maintain a Material Safety Data Sheet for products such as Batteries.

16.3 Substances of Very High Concern (SVHC)

The publications of the European Chemicals Agency on substances of very high concern are monitored by HBL. As defined by REACH, customers will receive the required information if an updated publication may add a substance relevant for our products to the list of SVHC's. On 19 December 2012, four Lead compounds used in the process of battery manufacturing – **Lead Monoxide**, Lead Tetroxide, Tetralead Trioxide Sulphate and Pentalead Tetraoxide Sulphate – were placed on the Candidate List of Substances of Very High Concern under Annex XIV of the REACH.

Batteries ready for use do not contain any substance of very high concern. Irrespective of the Battery design, this applies to all batteries containing electrolyte (Vented, MHF, Gel, AGM).

16.4 GHS labels

Among others the European GHS regulation describes classification and labelling of chemicals and preparations. Doing so, the GHS regulation is step by step repealing the current classification and labelling requirements defined in the Chemical Agents Directive (67/548/EC). GHS is not a regulation that describes labelling requirements for products such as Lead Acid Batteries.

The six pictograms on batteries target to provide safety information and are based on an international standard (EN 50342). For the time being these labels remain unaffected.

16.5 General

This information has been complied for sources considered to be dependable and is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty (either expressed or implied) or guarantee is made to the accuracy, reliability or completeness of the information contained herein. This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. It is the user's responsibility to satisfy himself as to the suitability and completeness of this information for his own particular use. We do not accept liability for any loss or damage that may occur, whether direct, indirect, incidental or consequential, from the use of this information nor do we offer warranty against patent infringement. Additional information is available by calling the telephone number above designated for this purpose.

Univar USA Inc Safety Data Sheet

3075 Highland Pkwy, Ste 200, Downers Grove, IL 60515
(425) 889 3400

Emergency Assistance

For emergency assistance involving chemicals call
Chemtrec - (800) 424-9300

SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: UCARSOL™ AP SOLVENT 814

Issue Date: 06/07/2018
Print Date: 07/05/2018

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: UCARSOL™ AP SOLVENT 814

Recommended use of the chemical and restrictions on use
Identified uses: Carbon dioxide removal. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2030 DOW CENTER
MIDLAND MI 48674-0000
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: CHEMTREC +1 800-424-9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
GHS classification in accordance with 29 CFR 1910.1200
Skin corrosion - Category 1B
Serious eye damage - Category 1
Respiratory sensitisation - Category 1
Skin sensitisation - Category 1
Reproductive toxicity - Category 2

Label elements
Hazard pictograms

Received by OCD: 4/14/2025 11:49:46 AM

Signal word: **DANGER!**

Hazards
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
In case of inadequate ventilation wear respiratory protection.

Response
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Storage
Store locked up.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration

Released to Imaging: 4/22/2025 3:42:03 PM

Substituted amine (1)	Trade secret	60.0 - 100.0 %
Piperazine	110-85-0	>= 13.0 - <= 17.0 %
Water	7732-18-5	>= 7.0 - <= 9.0 %

4. FIRST AID MEASURES

Description of first aid measures
General advice:
First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Seek medical attention if symptoms occur or irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be immediately available.

Eye contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

Most important symptoms and effects, both acute and delayed:
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Received by OCD: 4/14/2025 11:49:46 AM

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Refer to section 7, Handling, for additional precautionary measures. Keep upwind of spill. Ventilate area of leak or spill. Keep personnel out of low areas. Only trained and properly protected personnel must be involved in clean-up operations. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Small spills: Absorb with materials such as: Non-combustible material. Clay. Vermiculite. Zorb-all®. Do NOT use absorbent materials such as: Ground corn cobs. Moist organic absorbents. Peat moss. Cellulose. Sawdust. Large spills: Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not get in eyes. Do not swallow. Avoid breathing vapor. Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after

Released to Imaging: 4/22/2025 3:42:03 PM

handling. Keep container closed. Use with adequate ventilation. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in accordance with good manufacturing practices. Use only with adequate ventilation. Do not store in: Aluminum. Copper. Copper alloys. Galvanized containers. Zinc. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability

Storage Period:
Bulk
18 Month
Metal drums.
36 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Piperazine	ACGIH	TWA Inhalable fraction and vapor	0.03 ppm, piperazine
	ACGIH	TWA	Skin and respiratory sensitiser

An Occupational Exposure Limit is available for one of the ingredients of this product. Please consult your business representative for assistance with exposure assessment and monitoring programs.

Exposure controls
Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures
Eye/face protection: Use chemical goggles.
Skin protection
Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Received by OCD: 4/14/2025 11:49:46 AM

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Colorless to yellow
Odor	Ammoniacal
Odor Threshold	No test data available
pH	No test data available
Melting point/range	Not applicable
Freezing point	-48 °C (-54 °F) *Literature* Pour point
Boiling point (760 mmHg)	126 °C (259 °F) *Literature*
Flash point	**closed cup** 102 °C (216 °F) *ASTM D 93*
Evaporation Rate (Butyl Acetate = 1)	0.5 *Literature*
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	4.6 mmHg at 20 °C (68 °F) *Literature*
Relative Vapor Density (air = 1)	2.8 *Literature*
Relative Density (water = 1)	1.045 at 20 °C (68 °F) / 20 °C *Literature*
Water solubility	100 % at 20 °C (68 °F) *Literature*
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	304 - 307 °C (579 - 585 °F) *Literature*
Decomposition temperature	No test data available
Kinematic Viscosity	No test data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	Not applicable
Molecular formula	Trade secret

NOTE: The physical data presented above are typical values and should not be construed as a specification.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Avoid contact with: Acrylates. Alcohols. Aldehydes. Ketones. Nitrites. Strong acids. Strong oxidizers. Avoid contact with metals such as: Aluminum. Copper. Copper alloys. Galvanized metals. Zinc. Avoid unintended contact with: Halogenated hydrocarbons. Avoid contact with absorbent materials such as: Ground corn cobs. Moist organic absorbents. Peat moss. Sawdust.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Low toxicity if swallowed. Swallowing may result in burns of the mouth and throat. Swallowing may result in gastrointestinal irritation or ulceration. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea.
Single dose oral LD50 has not been determined.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.
The dermal LD50 has not been determined.

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility. If material is heated or aerosol/mist is produced, concentrations may be attained that are sufficient to cause respiratory irritation and other effects. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.
As product: The LC50 has not been determined.

Skin corrosion/irritation
Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Released to Imaging: 4/22/2025 3:42:03 PM

Received by OCD: 4/14/2025 11:49:46 AM

Sensitization
Skin contact may cause an allergic skin reaction.

May cause allergic respiratory reaction.

Specific Target Organ Systemic Toxicity (Single Exposure)
Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
For the minor component(s):
Excessive exposure may cause neurologic signs and symptoms.

Carcinogenicity
For the minor component(s): Did not cause cancer in laboratory animals.

Teratogenicity
For the minor component(s): Has caused birth defects in laboratory animals only at doses toxic to the mother. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. For the major component(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive toxicity
For the minor component(s): In animal studies, has been shown to interfere with reproduction. In animal studies, has been shown to interfere with fertility.

Mutagenicity
In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity studies in animals were negative for component(s) tested.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Substituted amine (1)

Acute oral toxicity
LD50, Rat, male and female, 4,680 mg/kg

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity
No deaths occurred following exposure to a saturated atmosphere.

Piperazine

Acute oral toxicity
LD50, Rat, 2,600 mg/kg

Acute dermal toxicity
LD50, Rabbit, > 5,000 mg/kg

Released to Imaging: 4/22/2025 3:42:03 PM

Acute inhalation toxicity
LC0, Rat, 4 Hour, vapour, 2 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Substituted amine (1)

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Leuciscus idus (Golden orfe), static test, 96 Hour, 1,466 mg/l, DIN 38412
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 1,200 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 2,330 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
EC50, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, > 100 mg/l, OECD Test Guideline 201 or Equivalent

Piperazine

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Poecilia reticulata (guppy), semi-static test, 96 Hour, > 1,800 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 21 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, > 1,000 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
IC50, Bacteria, 16 Hour, > 5,000 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, 12.5 mg/l

Persistence and degradability

Substituted amine (1)

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
10-day Window: Pass
Biodegradation: 96 %
Exposure time: 18 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.29 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	40 %
28 d	42 %

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 1.324 Hour
Method: Estimated.

Piperazine

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 65.3 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 2.8 Hour
Method: Estimated.

Bioaccumulative potential

Bioaccumulation: No data available for this product. See Section 12 for individual component data.

Mobility in soil

Substituted amine (1)

Potential for mobility in soil is high (Koc between 50 and 150).
Partition coefficient (Koc): 53 Estimated.

Piperazine

Potential for mobility in soil is low (Koc between 500 and 2000).
Partition coefficient (Koc): 507 Measured

Received by OCD: 4/14/2025 11:49:46 AM

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Amines, liquid, corrosive, n.o.s.(Piperazine)
UN number	UN 2735
Class	8
Packing group	III

Classification for SEA transport (IMO-IMDG):

Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S.(Piperazine)
UN number	UN 2735
Class	8
Packing group	III
Marine pollutant	No
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Amines, liquid, corrosive, n.o.s.(Piperazine)
UN number	UN 2735
Class	8
Packing group	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Released to Imaging: 4/22/2025 3:42:03 PM

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Reproductive toxicity

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Worker and Community Right-To-Know Act:
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	CASRN
Piperazine	110-85-0

California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Product Literature
Additional information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure. Additional information on this and other products may be obtained by visiting our web page.

Hazard Rating System
NFPA

Health	Flammability	Instability
3	1	0

Revision
Identification Number: 171345 / A001 / Issue Date: 06/07/2018 / Version: 11.1
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
TWA	8-hour, time-weighted average

Full text of other abbreviations
AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.
US

Univar USA Inc Safety Data Sheet

For Additional Information contact SDS Coordinator during business hours, Pacific time: (425) 889-3400

Notice

Univar USA Inc. (”Univar”) expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Univar sales office.

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Univar makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein.

This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process

Page 1244 of 1315

Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

Identity (As used on label and list)
Val-Tex No. "VALVE FLUSH"

Note: Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name: Val-Tex (Valves Inc. of Texas)
Address: 10600 Fallstone Rd.
Houston, TX 77099

Emergency Telephone Number: (281) 530-4848
Telephone Number for Information: (281) 530-4848
Date Prepared: June 16, 2000
Signature of Preparer (optional)

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s) | OSHA PEL | ACGIH TLV | Other Limits Recommended | %(optional)

None

National Fire Protection Assn.: Hazards Rating Per Right-to-Know Laws are 0-0-0

HMIS Rating	Health	Flammability	Reactivity
	#0	#0	#0

Section III - Physical/Chemical Characteristics

Boiling Point: N/A
Vapor Pressure(mm Hg): N/A
Vapor Density (Air = 1): N/A
Specific Gravity (H_20): .975
Dropping Point: N/A
Evaporation Date: N/A
(Butyl Acetate = 1)

Solubility in Water Insoluble
Appearance and Odor CLEAR AMBER - SLIGHT ODOR

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) 555°F (C.O.C) Flammable Limits LEL: N/A UEL: N/A
Extinguishing Media: Water, Fog, Carbon Dioxide and Dry Chemical
Special Fire Fighting Procedures: Firefighters should wear self-contained apparatus in positive pressure mode with a full face piece when there is a possibility of exposure to smoke, fumes, or any decomposing products.
Unusual Fire and Explosion Hazards: None

Section V - Reactivity Data

Stability: Unstable
Stable XXX
Conditions to Avoid: Oxygen Service
Incompatibility (Materials to Avoid): Oxygen Service - Strong Oxidizing Agents
Hazardous Decomposition or Byproducts: Unknown

Hazardous Polymerization: May Occur / Will Not Occur XXX
Conditions to Avoid: Avoid Contact With Strong Oxidizing Agents

Section VI - Health Hazard Data

Route(s) of Entry: Inhalation: Get In Fresh Air
Skin: Prolonged Exposure May Cause Skin Irritation. Wash Affected Area With Soap and Water.
Ingestion: If Swallowed, Call A Physician. Do Not Induce Vomiting.

Health Hazards (Acute and Chronic): As Noted
Carcinogenicity: None NTP: None IARC Monographs: None OSHA Regulated: None
Signs and Symptoms of Exposure: None
Medical Conditions Generally Aggravated by Exposure: None
Emergency and First Aid Procedures: If Swallowed - Do Not Induce Vomiting, Call A Physician.
Eye Contact - Flush with Plenty of Water and Call a Physician

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled: Product is Non-Pourable - Follow All Federal, State, and Local Regulations Regarding Clean Up and Disposal.

Waste Disposal Method: Dispose of in Accordance With All Federal, State, and Local Regulations.
Precautions to be Taken In Handling and Storing: Normal Warehouse Storage
Other Precautions: None

Section VIII - Control Measures

Respiratory Protection (Specify Type): None
Ventilation : Local Exhaust : N/A Special : N/A Mechanical (General) : N/A Other : N/A
Protective Gloves: If Required Eye Protection: Safety Goggles, If Required
Other Protective Clothing Or Equipment: None
Work/Hygienic Practices: Use Standard Industrial Hygiene Practices When Handling Any Industrial Material.

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1245 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

*

1 Identification

· **Product identifier**

· **Trade name: VpCI®-329 D**
· **Application of the substance / the mixture** Corrosion inhibitors

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
CorteCros d.o.o.
Nova Ves 57
HR-10000 Zagreb
CROATIA
Tel: (+385) 1 466 92 80
Fax: (+385) 1 466 73 82

EcoCortec d.o.o.
Bele Bartoka 29
HR-31300 Beli Manastir
CROATIA
Tel: (+385) 31 705 011
Fax: (+385) 31 705 012
Cortec Corporation
4119 White Bear Parkway
St. Paul, MN 55110 USA
Phone (651) 429-1100
Fax (651) 429-1122

· **Information department:**
info@cortecros.hr
compliance@cortecvci.com

*

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**
2-(heptadecenyl)-4,5-dihydro-1H-imidazole-1-ethanol
· **Hazard statements**
H317 May cause an allergic skin reaction.
· **Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P272 Contaminated work clothing must not be allowed out of the workplace.

(Contd. on page 2)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1246 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

Trade name: VpCI®-329 D

(Contd. of page 1)

P280 Wear protective gloves.
P302+P352 If on skin: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see first aid statements on this label).
P363 Wash contaminated clothing before reuse.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

*
3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
64742-52-5	Distillates (petroleum), hydrotreated heavy naphthenic	50-100%
27136-73-8	2-(heptadecenyl)-4,5-dihydro-1H-imidazole-1-ethanol	≥0.1-<1%

· **Additional information**
This product contains mineral oil CAS no. 64742-52-5, which meets EU requirement of less than 3%(w/w) DMSO extract for total polycyclic aromatic compound (PAC) using IP346.
In accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR 1910.1200), the specific chemical identity and/or exact percentage composition has been withheld as a trade secret.
For the wording of the listed hazard phrases refer to section 16.

*
4 First-aid measures

· **Description of first aid measures**
· **After inhalation**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably on side position for transportation.
· **After skin contact**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact** Rinse opened eye for several minutes under running water.
· **After swallowing**
If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label
· **Information for doctor** Show this safety data sheet to the doctor in attendance.
· **Most important symptoms and effects, both acute and delayed**
The symptoms and effects are as expected from the hazards shown in section 2. No specific product related symptoms are known.
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

(Contd. on page 3)

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1247 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

Trade name: VpCI®-329 D

(Contd. of page 2)

· **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NOx)
Carbon monoxide (CO)
Sulphur dioxide (SO2)
· **Advice for firefighters** Self-contained breathing apparatus
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

*
6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:** Do not allow undiluted product to enter sewers/surface or ground water
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling**
Keep receptacles tightly sealed.
Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:** None.
· **Storage class** 10
· **Specific end use(s)** No further relevant information available.

*
8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

(Contd. on page 4)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1248 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

Trade name: VpCI®-329 D

(Contd. of page 3)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls** Use local exhaust ventilation to control airborne concentrations below exposure limits.
· **Personal protective equipment**
· **General protective and hygienic measures** Wash hands before breaks and at the end of work.
· **Breathing equipment:**
Not necessary if room is well-ventilated.

Use suitable respiratory protective device in case of insufficient ventilation.

Use suitable respiratory protective device only when aerosol or mist is formed.
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). To determine the appropriate type of respiratory protection that should be used, a hazard assessment should be performed prior to using the product. Environmental conditions such as ventilation and other contaminants may affect the type of respiratory protection that is chosen.
· **Protection of hands:**
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Protective Gloves** I.E., Nitrile, Viton, Neoprene
· **Eye protection:** Goggles recommended during refilling.
· **Body protection:** Protective work clothing.

*

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Color:	Light yellow
· **Odor:**	Petroleum-like
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Not applicable
Boiling point/Boiling range:	251 °C (483.8 °F) (*)
· **Flash point:**	141 °C (285.8 °F) (*)
· **Flammability (solid, gaseous)**	Not applicable.
· **Ignition temperature:**	230 °C (446 °F) (*)
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	1.1 Vol % (*)

(Contd. on page 5)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1249 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

Trade name: VpCI®-329 D

(Contd. of page 4)

Upper:	6 Vol % (*)
· **Vapor pressure at 20 °C (68 °F):**	0 hPa
· **Density at 20 °C (68 °F):**	0.9 g/cm³ (7.5 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with Water:**	Not miscible or difficult to mix
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
dynamic:	Not determined.
kinematic at 40 °C (104 °F):	22.22 mm²/s
· **Solvent content:**	
Organic solvents:	<0.1 %
VOC Content:	<0.07 % <0.6 g/l / <0.01 lb/gal
Solids content:	3.9 %
· **Other information**	The above data are typical values and do not constitute a specification. *Properties have been calculated.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability** Stable under recommended storage conditions
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known

*
11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
101-83-7 dicyclohexylamine		
Oral	LD50	373 mg/kg (rat)

· **Primary irritant effect:**
· **on the eye:** May be irritating.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

(Contd. on page 6)

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1250 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

Trade name: VpCI®-329 D

(Contd. of page 5)

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**	
Tertiary alkanolamine	3

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
101-83-7 dicyclohexylamine	
LC50	0.38 mg/l (Desmodesmus subspicatus) (72 Hours)
	62 mg/l (Danio rerio) (96 hours)
	12 mg/l (Oryzias latipes) (96 hours)
EC50	8 mg/l (Daphnia) (48 Hours)
EC50/21 D	0.14 mg/l (Daphnia) (21 days)
LOEC	0.049 mg/l (Daphnia) (21 days)
NOEC	0.016 mg/l (Desmodesmus subspicatus) (72 Hours)
	0.016 mg/l (Daphnia) (21 days)

· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation** Dispose of in accordance with local, state, and federal regulations.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

*

14 Transport information

· **UN-Number**	
· **DOT, ADR, ADN, IMDG, IATA**	not classified as dangerous goods

· **UN proper shipping name**	
· **DOT, ADR, ADN, IMDG, IATA**	not classified as dangerous goods

(Contd. on page 7)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1251 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

Trade name: VpCI®-329 D

(Contd. of page 6)

· **Transport hazard class(es)**	
· **DOT, ADR, ADN, IMDG, IATA**	
· **Class**	not classified as dangerous goods
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	not classified as dangerous goods
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	not classified as dangerous goods

*

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **SARA Section 355 (extremely hazardous substances)**
None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**
112-34-5 | 2-(2-butoxyethoxy)ethanol

· **TSCA (Toxic Substances Control Act)**
All ingredients are listed.

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Prop 65 - Chemicals known to cause cancer**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity**
None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **Canadian Domestic Substances List (DSL): (Substances not listed)**
aliphatic amine compounded with fatty acid

· **Philippines Inventory of Chemicals and Chemical Substances: (Substances not listed)**
aliphatic amine compounded with fatty acid

(Contd. on page 8)

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Page 1252 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

Trade name: VpCI®-329 D

(Contd. of page 7)

· **Chinese Chemical Inventory of Existing Chemical Substances: (Substances not listed)**
All ingredients are listed.

· **Australian Inventory of Chemical Substances**	
64742-52-5	Distillates (petroleum), hydrotreated heavy naphthenic
64742-52-5	Distillates (petroleum), hydrotreated heavy naphthenic
101-83-7	dicyclohexylamine
27136-73-8	2-(heptadecenyl)-4,5-dihydro-1H-imidazole-1-ethanol
	Tertiary alkanolamine
29385-43-1	Alkyltriazole
112-34-5	2-(2-butoxyethoxy)ethanol
111-41-1	2-(2-aminoethylamino)ethanol

· **New Zealand Inventory of Chemicals: (Substances not listed)**
aliphatic amine compounded with fatty acid

· **Existing Chemical Substances**	
Distillates (petroleum), hydrotreated heavy naphthenic	
2-(heptadecenyl)-4,5-dihydro-1H-imidazole-1-ethanol	5-425, 5-3496

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**
2-(heptadecenyl)-4,5-dihydro-1H-imidazole-1-ethanol
· **Hazard statements**
H317 May cause an allergic skin reaction.
· **Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves.
P302+P352 If on skin: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see first aid statements on this label).
P363 Wash contaminated clothing before reuse.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

*
16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not be establish a legllly valid contractual relationship. CorteCros does not warranty any translation of this SDS not created by CorteCros.

· **Date of preparation / last revision** 11/10/2020 / -
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

(Contd. on page 9)

Received by OCD: 4/14/2025 11:49:46 AM
Released to Imaging: 4/22/2025 3:42:03 PM

Page 1253 of 1315

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/10/2020 Reviewed on 11/10/2020

Trade name: VpCI®-329 D

(Contd. of page 8)

ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Sens. 1: Skin sensitisation – Category 1

*** Data compared to the previous version altered.**

Received by OCD: 4/14/2025 11:49:46 AM

Released to Imaging: 4/22/2025 3:42:03 PM

Safety Data Sheet
California CARB Compliant

1 - Identification

Product Name: WD-40 Multi-Use Product Aerosol **Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion** **Restrictions on Use: None identified** **SDS Date Of Preparation: March 5, 2019**	**Manufacturer: WD-40 Company** **Address: 9715 Businesspark Avenue San Diego, California, USA 92131** **Telephone:** **Emergency: 1-888-324-7596** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Aerosol Category 1
Gas Under Pressure: Compressed Gas
Aspiration Toxicity Category 1
Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:

DANGER!
Extremely Flammable Aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Prevention
Keep away from heat, sparks, open flames, hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing vapors or mists.
Use only outdoors or in a well-ventilated area.

Response
IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.

Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US Hazcom 2012/ GHS Classification
LVP Aliphatic Hydrocarbon	64742-47-8	45-50%	Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<35%	Not Hazardous
Aliphatic Hydrocarbon	64742-47-8	<25%	Flammable Liquid Category 3 Aspiration Toxicity Category 1 Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)
Carbon Dioxide	124-38-9	2-3%	Simple Asphyxiant Gas Under Pressure, Compressed Gas

Note: The specific chemical identity and exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: Harmful or fatal if swallowed. Aspiration of liquid into the lungs during swallowing or vomiting may cause lung damage. May cause eye and respiratory irritation. Inhalation of mists or vapors may cause drowsiness, dizziness and other nervous system effects. Skin contact may cause drying of the skin.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Extremely flammable aerosol. Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.
Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA (Inhalable) ACGIH TLV (as Mineral oil) 5 mg/m3 TWA OSHA PEL (as Oil mist, mineral)
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA, 30,000 ppm STEL ACGIH TLV 5000 ppm TWA OSHA PEL

The Following Controls are Recommended for Normal Consumer Use of this Product
Appropriate Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray away from your face.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.
Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8%
Odor:	Mild petroleum odor	Vapor Pressure:	95-115 PSI @ 70°F
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point:	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	138°F (59°C) Tag Closed Cup (liquid)	Autoignition Temperature:	Not established

Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas):	Flammable Aerosol	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	24.1% MIR=0.43gO3/gVOC	Pour Point:	-63°C (-81.4°F) ASTM D-97

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions
Chemical Stability: Stable
Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.
Numerical Measures of Toxicity:
Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available; however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Components are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: UN1950, Aerosols, 2.1 Ltd. Qty
(Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)
IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY
ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1

NOTE: WD-40 Company does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not require a California Proposition 65 warning.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification

16 – Other Information

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Physical Hazard – 0 (minimal hazard)

Revision Date: March 5, 2019 Supersedes: July 19, 2018

Revision Summary: Section 9 update VOC data

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

Reviewed by: I. Kowalski Regulatory Affairs Dept.

1012200/No.0084704

SAFETY DATA SHEET

Flammable Gas Mixture: 11 Component Primary Hydrocarbon Blend

Airgas
an Air Liquide company

Section 1. Identification

GHS product identifier : Flammable Gas Mixture: 11 Component Primary Hydrocarbon Blend

Other means of identification : X11ET44CL5AC000

Product type : Gas.

Product use : Synthetic/Analytical chemistry.

Synonym : X11ET44CL5AC000

SDS # : 034161

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253
Inside the US: 1-833-723-3267 (Chemtrec, 24 hours)
Outside the US: 1-703-527-3887 (Chemtrec, 24 hours)

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Compressed gas
GERM CELL MUTAGENICITY - Category 1
CARCINOGENICITY - Category 1
TOXIC TO REPRODUCTION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May cause drowsiness or dizziness.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.
May displace oxygen and cause rapid suffocation.
May form explosive mixtures with air.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe gas.

Response : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources. IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

Storage : Store locked up. Protect from sunlight. Store in a well-ventilated place. Keep container tightly closed.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : X11ET44CL5AC000

Product code : 034161

Ingredient name	%	CAS number
Propane	1 - 50	74-98-6
Ethane	1 - 50	74-84-0
N-Butane	1 - 20	106-97-8
Isopentane	3 - 5	78-78-4
N-Pentane	2 - 4	109-66-0
Isobutane	1 - 5	75-28-5
n-Hexane	1 - 2	110-54-3
1,3-Butadiene	1 - 2	106-99-0
Methane	0.0001 - 2	74-82-8
Carbon Dioxide	0.0001 - 1.99	124-38-9
Nitrogen	0.0001 - 1	7727-37-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 4. First aid measures

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : Can cause central nervous system (CNS) depression. As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 5. Fire-fighting measures

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Use only non-sparking tools. Avoid release to the environment. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not breathe gas. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid exposure during pregnancy.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Propane	**NIOSH REL (United States, 10/2020).** TWA: 1800 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential.**
Ethane	**ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential.**
N-Butane	**NIOSH REL (United States, 10/2020).** TWA: 1900 mg/m³ 10 hours. TWA: 800 ppm 10 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1900 mg/m³ 8 hours. TWA: 800 ppm 8 hours. **ACGIH TLV (United States, 1/2022). [Butane isomers] Explosive potential.** STEL: 1000 ppm 15 minutes. **CAL OSHA PEL (United States, 5/2018).** TWA: 1900 mg/m³ 8 hours. TWA: 800 ppm 8 hours.
Isopentane	**ACGIH TLV (United States, 1/2021).** TWA: 1000 ppm 8 hours.
N-Pentane	**ACGIH TLV (United States, 1/2022). [Pentane]** TWA: 1000 ppm 8 hours. **NIOSH REL (United States, 10/2020).** CEIL: 1800 mg/m³ 15 minutes. CEIL: 610 ppm 15 minutes. TWA: 350 mg/m³ 10 hours. TWA: 120 ppm 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 2950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 2250 mg/m³ 15 minutes. STEL: 750 ppm 15 minutes. TWA: 1800 mg/m³ 8 hours.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 8. Exposure controls/personal protection

	TWA: 600 ppm 8 hours.
Isobutane	**NIOSH REL (United States, 10/2020).** TWA: 1900 mg/m³ 10 hours. TWA: 800 ppm 10 hours. **ACGIH TLV (United States, 1/2022).** **[Butane isomers] Explosive potential.** STEL: 1000 ppm 15 minutes.
n-Hexane	**ACGIH TLV (United States, 1/2021).** **Absorbed through skin.** TWA: 50 ppm 8 hours. **NIOSH REL (United States, 10/2020).** TWA: 180 mg/m³ 10 hours. TWA: 50 ppm 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 1800 mg/m³ 8 hours. TWA: 500 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 180 mg/m³ 8 hours. TWA: 50 ppm 8 hours.
1,3-Butadiene	**ACGIH TLV (United States, 1/2022).** TWA: 4.4 mg/m³ 8 hours. TWA: 2 ppm 8 hours. **OSHA PEL (United States, 5/2018).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. **CAL OSHA PEL (United States, 5/2018).** STEL: 11 mg/m³ 15 minutes. STEL: 5 ppm 15 minutes. TWA: 2.2 mg/m³ 8 hours. TWA: 1 ppm 8 hours.
Methane	**ACGIH TLV (United States, 1/2022). Oxygen Depletion [Asphyxiant]. Explosive potential.**
Carbon Dioxide	**ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant].** STEL: 54000 mg/m³ 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 9000 mg/m³ 8 hours. TWA: 5000 ppm 8 hours. **NIOSH REL (United States, 10/2020).** STEL: 54000 mg/m³ 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 9000 mg/m³ 10 hours. TWA: 5000 ppm 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 9000 mg/m³ 8 hours. TWA: 5000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** STEL: 54000 mg/m³ 15 minutes. STEL: 30000 ppm 15 minutes. TWA: 18000 mg/m³ 8 hours. TWA: 10000 ppm 8 hours.
Nitrogen	**ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant].**

Biological exposure indices

Released to Imaging: 4/22/2025 3:42:03 PM

Section 8. Exposure controls/personal protection

Ingredient name	Exposure indices
1,3-butadiene	**ACGIH BEI (United States, 1/2022)** BEI: 2.5 mg/l [Semi-quantitative: The determinant is an indicator of exposure to the chemical, but the quantitative interpretation of the measurement is ambiguous. These determinants should be used as a screening test if a quantitative test is not practical or as a confirmatory test if the quantitative test is not specific and the origin of the determinant is in question.], 1,2 dihydroxy-4-(N-acetylcysteinyl)-butane [in urine]. Sampling time: end of shift. BEI: 2.5 pmol/g hemoglobin [Semi-quantitative: The determinant is an indicator of exposure to the chemical, but the quantitative interpretation of the measurement is ambiguous. These determinants should be used as a screening test if a quantitative test is not practical or as a confirmatory test if the quantitative test is not specific and the origin of the determinant is in question.], mixture of N-1- and N-2-(hydroxybutenyl)valine hemoglobin (Hb) adducts [in blood]. Sampling time: not critical.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 8. Exposure controls/personal protection

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not applicable.

Melting point : -108.9°C (-164°F) This is based on data for the following ingredient: 1,3-butadiene. Weighted average: -176.83°C (-286.3°F)

Boiling point : Not available.

Critical temperature : Lowest known value: -82.45°C (-116.4°F) (methane).

Flash point : Not applicable.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Highest known value: 2.1 (Air = 1) (butane). Weighted average: 1.48 (Air = 1)

Gas Density (lb/ft ^{3}) : Weighted average: 0.12

Relative density : Not applicable.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flow time (ISO 2431) : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Oxidizers

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 10. Stability and reactivity

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
N-Butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
isopentane	LC50 Inhalation Vapor	Rat	280000 mg/m³	4 hours
n-pentane	LC50 Inhalation Vapor	Rat	364 g/m³	4 hours
isobutane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
n-hexane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	96000 ppm	1 hours
	LD50 Oral	Rat	15840 mg/kg	-
1,3-butadiene	LC50 Inhalation Gas.	Rat	128000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	285000 mg/m³	4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-hexane	Eyes - Mild irritant	Rabbit	-	10 mg	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
1,3-butadiene	-	1	Known to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Flammable Gas Mixture: 11 Component Primary Hydrocarbon Blend	Category 3	-	Narcotic effects
isopentane	Category 3	-	Narcotic effects
n-pentane	Category 3	-	Narcotic effects
n-hexane	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Flammable Gas Mixture: 11 Component Primary Hydrocarbon Blend	Category 2	-	-
n-hexane	Category 2	-	-

Aspiration hazard

Not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.

Ingestion : Can cause central nervous system (CNS) depression. As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : May cause genetic defects.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
n-hexane	Acute LC50 2500 µg/l Fresh water	Fish - *Pimephales promelas*	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Propane	1.09	-	Low
ethane	1.09	-	Low
N-Butane	2.89	-	Low
isopentane	3	171	Low
n-pentane	3.45	171	Low
isobutane	2.8	-	Low
n-hexane	4	501.187	High
1,3-butadiene	1.99	10	Low
methane	1.09	-	Low
Carbon Dioxide	0.83	-	Low
Nitrogen	0.67	-	Low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1954	UN1954	UN1954	UN1954	UN1954
UN proper shipping name	COMPRESSED GAS, FLAMMABLE, N. O.S. (ethane, propane)	COMPRESSED GAS, FLAMMABLE, N. O.S. (ethane, propane)	COMPRESSED GAS, FLAMMABLE, N. O.S. (ethane, propane)	COMPRESSED GAS, FLAMMABLE, N. O.S. (ethane, propane)	COMPRESSED GAS, FLAMMABLE, N. O.S. (ethane, propane)

Released to Imaging: 4/22/2025 3:42:03 PM

Section 14. Transport information

Transport hazard class(es)	2.1	2.1	2.1	2.1	2.1
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Additional information

DOT Classification : **Reportable quantity** 666.67 lbs / 302.67 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
Explosive Limit and Limited Quantity Index 0.125
ERAP Index 3000
Passenger Carrying Vessel Index Forbidden
Passenger Carrying Road or Rail Index Forbidden

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

TSCA 8(a) PAIR: pentane

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Air Act (CAA) 112 regulated flammable substances: propane; ethane; butane; isopentane; pentane; Isobutane; 1,3-butadiene; methane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 15. Regulatory information

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	n-hexane 1,3-butadiene	110-54-3 106-99-0	1 - 2 1 - 2
Supplier notification	n-hexane 1,3-butadiene	110-54-3 106-99-0	1 - 2 1 - 2

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: PROPANE; ETHANE; BUTANE; ISOPENTANE; PENTANE; ISOBUTANE; HEXANE; N-HEXANE; 1,3-BUTADIENE; METHANE

New York : The following components are listed: Hexane; Butadiene

New Jersey : The following components are listed: PROPANE; ETHANE; BUTANE; ISOPENTANE; BUTANE, 2-METHYL-; PENTANE; Isobutane; n-HEXANE; HEXANE; 1,3-BUTADIENE; METHANE

Pennsylvania : The following components are listed: PROPANE; ETHANE; BUTANE; BUTANE, 2-METHYL-; PENTANE; PROPANE, 2-METHYL-; HEXANE; 1,3-BUTADIENE; METHANE

California Prop. 65

⚠ **WARNING**: This product can expose you to chemicals including 1,3-butadiene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including n-hexane, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
n-hexane 1,3-butadiene	- Yes.	Yes. -

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Eurasian Economic Union : **Russian Federation inventory**: Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : All components are listed or exempted.

Philippines : All components are listed or exempted.

Republic of Korea : All components are listed or exempted.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 15. Regulatory information

Taiwan : All components are listed or exempted.

Thailand : All components are listed or exempted.

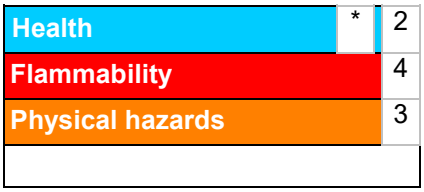
Turkey : Not determined.

United States : All components are active or exempted.

Viet Nam : All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1	Calculation method
GASES UNDER PRESSURE - Compressed gas	On basis of test data
GERM CELL MUTAGENICITY - Category 1	Expert judgment
CARCINOGENICITY - Category 1	Expert judgment
TOXIC TO REPRODUCTION - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Expert judgment
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Expert judgment
AQUATIC HAZARD (LONG-TERM) - Category 3	Expert judgment

History

Date of printing : 1/10/2024

Date of issue/Date of revision : 1/10/2024

Date of previous issue : 8/18/2021

Version : 0.01

Released to Imaging: 4/22/2025 3:42:03 PM

Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Released to Imaging: 4/22/2025 3:42:03 PM

XCELTHERM® CA HEAT TRANSFER FLUID

SAFETY DATA SHEET

Issue Date: 3 January 2009 Revision Date: 8 October 2018 Revision Number: 6.0

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: XCELTHERM® CA HEAT TRANSFER FLUID

ISO 9001:2015 Certification Number: C2018-00035

1.2 Relevant identified uses of the substance or mixture and uses advised against

Thermal oil available for use up to 315°C (600°F).

1.3 Details of the supplier of the safety data sheet

Headquarters and Manufacturing Facility
Radco Industries, Inc.
700 Kingsland Drive
Batavia, IL 60510
CAGE Code 6ZS16

Customer information number: 1-630-232-7966

1.4 Emergency Telephone Number

Advisory Office in case of poisoning: Chemtrec
Chemtrec (North America): 1-800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Aspiration hazard Category 1

Classification of mixture is in accordance with United Nations (UN) Globally Harmonized System of Classification and Labelling of Chemicals (GHS), sixth revised edition (2015), and United States Standard 29 CFR 1910 Occupational Safety and Health Standards.

See SECTION 16 for toxicity category definitions.

2.1 Label elements

Hazard pictograms: Health Hazard

Signal word: **DANGER**

Hazard statements

H304:	May be fatal if swallowed and enters airways.

Precaution statements

P101:	If medical advice is needed, have product container or label at hand.
P202:	Do not handle until all safety precautions have been read and understood.
P270:	Do not eat, drink or smoke when using this product.

Released to Imaging: 4/22/2025 3:42:03 PM

P273:	Avoid release to the environment.
P280:	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P331 + P315:	IF SWALLOWED: Do NOT induce vomiting. Rinse mouth. Get immediate medical advice/attention.
P303 + P353:	IF ON SKIN (or hair): Rinse skin with water/shower.
P304 + P340 + P342 + P315:	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, get immediate medical advice/attention.
P305 + P351 + P338 + P310:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
P306 + P363:	IF ON CLOTHING: Wash contaminated clothing before reuse.
P404:	Store in a closed container.
P501:	Dispose of contents/container to in accordance with local/regional/national/international regulation.

2.2 Other hazards

PBT and vPvB
This product is not PBT and vPvB.

NFPA Hazard ID		HMIS Hazard ID	
Health:	2	Health:	2
Flammability:	1	Flammability:	1
Reactivity:	0	Reactivity:	0

SECTION 3. Composition/information on ingredients

3.1 Substances

White mineral oil (petroleum)
Index number: Not available
CAS number: 8042-47-5
EC number: 232-455-8
REACH number: 01-2119487078
Synonyms: Liquid paraffin; Technical white oil; White mineral oil; White oil;

3.2 Mixtures

Component	CAS Number	EC Number	%Content	Classification of Labeling	M-Factor
White mineral oil (petroleum)	8042-47-5	232-455-8	>90%	Asp. Tox. 1 – H304	0

M-Factor determinations are in in accordance with UN GHS, sixth revised edition (2015).

See SECTION 16 for full text of the toxicity categories and H-statements listed in this section.

Indicative occupational exposure limit values
See SECTION 8 for specific concentration limits.

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact
Upon accidental eye exposure, wash the eyes promptly with water for at least 20 minutes. If wearing contact lenses, remove them if safe to do so, and continue washing. Get medical attention immediately.

Ingestion
If swallowed, do not induce vomiting. Rinse mouth out with water. Get medical attention immediately.

Inhalation
If respiratory irritation, dizziness, or nausea occurs, move to fresh air and keep at rest in a comfortable position for breathing. If symptoms persist or unconsciousness occurs, seek immediate medical assistance.

Skin contact
Wash skin thoroughly with mild soap and plenty of water for at least 20 minutes. If irritation develops, seek medical advice.

Note to physicians
Treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed

Acute symptoms

Eye exposure symptoms
Direct eye exposure may lead to redness and lacrimation (crying tears).

Ingestion symptoms
Small amounts may cause nausea. Large amounts may lead to abdominal obstruction (cramps), constipation or diarrhea.

Inhalation symptoms
May cause irritation of the nose, throat, and lungs.

Skin exposure symptoms
Short-term exposure is not expected to cause irritation.

Delayed symptoms

Eye exposure symptoms
None expected, however seek medical attention if irritation persists.

Ingestion symptoms
None expected, however seek medical attention if abdominal obstruction, constipation or diarrhea persists.

Inhalation symptoms
None expected, however seek medical attention if respiratory irritation persists.

Skin exposure symptoms
Repeated exposure may lead to irritation. If rash develops, seek medical attention.

4.3 Indication of any immediate medical attention and special treatment needed
Suggestions for clinical testing and medical monitoring for delayed effects are not known. Use first aid when applicable, and seek guidance from a medical physician for specific treatment.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media includes alcohol-resistant foam, carbon dioxide, dry chemical or water fog.

5.2 Special hazards arising from the substance or mixture
No data is available.

5.3 Advice for firefighters

Fire-Fighting Equipment
Firefighter should wear normal protective equipment (full bunker gear) and positive-pressure contained breathing apparatus. Water can be used to cool fire-exposed containers, to protect personnel and to disperse vapors and spills. Water runoff can cause environmental damage. Dike and collect water used to fight fires.

Special Fire-Fighting Procedures
Use water spray to cool fire-exposed containers and structures. If a rail or tank truck is involved in a fire, isolate for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from the area and let the fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Wear personal protective equipment (PPE). Eliminate sources of ignition, if safe to do so. Avoid breathing vapors or mist. Evacuate to designated safe areas.

For emergency responders
If possible, move individual to safe area, and treat symptomatically.

6.2 Environmental precautions
Contain spill, if safe to do so. Prevent from entering sewers or drains.

6.3 Methods and material for containment and cleaning up
Use oil absorbent material to soak up product on the ground. Should this product enter sewers or drains, it should be pumped out into an open vessel. The recovered material should be discarded as hazardous waste.

6.4 Reference to other sections
If appropriate, refer to SECTION 8 and SECTION 13 for additional information.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Use personal protective equipment (PPE) when handling this product. Smoking, eating and drinking should be prohibited in the application area.

7.2 Conditions for safe storage, including any incompatibilities
Do not store in open or unlabeled containers. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)
Used primarily as heat transfer fluid for systems that are designed for use of this product.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Component	Form	Occupational exposure limits
White mineral oil (petroleum)	Mist, vapor, or fumes	AFS 2011:18 (Sweden, 12/2011) ..... TWA = 1 mg/m³, 8 hours AFS 2011:18 (Sweden, 12/2011) ..... STEL = 3 mg/m³, 15 minutes ACGIH TLV (United States, 3/2012) ..... TWA = 5 mg/m³, 8 hours OSHA Z-1 (United States, 6/2010) ..... TWA = 5 mg/m³, TWA 8 hours

Biological exposure limits
None established for any of the disclosed components.

8.2 Exposure controls

Appropriate engineering controls
Practice general industrial hygiene. Do not eat, drink or smoke near product. Wash hands after handling. Remove clothing and wash separate from other laundry.

Personal protective equipment (PPE)

Eye/face protection
Safety glasses, chemical safety goggles and/or face shields are recommended when handling this product.

Skin protection
For extended handling, wear oil resistant gloves such as neoprene. Nitrile gloves may be appropriate for short handling periods use. Contact a government approved or accredited manufacturer for specific recommendations.

Other protections
Wear protective clothing ensuring minimal skin exposure. Protective clothing should be chemically impervious to oils and other solvents.

Respiratory protection
Use with adequate ventilation. Avoid breathing vapor. If heated and ventilation is inadequate, use NIOSH certified respirator, which will protect against organic vapor.

Environmental exposure controls
Do not allow product to reach ground water, water course, or sewage systems. Stop leaks, if safe to do so. Contain spills with absorbent or adsorbent materials.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Water-white, clear liquid
Odor:	Faint, oily
Odor threshold:	Not determined
Auto-ignition temperature:	349°C (660°F)
Decomposition temperature:	0.2% at 316°C (600°F), under nitrogen blanket
Evaporation Rate:	4.9%
Explosive properties:	Not available
Flammability (solid, gas): Lower flammability limit: Upper flammability limit:	Non-flammable Not determined Not determined
Flash point Cleveland Open Cup (ASTM D92):	193°C (380°F), minimum
Flash point Pensky-Martens (ASTM D93):	178°C (352°F), minimum
Initial boiling point and boiling range:	301°C (574°F), minimum
Melting point/freezing point:	≤ -12°C (10.4°F)
Oxidizing properties:	Non-oxidizing
Partition coefficient (n-octanol/water), Log P_{ow}:	> 6
pH:	Not applicable
Relative density (ASTM D1298) 15.6°C/15.6°C (60°F/60°F):	0.800 – 0.875
Solubility in water:	Water insoluble
Vapor density:	Not determined
Vapor pressure:	0.08 mmHg at 25°C (77°F), maximum
Viscosity (ASTM D445):	14.0 – 18.0 cSt at 40°C

9.2 Other information
No further information is available.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity
Non-reactive in its original state.

10.2 Chemical stability
Stable in its original state.

10.3 Possibility of hazardous reactions
Does not occur.

10.4 Conditions to avoid
Oxidizing materials

10.5 Incompatible materials
Keep away from strong oxidizing or reducing agents.

10.6 Hazardous decomposition products
Decomposition of this product under fire conditions may produce carbon oxides, phenols, and other decomposition products.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	Method	Species	Results
White mineral oil (petroleum)	Dermal Inhalation Oral	Rabbit Rat Rat	LD_{50} > 2000 mg/kg body-weight LC_{50} = 1.78 mg/L LD_{50} > 5000 mg/kg body-weight

Aspiration hazard	Test Method	Species	Result
White mineral oil (petroleum)	OECD 403	Rat	LC50 = 1.78 mg/L

Carcinogenicity	Test Method	Species	Result
White mineral oil (petroleum)	OECD 451	Mouse	Non-carcinogenic

Eye damage / irritation	Test Method	Species	Results
White mineral oil (petroleum)	OECD 405	Rabbit	Not irritating

Germ cell mutagenicity	Test Method	Species	Result
White mineral oil (petroleum)	OECD 471	Rat	Not mutagenic

Reproductive toxicity	Test Method	Species	Result
White mineral oil (petroleum)	*Read across*	--	Non-hazardous

Respiratory sensitization	Test Method	Species	Result
White mineral oil (petroleum)	--	--	No data available

Skin sensitization	Test Method	Species	Result
White mineral oil (petroleum)	OECD 406	Guinea pig	Non-sensitizing

Skin corrosion/irritation	Test Method	Species	Result
White mineral oil (petroleum)	OECD 404	Rabbit	Not irritating

Specific target organ toxicity – repeated exposure (STOT-RE)
No data available

Specific target organ toxicity – single exposure (STOT-SE)
No data available

11.2 Other information
See SECTION 16 for toxicity references.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic Toxicity	Test Method	Species	Results
White mineral oil (petroleum)	OECD 203 *Read across*	*O. mykiss* *Daphnia sp.*	LL_{50} > 1000 mg/L after 24 hours LC_{50} > 10,000 mg/L after 96 hours

Terrestrial Toxicity
No data available

12.2 Persistence and degradability

Biodegradation	Test Method	Result
White mineral oil (petroleum)	OECD 301 F	Inherently biodegradable: 31% biodegradation after 28 days

12.3 Bioaccumulative potential

Bioconcentration Factor (BCF)
No data available

Partition Coefficient n-octanol / water (Log K_{ow})	Results
White mineral oil (petroleum)	Log K_{ow} > 6

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance is not PBT and vPvB.

12.6 Other adverse effects
No further information is available.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
This unused material, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however, it could be considered hazardous if it meets U.S. EPA (40 CFR Subpart C) criteria for being toxic, corrosive, ignitable, or reactive. This material could also become hazardous waste if it is mixed with or meets a listed hazardous waste. If it is a hazardous waste, regulations in 40 CFR 262-266, 268, 270, and 279 may apply.

SECTION 14. TRANSPORTATION INFORMATION

United States Department of Transportation (DOT)
Not regulated

Canada Transport - Transportation of Dangerous Goods (TDG)
Not regulated

International Air Transport Association (IATA)
Not regulated

International Carriage of Dangerous Goods by Inland Waterways (AND)
Not regulated

International Carriage of Dangerous Goods by Rail (RID)
Not regulated

International Carriage of Dangerous Goods by Road (ADR)
Not regulated

International Civil Aviation Organization (ICAO)
Not regulated

International Maritime Dangerous Goods Code (IMDG Code)
Not regulated

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Australia Inventory (AICS)
All the ingredients are listed.

California Proposition 65
This product does not contain any chemicals known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Canadian Domestic Substances List/Non-Domestic Substances List (DSL/NDSL)
All the ingredients are listed.

China Inventory of Existing Chemical Substances (IECSC)
All the ingredients are listed.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Reportable Quantity
This product is not reportable under 40 CFR Part 302.4.

International Agency for Research on Cancer (IARC)
None of the ingredients are listed.

Japan Existing and New Chemical Substances (ENCS)
All the ingredients are listed.

Korean Existing and Evaluated Chemical Substances (KECL)
All the ingredients are listed.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)
All the ingredients are listed.

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR Part 355)
This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA Title III Section 313 (40 CFR Part 372)
This product is not regulated under Section 313 of SARA and 40 CFR Part 372.

SARA Title III Sections 311/312 Hazardous Categorization (40 CFR Part 370)
Hazardous categories for this product are:
Acute = No Chronic = No Fire = No Pressure = No Reactive = No

United States Toxic Substances Control Act (TSCA)
All the ingredients are listed.

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been conducted.

SECTION 16. OTHER INFORMATION

Safety Data Sheet Creation Date: 3 January 2009
Safety Data Sheet Revision Date: 8 October 2018
Revision Number: 6.0

THIS INFORMATION RELATES TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PARTICULAR PROCESS OR FOR ANY PARTICULAR PURPOSE. SUCH INFORMATION STATED IS TO THE BEST OF RADCO'S KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE TO ITS ACCURACY, RELIABILITY, OR COMPLETENESS, PURCHASERS, USERS AND DISTRIBUTORS ARE NOT RELYING ON ANY PROMISE, REPRESENTATION, OR RECOMMENDATION MADE BY RADCO, AND RADCO DOES NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION. FINAL DETERMINATION OF SUITABILITY OF ANY MATERIAL IS THE SOLE RESPONSIBILITY OF THE USER. ALL MATERIAL SHOULD BE USED WITH CAUTION TO GUARD AGAINST UNKNOWN HAZARDS. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, RADCO DOES NOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

XCELTHERM® is a registered trademark of Radco Industries, Inc.

Toxicological References

"White mineral oil (petroleum)." *Registration Dossier - ECHA*. European Chemicals Agency, [no date]. Web. 17 May 2017.

Definitions

ACGIH	American Conference of Governmental Industrial Hygienists
AFS 2011:18	Swedish Work Environment Authority's provisions and general recommendations on occupational exposure limit values
Asp. Tox. 2	Aspiration hazard, category 2
Aspiration hazard, category 1	Hydrocarbons with kinematic viscosity ≤ 20.5 mm2/s are classified by OSHA as an aspiration hazard.
EC number	European Community number
H304	May be fatal if swallowed and enters airways.
LC_{50}	Lethal concentration that causes 50% death in test population.
LD_{50}	Lethal dose that causes 50% death in test population.
OECD	Organisation for Economic Co-operation and Development
OECD 403	OECD Guideline 403: Acute Inhalation Toxicity
OECD 404	OECD Guideline 404: Acute Dermal Irritation/Corrosion
OECD 404	OECD Guideline 404: Acute Dermal Irritation/Corrosion Test
OECD 405	OECD Guideline 405: Acute Eye Irritation/Corrosion Test
OECD 471	OECD Guideline 407: Bacterial Reverse Mutation Test
OECD 471	OECD Guideline 471: Bacterial Reverse Mutation Test
OECD 203	OECD Guideline 203: Fish, Acute Toxicity Test
OECD 406	OECD Guideline 406: Skin Sensitization Test
OECD 451	OCED Guideline 451: Carcinogenicity Studies
OSHA	United States Department of Labor Occupational Safety and Health Administration
PBT	Persistence Bioaccumulation and Toxicity
STEL	Short-term exposure limit
TLV	Threshold limit value
TWA	Time-weighted average
UN	United Nations
vPvB	Very persistent and very bioaccumulative

Baker Hughes

SAFETY DATA SHEET

Section 1. Identification

Product name : X-CIDE™ 102 INDUSTRIAL BACTERICIDE
™ a trademark of Baker Hughes Incorporated.

Product code : XC102

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Industrial Bactericide.

Print date : 12/17/2019

Validation date : 12/17/2019

Version : 2.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (inhalation) - Category 3
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
AQUATIC HAZARD (ACUTE) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Toxic if inhaled.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.
Toxic to aquatic life.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 2. Hazards identification

Precautionary statements

Prevention : Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves. PVC gloves. 4H gloves. Butyl rubber gloves.. Wear eye or face protection. Wear protective clothing. Wear respiratory protection. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Additional information

Glutaraldehyde may stain skin and nails to brown or golden brown color.Glutaraldehyde can cause allergic contact dermatitis, asthma and rhinitis and may aggravate existing asthmatic conditions.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Glutaraldehyde	20 - 30	111-30-8

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush the eye(s) continuously with lukewarm, gently flowing water for at least 20-60 minutes while holding the eyelid(s) open. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.

Inhalation : Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In the event of any complaints or symptoms, avoid further exposure.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash affected area with soap and mild detergent for at least 20 - 60 minutes. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 4. First aid measures

Ingestion : Call a poison center or physician. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Toxic if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : pain,watering,redness

Inhalation : respiratory tract irritation,coughing,wheezing and breathing difficulties,asthma

Skin contact : pain or irritation,redness,blistering may occur

Ingestion : stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : carbon dioxide,carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Released to Imaging: 4/22/2025 3:42:03 PM

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Glutaraldehyde	**ACGIH TLV (United States, 3/2018). Skin sensitizer. Inhalation sensitizer.** C: 0.05 ppm, 0 times per shift, 0 hours. **NIOSH REL (United States, 10/2016).** CEIL: 0.8 mg/m³, 0 times per shift, 0 hours. CEIL: 0.2 ppm, 0 times per shift, 0 hours. **OSHA PEL 1989 (United States, 3/1989).** CEIL: 0.8 mg/m³, 0 times per shift, 0 hours. CEIL: 0.2 ppm, 0 times per shift, 0 hours.

Consult local authorities for acceptable exposure limits.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection : Chemical-resistant gloves: Nitrile or Neoprene gloves. PVC gloves. 4H gloves. Butyl rubber gloves.

Skin protection : Wear long sleeves and chemical resistant apron to prevent repeated or prolonged skin contact.

Respiratory protection : If a risk assessment indicates it is necessary, use a properly fitted, air purifying or supplied air respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Colorless to light yellow.

Odor : Fruity. Medicinal. [Strong]

Odor threshold : Not available.

pH : 3 to 4.5

: Neat - without dilution.

Melting/freezing point : Not available.

Boiling point : Not available.

Initial Boiling Point : Not available.

Section 9. Physical and chemical properties

Flash point	: Closed cup: >93.4°C (>200.1°F) [SFCC]
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: 26.9 kPa (201.7 mm Hg, 3.9 psig) @ 54.4°C, 130 F (Reid)
Vapor density	: >1 [Air = 1]
Relative density	: 1.07 (15.6°C)
Density	: 8.91 (lbs/gal)
Solubility in water	: Soluble
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (15.6°C): 4 cP
VOC	: Not available.
Pour Point	: -6.7°C (19.9°F)

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Glutaraldehyde X-CIDE™ 102 INDUSTRIAL BACTERICIDE	LD50 Oral LC50 Inhalation Dusts and mists LD50 Dermal LD50 Oral	Rat Rat Rabbit Rat	134 mg/kg 0.8 mg/l 13600 mg/kg 1990 mg/kg	- 4 hours - -

Irritation/Corrosion

Released to Imaging: 4/22/2025 3:42:03 PM

Section 11. Toxicological information

No applicable toxicity data

Sensitization

No applicable toxicity data

Mutagenicity

No applicable toxicity data

Carcinogenicity

No applicable toxicity data

Reproductive toxicity

No applicable toxicity data

Teratogenicity

No applicable toxicity data

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Glutaraldehyde	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Toxic if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Potential chronic health effects

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (vapors)	12 mg/l

Released to Imaging: 4/22/2025 3:42:03 PM

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Glutaraldehyde	Acute EC50 0.31 ppm Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute EC50 0.75 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 5.4 ppm Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 3.41 ppm	Fish - Oncorhynchus mykiss	97 days
X-CIDE™ 102 INDUSTRIAL BACTERICIDE	EC50 1.8 mg/l	Algae	96 hours
	LC50 43 mg/l	Daphnia	48 hours
	LC50 33 mg/l	Fish	96 hours

Persistence and degradability

Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3265	UN3265	UN3265	UN3265
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Glutaraldehyde)	CORROSIVE LIQUID, ACIDIC, ORGANIC, N. O.S. (Contains: Glutaraldehyde)	Corrosive liquid, acidic, organic, n.o.s. (Contains: Glutaraldehyde)	Corrosive liquid, acidic, organic, n.o.s. (Contains: Glutaraldehyde)
Transport hazard class(es)	8	8	8	8
Packing group	III	III	III	III
Environmental hazards	Yes.	Yes.	No.	No.

Additional information

Released to Imaging: 4/22/2025 3:42:03 PM

Section 14. Transport information

DOT Classification : This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).
The marine pollutant mark is not required when transported by road or rail.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

DOT Reportable Quantity Not applicable.

Marine pollutant Glutaraldehyde

North-America NAERG : 153

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 12(b) one-time export**: No products were found.
TSCA 12(b) annual export notification: No products were found.
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs):

List name	Status	Ingredient name	Name on list	Conc.
United States - Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Listed	Methanol	Methanol	0.1 - 1

SARA 302/304 : No products were found.

SARA 311/312

Classification : Immediate (acute) health hazard

SARA 313

Supplier notification : No products were found.

California Prop. 65

⚠ **WARNING**: This product can expose you to methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Additional information

Released to Imaging: 4/22/2025 3:42:03 PM

This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide ACT (FIFRA) and is therefore exempt from US Toxic Substance Control Act (TSCA) Inventory listing requirements.

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

Following is the hazard information as required on the pesticide label:

DANGER
Harmful or fatal if swallowed. Vapor harmful. Avoid breathing spray mist or vapors. Do not get on skin. Corrosive. Causes eye damage and skin irritations. Do not get in eyes or on clothing. Wear goggles or face shield and rubber gloves when handling. Avoid contamination of food.
This product is toxic to fish and wildlife.

Section 16. Other information

National Fire Protection Association (U.S.A.)

History

Date of printing : 12/17/2019

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Released to Imaging: 4/22/2025 3:42:03 PM

Material Safety Data Sheet
York L

1	Substance/Product Identification

York International
631 S.Richland Ave.
York
PA 17403

2300 James Savage Rd.
Midland, MI 48641
Phone: 989-496-3780
Fax: 989-496-0316

Product Trade Name	**York L**
CAS Number	Confidential.
Synonyms	Confidential.
Preparation/Revision Date	05 October 2002
Generic Chemical Name	Synthetic lubricant
Product Type	Not applicable.
MSDS No.	11664849-1006130-811220-811103

2	Composition/Information on Ingredients

Hazardous Ingredients

This material has no known hazards under applicable laws.

3	Hazards Identification

Symbol(s)	Not applicable.
Product Classification	Not applicable.

4	First Aid Measures

Ingestion	DO NOT INDUCE VOMITING. If conscious, give 2 glasses of water. Get immediate medical attention.
Eyes	Flush with water at least 15 minutes. Get medical attention if eye irritation develops or persists.
Skin	Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse.
Inhalation	Remove exposed person to fresh air if adverse effects are observed.
Additional Information	Note to physician: Treat symptomatically.

5	Fire Fighting Measures

Flash Point	238 Deg C, 460 Deg F COC (Minimum)
Extinguishing Media	CO2, dry chemical, or foam. Water can be used to cool and protect exposed material.
Firefighting Procedures	Recommend wearing self-contained breathing apparatus. Water may cause splattering. Material will float on water.
Unusual Fire & Explosion Hazards	Toxic fumes, gases or vapors may evolve on burning.

6	Accidental Release Measures

Spill Procedures	Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate area if spilled in confined space or other poorly ventilated areas. Prevent entry into sewers and waterways. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material. Check under Transportation and Labeling (DOT/CERCLA) and Other Regulatory Information Section (SARA) for hazardous substances to determine regulatory reporting requirements for spills.

7	Handling and Storage

Maximum Pumping Temperature	Not Determined.
Maximum Handling Temperature	Not Determined.

Handling Procedures	Keep containers closed when not in use. Wash thoroughly after handling. Empty container contains product residue which may exhibit hazards of product.
Maximum Storage Temperature	Not Determined.
Storage Procedures	Store in a cool, dry location.
Loading Temperature	Not Determined.

8	Exposure Controls/Personal Protection

Exposure Limits

Belgium
Not applicable.

EU
Not applicable.

Ireland
Not applicable.

UK
Not applicable.

Other Exposure Limits	Contains synthetic basestock. Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIH STEL of 10 mg per cubic meter for mineral oil mists.
Ventilation Procedures	Use with adequate ventilation.
Hand Protection	Nitrile.
Eye Protection	Safety Glasses.
Respiratory Protection	Under normal use conditions, respirator is not usually required. Use disposable dust/mist mask if the recommended exposure limit is exceeded.
Clothing Recommendation	Long sleeve shirt is recommended.

9	Physical and Chemical Properties

Flash Point	238 Deg C, 460 Deg F COC (Minimum)
Upper Flammable Limit	Not Determined.
Lower Flammable Limit	Not Determined.
Autoignition Point	Not Determined.

Explosion Data	Material does not have explosive properties.
Vapour Pressure	Not Determined.
pH	Not Determined.
Specific Gravity	0.941 (15.6 Deg C)
Water Solubility	Insoluble.
Percent Volatile	Unknown.
Percent VOC	Not Determined.
Vapour Density	Not Determined.
Evaporation Rate	Not Determined.
Odour	Mild
Appearance	Clear liquid.
Viscosity	125 Centistokes (40 Deg C) 12.9 Centistokes (100 Deg C)
Odour Threshold	Unknown.
Boiling Point	Not Determined.
Pour Point Temperature	Not Determined.
Melting / Freezing Point	Not Determined.

The above data are typical values and do not constitute a specification.

10	Stability and Reactivity

Stability	Material is normally stable at moderately elevated temperatures and pressures.
Decomposition Temperature	Not Determined.
Incompatibility	Strong acids. Strong bases. Oxidizing agents.
Polymerization	Will not occur.
Thermal Decomposition	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion.

11	Toxicological Information

-- ACUTE EXPOSURE--

Eye Irritation	Not expected to cause eye irritation. Based on data from similar

	materials.
Skin Irritation	Not expected to be a primary skin irritant. Based on data from similar materials. Prolonged or repeated contact may cause dermatitis.
Respiratory Irritation	If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract similar to that observed with mineral oil. Based on data from similar materials. Under good industrial hygiene practices where all exposure limits are observed, respiratory irritation should not be a problem.
Dermal Toxicity	The LD50 in rabbits is > 2000 mg/Kg. Based on other data or data on similar materials.
Inhalation Toxicity	Not expected to be a toxic inhalation hazard. Based on data available from components or similar materials.
Oral Toxicity	The LD50 in rats is > 5000 mg/Kg. Based on data from similar materials.
Dermal Sensitization	Not expected to cause skin sensitization. Based on data from similar materials.
Inhalation Sensitization	Not expected to cause respiratory tract sensitization. Based on data from similar materials.

-- CHRONIC EXPOSURE--

Chronic Toxicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Carcinogenicity	No data available to indicate any components present at greater than 0.1% may present a carcinogenic hazard.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive Toxicity	No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.
Teratogenicity	No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.
Other	No other health hazards known.

12	**Ecological Information**

-- ENVIRONMENTAL TOXICITY--

Freshwater Fish	Not Determined.

Toxicity	
Freshwater Invertebrates Toxicity	Not Determined.
Algae Toxicity	Not Determined.
Saltwater Fish Toxicity	Not Determined.
Saltwater Invertebrates Toxicity	Not Determined.
Bacteria Toxicity	Not Determined.
Miscellaneous Toxicity	Not Determined.

-- ENVIRONMENTAL FATE--

Biodegradation	Adequate data is not available to estimate the biodegradation potential of this material.
Bioaccumulation	Not determined
Soil Mobility	Not Determined.
WGK	WGK = 2 according to the Water Hazardous Directive, VwVwS, dated May 17, 1999.

13	Disposal Consideration

Waste Disposal	This material, if discarded, should not be considered a European hazardous waste.

14	Transport Information

ICAO/IATA	Not regulated.
IMDG (Ambient)	Not regulated.
IMDG (Elevated)	DO NOT TRANSPORT - ADDITIONAL INFORMATION REQUIRED
IMDG EMS	Not applicable.
IMDG MFAG	Not applicable.
IMO Marine Bulk	DO NOT TRANSPORT - ADDITIONAL INFORMATION REQUIRED
USCG Compatibility	Not determined.

ADR/RID (Ambient)	Not regulated
ADR/RID (Elevated)	DO NOT TRANSPORT - ADDITIONAL INFORMATION REQUIRED
ADR/RID Hazard ID No.	Not applicable.

15	Regulatory Information

Symbol(s)	Not applicable.
Indication of Danger	Not applicable.
Other Label Information	None.
Precautionary Labels	Not applicable.
Switzerland	All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.
Switzerland Bag T Registration Number	Not Registered
U.S. TSCA	All components of this material are on the US TSCA Inventory or are exempt.
U.S. Fuel Registration	Not applicable.
U.S. Dept of Agriculture	This product has not been filed with the USDA to support H2 approvals.
NSF Nonfood Compounds Registration	This product has not been filed with the NSF to support H1 or H2 approvals.
U.S. Tariff Heading Number	3811.29.00.00
Schedule B Number	3811.29.0000
FDA Approval	Not applicable.
EEC EINECS	All components are in compliance with the EC Seventh amendment Directive 92 /32/EEC.
Japan METI	All components are in compliance with the Chemical Substances Control Law of Japan.
Australia	All components are in compliance with chemical notification requirements in Australia.
Canada	All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.
Canadian Registration Number	Not Registered
Korea	All components are in compliance in Korea.
Korean Registration	Not Registered

Number	
Philippines	All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).
Danish Registration Number	Not Registered
Finnish Registration Number	Not Registered
Sweden Registration Number	Not Registered
Norway Registration Number	Not Registered
China	This product may require notification in China.
China Registration Number	Not Registered
New Zealand Registration Number	Not Registered
Malta Registration Number	Not Registered
Ukraine Registration Number	Not Registered

16	**Other Information**

HMIS Codes

Health	Fire	Reactivity
1	1	0

Relevant R Phrases Not applicable.

Revision Indicators This MSDS has no revisions since 05 October 2002

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of The Corporation's knowledge; however, The Corporationmakes no warranty whatsoever, expressed or implied of MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE, regarding the accuracy of such data or the results to be obtained from use thereof.The Corporation assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.

Safety Data Sheet - Molecular Sieves

ZEOCHEM®
A Company of CPH Holding AG

1. PRODUCT AND COMPANY IDENTIFICATION

Supplier Information: Zeochem LLC
1600 W. Hill St.
Louisville, Ky 40210 USA

24 hr. Emergency Phone (Chemtrec US): 1-800-424-9300
Customer Service: 502-634-7600
Fax: 502-634-8133

Product Identifier: Molecular sieves (all grades)

Chemical Names: Synthetic aluminosilicate; zeolite, crystalline, synthetic, nonfibrous
CAS#: 1318-02-1
Product Names: Z3-XX, Z4-XX, Z5-XX, Z10-XX, M-13, Purmol
ZEOX®*, Z12, HYP*, ESIP, ESI 24, XX-GDG

Synonyms: Zeolite (synthetic), Mol Sieve

Uses: Adsorbent/ Desiccant

Form: powder or bead
Color: white, beige, ivory
Odor: none

Document ID: SDS-001
Revision: 5
Date: 2/18/16

2. HAZARDS IDENTIFICATION

GHS-US Classification:

Health	Environmental	Physical
Specific Target Organ Toxicity: Single Exposure Category 3	Acute Toxicity: Not Classified	Not Classified
Skin Irritation: Category 3	Chronic Toxicity: Not Classified	
Skin Sensitization: Not Classified		
Eye: Category 2B		

GHS LABEL:

Signal Word : WARNING

Hazard Statements	Precautionary Statements
H316 – Causes mild skin irritation H320 – Causes eye irritation H335 – May cause respiratory irritation	P261 – Avoid breathing dust/fume/gas/mist/vapors/spray P264 – Wash hands thoroughly after handling P304 & P340 – If inhaled; Remove person to fresh air and keep comfortable for breathing P305 & P351 & P338 – If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P312 – Call Poison Center/Doctor if you feel unwell P227 & P313 – If eye irritation persists; get medical advice/attention P332 & P313 – If skin irritation occurs get medical advice/attention P501 – Dispose of contents/container within all applicable laws and regulations P403 & P223 – Store in well ventilated place / keep container tightly closed

Supplemental Information:

A molecular sieve is an odorless light colored bead, powder, or cake. It is used as an adsorbent for liquids or gases. In its fresh unused state this product is not flammable. Spent or used molecular sieves will need to be handled according to the user SDS for the stream used with the molecular sieves. Some drums of beaded product may be under pressure or vacuum. Use the bung hole to relieve pressure before opening. Upon contact with water this product generates considerable heat up to the boiling point of water. Flood with water to reduce the temperature. Sweep up spills as beaded materials cause surfaces to be slippery.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical characterization: Zeolite, crystalline, synthetic, non fibrous

CAS #	Component	Percent
1318-02-1	Zeolite	75-100
1327-43-1	Magnesium aluminosilicate clay (beaded products only)	0-25

Component Related Regulatory Information: This product may be regulated, have exposure limits or other information identified as the following: Nuisance particulates.

Component Information/Information on Non-Hazardous Components: This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

4. FIRST AID MEASURES

Contact With Eyes: Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

Contact With Skin: Wash thoroughly with soap and water. If irritation develops or persists, get medical attention.

Ingestion: If product is ingested, drink two or three glasses of water to dilute stomach contents. DO NOT induce vomiting. Call a physician immediately.

Inhalation: Move person to fresh air. Get medical attention immediately if exposed person is having difficulty breathing.

First Aid: Notes to Physician This product is an adsorbent/dessicant that generates heat on contact with water. Contact with soft tissue or mucous membranes may cause thermal burns. The used product may have adsorbed hazardous materials. Identify adsorbed materials and treat symptomatically.

5. FIREFIGHTING MEASURES

Product is non flammable

5.1 Extinguisher media
No special measures required. Choose extinguishing media that is suited for the surrounding fire. Water spray, alcohol- resistant foam, dry chemical or carbon dioxide extinguishers are appropriate.

5.2 Special hazards arising from the substance or mixture – Spent or used product may contain adsorbed flammable or otherwise hazardous substances upon exposure to heat or water. Product user must identify adsorbed substances and inform fire-fighters of potential hazards.

5.3 Advice for fire-fighters
Special protective equipment – standard PPE and equipment. Active product gives off heat when exposed to water and can burn tissue. Flush with water to dissipate the heat. If dusty conditions prevail, a dust mask is recommended.

Specific methods – no special methods required

	HMIS	NFPA
Health	1	1
Flammability	0	0
Reactivity	0	1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Personnel not wearing appropriate protective equipment should be excluded from area of spill area until clean-up is complete.

Personal Precautions / Protective Equipment: Cleanup personnel should wear personal protective equipment to avoid product contact with skin and eyes. Personnel should also avoid inhalation exposures. Spills of product in bead form may cause fall hazards.

Environmental Precautions: Do not allow large amounts of product to enter public drainage system or open water courses.

Methods and Materials for Cleanup: Sweep/gather material and place in appropriate container for disposal. Wash spill area thoroughly with a large amount of water. Vacuum or wet methods are preferred. Avoid dust generation during cleanup. Product evolves heat on contact with moisture.

Special Procedures: Product gives off heat when exposed to water.

7. HANDLING AND STORAGE

Handling Procedures: Do not inhale dusts generated from this product. Do not get in eyes. Avoid contact with skin. Wash thoroughly after handling product. Keep product away from moisture. Considerable heat is generated when product is mixed with water.

Storage Procedures: Store in a dry place. Open container slowly to avoid creating or raising dust. Open bung holes on drums before removing the lids to vent and pressure/vacuum. Product shelf life is unlimited if kept dry in an airtight container. To prevent loss of product effectiveness, ensure containers are tightly resealed after opening. Do not return used or unused product to original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL
Zeolite 1318-02-1	10 mg/m3 TWA	3 mg/m3 TWA	15 mg/m3 TWA	5 mg/m3 TWA

Engineering Controls: Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

Monitoring:

PERSONAL PROTECTIVE EQUIPMENT

Eye Protection: Wear safety glasses.

Skin Protection: Cotton gloves recommended. Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves.

Respiratory Protection: If airborne product concentrations exceed applicable exposure limits, wear a NIOSH/MSHA approved respirator.

9. PHYSICAL PROPERTIES

Appearance: Beige, ivory, white powder or bead

Odor: Odorless

pH: @20°C; 9 -11.5 (5% in water)

Melting/Freezing Point: >2900ºF (>1600ºC)

Flash Point: Not applicable

Relative Density: 550-850g/L

Solubility: Insoluble, but will adsorb moisture

Partition Coefficient n-octanol/water: Not available

Auto-ignition Temperature: Not applicable

Decomposition Temperature: Not applicable

VOC Content: Not applicable

Physical State: Solid/Powder

Odor Threshold: Not applicable

Boiling Range: Not determined

Flammability: Not applicable

Flammability Limits: LEL: Not applicable
UEL: Not applicable

Vapor Pressure: Not applicable

Vapor Density: Not applicable

Other Data: Does not soften below 1292°F (700°C)

10. STABILITY AND REACTIVITY

Stability: Product is stable under normal temperature and pressure conditions in sealed containers when kept dry.

Hazardous Decomposition Products: Used product may release adsorbed hazardous materials upon exposure to heat, humid air, or water.

Conditions to Avoid: Product evolves considerable heat upon contact with moist air or water. Used product may contain adsorbed hazardous materials that could be released upon heating or contact with water.

Incompatible Materials: Prevent unintentional contact with water or moisture.

11. TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

A: General Product Information

The following acute toxicity data has been reported for this product:

Oral LD50 rat > 10,000 mg/kg

Dermal LD50 rabbit > 2000 mg/kg

Inhalation LC50 rat > 18.3 mg/L

Short term single exposure unlikely to cause skin irritation. Ingestion, inhalation, or contact with eyes or mucous membranes will cause irritation or thermal burns. Chronic exposure to respirable dust may lead to delayed lung injury such as fibrosis. Asthma and chronic respiratory conditions may be aggravated by exposure to this product.

B: Component Analysis

Magnesium aluminosilicate clay (1327-43-1)

Oral LD50 Rat: >16,000 mg/kg

Carcinogenicity

A: General Product Information

None identified.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Classified	Not Classified	Not Classified	Not Classified	Not Classified	Not Classified

12. ECOLOGICAL INFORMATION

13. DISPOSAL CONSIDERATIONS

US EPA Waste Number & Descriptions

General Product Information:	This product, if discarded as sold, is not expected to be a hazardous waste according to U.S. RCRA regulations. Depending on application, used product may have adsorbed significant quantities of regulated, hazardous or toxic substances. Adsorbed substances may be released during handling and disposal of used product, particularly upon exposure to moisture or heat. Chemical waste generator must determine whether discarded product is classified as a hazardous waste. US EPA guidance for waste classification is given in 40 CFR 261.3.
Component Waste Numbers:	No EPA Waste Numbers are applicable for this product's components.
Disposal Instructions:	Store used product in sealed airtight container to minimize release of adsorbed substances. Waste must be handled in accordance with all federal, state, provincial, and local regulations. Used product may be disposed of in a permitted waste management facility qualified to process the absorbed contaminant(s). Never dispose by means of public sewers or drainage.

14. TRANSPORTATION INFORMATION

US DOT Information

Shipping Name: This material is not regulated as a hazardous material for transportation.
UN Number: Not applicable

TDG Information

Shipping Name: This material is not regulated as a hazardous material for transportation.
UN Number: Not applicable

Non-Hazardous for Air Transport: Non-hazardous for air transport.

IATA Information

Shipping Name: Non-Hazardous for Air Transport: Non-hazardous for air
UN Number: transport.

15. REGULATORYINFORMATION

US Federal Regulations

General Product Information: None identified.
Component Analysis: None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

General Product Information: U.S. state regulations may apply. Check individual state regulations.
Component Analysis: The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Zeolite	1318-02-1	No	No	No	No	No	Yes[1]

Canadian WHMIS Information

General Product Information: Product has a WHMIS classification of D2A.
Component Analysis – WHMIS IDL: No components are listed in the WHMIS IDL.

Additional Regulatory Information

General Product Information: Components of this product have been checked against the non-confidential TSCA inventory by CAS Registry Number. Components not identified on this non-confidential inventory are either exempt from listing (i.e. polymers, hydrates) or are listed on the confidential inventory as declared by the supplier.

Component Analysis: Inventory TSCA = U.S. EPA TSCA non-confidential inventory
CAN = Canadian DSL and NDSL Inventories status
EEC = European Union EINECS and ELINCS Inventories status
No = Not Present on the Designated Inventory(s).

Note: Substances not listed may be automatically included as in the case of naturally occurring substances, hydrates, or may be considered exempt as in the case of certain polymers.

Component	CAS#	TSCA	CAN	EEC
zeolite	1318-02-1	Yes	DSL	EINECS
Magnesium aluminosilicate clay	1327-43-1	Yes	DSL	EINECS

16. OTHER INFORMATION

Other Information

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. As supplied, Zeochem molecular sieves present no hazards beyond those specified on this SDS for unused product.

CAUTION: the user must be aware that this does not necessarily apply to spent product. Depending on the application, significant amounts of regulated, dangerous, hazardous or toxic materials may be adsorbed during normal use. Adsorbed substances can be released during subsequent handling and disposal, especially upon exposure to moisture or heat. The user needs to take appropriate measures for the safe handling and disposal of used product.

Revision History of SDS – this is the initial release of the SDS under the new GHS guidelines.

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; mg/Kg = milligrams per Kilogram; mg/L = milligrams per liter; mg/m3 = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit; TDG = Transport Dangerous Goods; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System; TWA= Time-Weighted Average; TLV =Threshold Limit Values; PEL = Permissible Exposure Limit; RCRA= Resource Conservation and Recovery Act; EEC = Dangerous Substances Directive

This is the end of SDS-001

ENSOLUM

APPENDIX D

DAILY INSPECTION FORM

XTO Energy Inc. Cowboy CDP

Floating Roof Tank Seal & Roof Fitting Inspection Record

☑ mark	☑	VISUAL
		DEGASSED

☑ mark one only	☑	IFR
		EFR

Tank No. _____ Insp. Date _____ Prim Seal Type Mechanical Shoe

Diameter, ft. 100 Prev. Date _____ Secondary Seal Type Rim Mounted

Floating Roof Environmental Compliance

	Yes	No	Date Repaired
Is the roof free of liquid product, oil, or oil stains?			
Is the tank roof floating and level?			
Is this a full contact floating roof?			
If NO, do openings (other than vacuum breakers & rim space vents) have a projection below the liquid surface?			
Is the floating roof deck free of defects?			

Rim Seal System Environmental Compliance

	Yes	No	N/A	Date Repaired
Is the primary seal free of gaps, holes, tears, or defects?				
Is the secondary seal free of gaps, holes, tears, or defects?				
Are the rim seals firmly attached?				
Are the roof seals free of visual abnormalities? (ex. tears, shoe damage, etc.)				
If present, are burnout patches in good condition?				
Does Mechanical Shoe seal extend into liquid & ≥ 24 in. above?				
Does the gauge pole ladder have a sliding wiper/gasketed seal?				
For gauge pole ladder, is there a pole float or flexible fabric sleeve?				

General Environmental Compliance

	Yes	No	NA	Date Repaired
Are all roof openings, manways, covers, lids closed, gasketed, & no visible gaps?				
Are all vacuum breakers closed, gasketed, & no visible gaps?				
Are rim space vents closed, gasketed, & no visible gaps?				
For IFR, are sample wells covered ≥ 90%?				
Are the vacuum breakers set at the same hole position as the roof legs?				
Are the roof drains that drain back into the product 90% covered by a slotted membrane fabric cover?				
Are all pontoon covers in place? (If NO, notify console & facilities supervisor & note if there is any liquid in pontoons)				

If any of the answers above are "NO" please comment: _____

Repair Plans (if applicable)

Plans for making necessary repairs: _____

Safe Operations

	Yes	No	NA	Date Repaired
Are all roof ground cables in the correct position and connected properly?				
Is the roof on its high or low legs? (mark only one)	***HIGH:***		***LOW:***	
Is the ladder on track?				
Are ladder wheels in acceptable condition?				
Are the tank stairs and the platform free of debris, rags, or oil?				
Is the roof free of standing water (other than "bird baths")?				
Is the roof free of sand, grit or other debris (especially near drains)?				
Is the roof free of vegetation?				
Is the roof free of visible heavy corrosion?				

Initial Inspection Signatures

Inspector's Signature: _____ Date: _____

Process Rep's Signature: _____ Date: _____

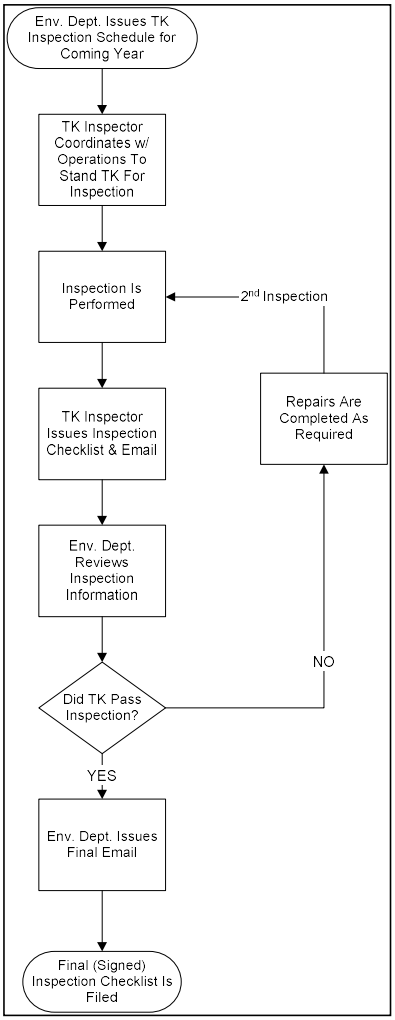
Completion of ALL REPAIRS (if applicable)

All Repairs Completed (initials): _____ Date: _____

Released to Imaging: 4/22/2025 3:42:03 PM

Follow these steps to perform a visual or physical seal inspection on a floating roof tank.

1	The tank inspection group obtains latest version of the annual tank inspection schedule from the Environmental Department.
2	The tank inspection group coordinates with the tank owner/operator to schedule the date of the inspection.
3	The tank owner/operator stands the tank for the time necessary for the inspection. The floating roof must be resting on the product and not on its legs.
4	The tank owner/operator issues all the necessary work permits for the inspection.
5	The tank inspector performs a visual or a physical seal inspection depending on the type of inspection due.
6	All tank seal inspections have a visual inspection process. The visual inspection occurs every six months (EFRs only). IFRs are required to have an annual visual inspection.
7	In addition to the semiannual visual inspections, all EFRs have a physical seal gap measurement made once per year. The physical inspection coincides with one of the semiannual visual inspections.
8	**INSPECTION STEPS**
8-1	IFR floating roof visual inspections shall be conducted by inspecting the floating roof deck, deck fittings, and rim seals from within the storage vessel. The visual inspection may be performed entirely from the top side of the floating roof, as long as there is visual access to all deck components (rims seals and deck fittings).
8-2	(2) Tank-top inspections of IFR's shall be conducted by visually inspecting the floating roof deck, deck fittings, and rim seal through openings in the fixed roof. Any of the following conditions constitutes inspection failure. Identification of holes or tears in the rim seal is required only for the seal that is visible from the top of the storage vessel.
	For IFR visual inspections any of the following conditions constitutes inspection failure.
	(a) Stored liquid on the floating roof.
	(b) Holes or tears in the primary or secondary seal (if one is present).
	(c) Floating roof deck, deck fittings, or rim seals that are not functioning as designed.
	(d) Failure to comply with the operational requirements (ex. roof must be floating on liquid, covers & lids closed, unslotted guidepole caps closed, vacuum breakers closed)
9	A "Safe Operations" check is also made in addition to the seal inspections. Items such as grounding cables, ladders, etc. are checked.
10	The tank inspector records the results of each inspection on the inspection checklist.



\\cbccnas\Share1\Cowboy CDP\1_PSM_SSHE Files\Environmental\Title V records\Tank\IFR Tank Seal Roof Fitting Inspection Cowboy CDP (2) Insp Procedure

ENSOLUM

APPENDIX E

ESTIMATED CLOSURE COSTS

APPENDIX E
CLOSURE COSTS ESTIMATE
XTO ENERGY, INC.
COWBOY CDP TERMINAL
EDDY COUNTY, NEW MEXICO

Task		Amount
Demolition	$	7,300,000.00
HazMat Assessment/Abatement	$	775,000.00
Transportaion and Waste Disposal	$	300,000.00
Project Management	$	450,000.00
Contingency	$	2,600,000.00
Estimated Scrap Steel Credit	$	3,800,000.00
Remediation	$	9,933,675.00
Reclamation	$	2,225,105.00
Total:	$	19,783,780.00

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan-Grisham
Governor

Melanie A. Kenderdine
Cabinet Secretary-Designate

Benjamin Shelton
Deputy Secretary (Acting)

Gerasimos Razatos, Division Director (Acting)
Oil Conservation Division

BY ELECTRONIC MAIL ONLY

April 22, 2025

R. Dale Woodall
XTO Energy, Inc.
3104 E. Green Street
Carlsbad, New Mexico 88220
robert.d.woodall@exxonmobil.com

RE: XTO Energy, Inc. – Notice of an Administratively Complete Discharge Permit Application for Cowboy Central Delivery Point Terminal, Eddy County, New Mexico

Dear Mr. Woodall:

The New Mexico Energy, Minerals and Natural Resource Department's Oil Conservation Division (OCD) has reviewed the amended discharge permit application dated April 14, 2025, and submitted to the OCD on April 14, 2025, for the XTO Energy, Inc. (XTO) Cowboy Central Delivery Point Terminal located in Eddy County, New Mexico. OCD has determined that the amended discharge permit application is administratively complete.

Given OCD's determination, XTO must provide public notice within 30 days of receipt of this letter (i.e., May 22, 2025) in accordance with the requirements of 20.6.2.3108(B) NMAC to the general public in the locale of the Facility by each of the methods listed below:

1. Prominently posting a synopsis of the public notice at least 2 feet by 3 feet in size, in English and in Spanish, at the main entrance to the Facility and at the Carlsbad, New Mexico Post Office for 30 days;

2. Providing written notice of the discharge by mail or electronic mail, to owners of record of all properties within a 1/3 mile distance from the boundary of the property where the discharge site is located; if there are no properties other than properties owned by the discharger within a 1/3 mile distance from the boundary of property where the discharge site is located, XTO shall provide notice to owners of record of the next nearest adjacent properties not owned by the discharger;

3. Providing notice by certified mail, return receipt requested, to the owner of the discharge site if XTO is not the owner; and

Released to Imaging: 4/22/2025 3:42:03 PM

4. Publishing a synopsis of the notice in English and in Spanish, in a display ad at least three inches by four inches not in the classified or legal advertisements section, in the *Carlsbad Current-Argus*.

Within 15-days of completion of the public notice requirements in 20.6.2.3108(B) NMAC, XTO must submit to the OCD proof of the notice, including affidavit of mailing(s) and the list of property owner(s), proof of publication, and an affidavit of posting, as appropriate.

Also, as part of the discharge permit application, XTO was required to submit a Closure/Post Closure Plan for OCD approval. OCD has reviewed this plan and hereby approves the Closure/Post Closure Plan. The financial assurance (FA) associated with this plan is $19,783,780.00. The FA must be on OCD prescribed forms, or forms otherwise acceptable to the OCD, payable to the OCD. Bond forms can be found at the bottom of OCD's Forms Page located at https://www.emnrd.nm.gov/ocd/ocd-forms/. The FA is due to the OCD within 30 days of email receipt of this letter (i.e., May 22, 2025).

If you have any questions, please do not hesitate to contact me by email at joel.stone@emnrd.nm.gov or by phone at (505) 709-5149. On behalf of the OCD, I wish to thank you and your staff for your cooperation during this process.

Respectfully,

Joel Stone

Joel Stone
Environmental Scientist & Specialist-Advanced

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 451605

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 451605
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
joel.stone	OCD emailed the discharge permit application approval letter to the operator on April 22, 2025. The emailed approval is attached to this application.	4/22/2025