GW - 175

PERMITS, RENEWALS, & MODS Application

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John Bemis
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

AUGUST 14, 2012

Mr. Matt Findley
DCP Midstream
370 17th Street
Suite 2500
Denver, CO 80202

Dear Mr. Findley:

Based on your responses given in the "Oil & Gas Facilities Questionnaire for Determination of a WQCC Discharge Permit" and a file review, the Oil Conservation Division (OCD) has determined that six of your facilities with an expired or soon to be expired permit do not require a Water Quality Control Commission (WQCC) Discharge Permit. This means that the WQCC Discharge Permits **GW – 002** (DCP - Former Lee GP), **GW – 044** (DCP - Hobbs CS), **GW – 175** (DCP - Hobbs FGP), **GW – 287** (DCP - Pardue CS), **GW – 128** (DCP - South Hat CS), and **GW – 150** (DCP - Pure Gold 28 CS) are either hereby rescinded or will be allowed to expire and you are not required to proceed with the renewal of these expired or soon to expire WQCC Discharge Permits. OCD will close these permits in its database.

Previously, DCP has conducted abatement of ground water contamination at three of its facilities under the authority of its WQCC Discharge Permits, pursuant to 20.6.2.4000 through 20.6.2.4115 NMAC (PREVENTION AND ABATEMENT OF WATER POLLUTION). OCD has determined that DCP does not intentionally discharge at these three facilities; therefore, no WQCC Discharge Permits are required. However, because of existing ground water contamination at these three facilities, OCD is requiring DCP to continue to abate pollution of ground water pursuant to 19.15.30 NMAC (REMEDIATION). The new Abatement Plan case number for the former **GW – 002** facility is **AP - 109**, the new Abatement Plan case number for the former **GW - 044** facility is **AP – 114**, and the new Abatement Plan case number for the former **GW - 175** facility is **AP – 122**. Please use these Abatement Plan case numbers in all future correspondence. Please contact Glenn von Gonten at 505-476-3488 to discuss how DCP may complete abatement of the remaining ground water contamination at these facilities.

Because this WQCC Discharge Permit is no longer valid, you may be required to obtain a separate permit(s) for other processes at your facility, such as: pits, ponds, impoundments, below-grade tanks; waste treatment, storage and disposal operations; and landfarms and landfills. OCD will make an inspection of your facility to determine if any of these existing processes may require a separate permit under OCD's Oil, Gas, and Geothermal regulations. If OCD determines that a separate permit(s) is required, then a letter will be sent to you indicating what type of permit is required.

Please keep in mind, if your facility has any discharges that would require a WQCC Discharge Permit now or in the future, then you will be required to renew or obtain a WQCC Discharge Permit. If you have any questions regarding this matter, please contact Glenn von Gonten at 505-476-3488.

Thank you for your cooperation.

Jami Bailey
Director

JB/gvg

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, January 22, 2008 4:53 PM
To: 'Klein, Elisabeth A'
Cc: Price, Wayne, EMNRD
Subject: FW: DCP Midstream, LP Status of Discharge Plans (Active, Inactive & Closed) & Other Miscellaneous Discharge Plans
Attachments: GW-150 DP.tif

Elisabeth:

Re: DCP Midstream LP Letter of January 31, 2007 Renewal of Expired Discharge Plans as Requested by Carl Chavez & Other DPs currently being processed

Hi. Please find below the status of the DPs, etc. that were included in the above referenced letter.

1) Pure Gold "28" CS (GW-150): The permit expired on 11/22/2003 and is still active. Our records reflect a draft permit was issued to ConocoPhillips (COP) on January 23, 2004, but the final permit was never signed and returned to OCD with the $1,700 flat fee. Please find attached a copy of the permit (COP), please sign and return the final permit with the $1,700 to OCD. We apologize for the changes; however, considering the situation, it is the most expedient means of resolving the discharge plan for the facility.

2) Rambo C.S. (formerly Avalon Gas Plant) (GW-24): The permit expired on 9/18/2005 and is listed as inactive. According to your letter the OCD received the pit closure reports and analytical results required by the OCD's April 7, 2004 approval letter and were provided in your letter. The OCD requests to know the status of operations at the facility? Does DCP Midstream, LP wish to close the facility? If so, the OCD needs a closure plan. The OCD requires inactive facilities to submit a closure plan, unless it plans to continue operations, which will require a discharge plan renewal.

3) Apex C.S. (GW-163): Currently in litigation.

4) Hobbs Gas Plant (GW-175) currently in litigation.

5) Eunice Gas Plant (GW-16): According to OCD records GW-009 and GW-016 were merged into GW-16. The permit expires 4/25/2009 and is active. No action needed at this time.

6) CP-1 C.S. (GW-139): The permit was closed.

7) Indian Hills Gas Plant (GW-42): OCD records indicate that the facility is inactive. The OCD requests the status of the facility and if it is inactive, we request a closure plan. The OCD will be conducting an inspection of this facility.

Discharge Plan Renewals processed tomorrow are:

1) Hobbs Booster Station (GW -44): OCD records indicate that the facility is active with an expiration date of 12/27/2007. A $100 filing fee was received and determined to be administratively complete and OCD will issue public notice, a draft discharge plan, and administratively complete letter on its website tomorrow. The facility is closed and only remediation activities are ongoing at present.

2) Magnum C.S. (GW-127): OCD records indicate that the facility is active with an expiration date of 2/3/2008. A $100 filing fee was received and determined to be administratively complete and OCD will issue public notice, a draft discharge plan, and administratively complete letter on its website tomorrow.

3) Carrasco C.S. (GW-137): OCD records indicate that the facility is active with an expiration date of 4/28/2008.

A $100 filing fee was received and determined to be administratively complete and OCD will issue public notice, a draft discharge plan, and administratively complete letter on its website tomorrow.

4) Pardue C.S. (GW-288): OCD records indicate that the facility is active with an expiration date of 11/24/2007. A $100 filing fee was received and determined to be administratively complete and OCD will issue public notice, a draft discharge plan, and administratively complete letter on its website tomorrow. DCP Midstream, LP is in the process of completing a closure plan and will submit it prior to completion of closure.

DCP Midstream, LP Discharge Plans awaiting final signature of discharge plan with $1,700 final fee:

1) Northeast Carlsbad C.S. (GW-280)

Miscellaneous Discharge Plans:

1) Lee C.S. (GW-227): The permit expired on 12/28/2005 and is listed as inactive. Also, our records show LG&E Hadson Gillespie/Feagan C.S. for the facility name. According to an OCD e-mail msg. dated 12/21/2006, and DPC correspondence dated 12/28/2006, the facility was going to remain inactive and a closure plan was to be submitted to permanently close the facility. Upon receipt of the closure plan info. and verification that no contamination exists at the facility, and some photos to display what the site currently looks like, the OCD was going to consider closure of the facility. The OCD requests to know the status of operations at the facility?

Please provide me with an update on each of the above items and contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3491
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

From: Chavez, Carl J, EMNRD
Sent: Thursday, January 17, 2008 2:27 PM
To: 'Klein, Elisabeth A'
Subject: Northeast Carlsbad Compressor Station (GW-280) Signed Discharge Plan w/ $1,700.00 Renewal Fee

Ms. Klein:

Good afternoon. I am now working on DCP Midstream L.P. applications, etc.

NMOCD records show that we never received the final signed DP for GW-280 (NE Carlsbad C.S.) with the $1,700.00 renewal fee. NMOCD mailed a letter with the attached final discharge plan for DCP Midstream L.P.'s signature and remittance w/ final payment; however, we did not receive it. Please locate the final discharge plan that was dated June 13, 2007, sign it, and remit it to me with the final $1,700.00 renewal fee so we may update our records and finalize the permit at this facility.

I have been in receipt of DCP Midstream L.P. Discharge Plans (GWs-24, 44, 127, 137, 150, and 288). I am planning to process them by next Wednesday, January 23, 2008. I will let you know if I need anything based on my review.

Please contact me if you have questions. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.

Oil Conservation Division, Environmental Bureau
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E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

Price, Wayne

From: Price, Wayne

Sent: Tuesday, February 05, 2002 12:08 PM

To: 'Bishop, Mark A.'

Subject: RE: Non-exempt waste disposal for Conoco CG&P

OCD hereby approves of your request and will place a copy of this approval in each Discharge Plan.

-----Original Message-----
From: Bishop, Mark A. [mailto:Mark.A.Bishop@conoco.com]
Sent: Tuesday, February 05, 2002 11:24 AM
To: WPrice@state.nm.us
Subject: Non-exempt waste disposal for Conoco CG&P facilities

Mr. Price,

A reevaluation of preferred non-exempt waste handling facilities has been completed for southeast New Mexico and a team of Conoco personnel has chosen Sundance waste handling facility at Eunice, NM to be our primary non-exempt waste handling facility. Controlled recovery Inc. will be the secondary facility. We would like to amend the following OCD Groundwater discharge permits to include the Sundance facility for disposal of non-exempt fluids. Thank you for your consideration of our request

Maljamar Gas Plant	GW-020
Maljamar Area Blanket OCD permit	
Antelope Ridge Gas Plant	GW-162
Hobbs Gas Plant	GW-175
Apex compressor Station	GW-163
Bootleg Compressor Station	GW-176
Bright /Yates Compressor Station	GW-160
Cedar Canyon Compressor Station	GW-296
Cal-Mon Compressor Station	GW-143
NE Carlsbad Compressor Station	GW-280
Cotton Draw Compressor Station	GW-311
Hat Mesa Compressor Station	GW-316
Lee Compressor Station	GW-227
Pardue Compressor Station	GW-288
Pure Gold Compressor Station	GW-150
Malaga Compressor Station	GW-167

Mark Bishop
Environmental Specialist
Conoco Inc. CG&P
SE New Mexico Operating Unit
505-391-1956

Price, Wayne

From: Price, Wayne
Sent: Thursday, August 30, 2001 4:18 PM
To: 'mark.a.bishop@usa.conoco.com'
Cc: Williams, Chris
Subject: Conoco inspection frequency for GW-143,150,162,163,167,175,227, and 316

Dear Mr. Bishop:

The OCD is in receipt of Conoco's letters dated 04/06/2001 requesting a change in inspection frequency for the above captioned facilities.
Your request is hereby approved.

Please be advised that NMOCD approval of this request does not relieve Conoco Inc. of responsibility should their closure activities pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve Conoco Inc. of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Tracking:	**Recipient**	**Delivery**
	'mark.a.bishop@usa.conoco.com'	
	Williams, Chris	Delivered: 8/30/01 4:18 PM

Compliance Services

Phone (505) 391-7797
1220 N. Grimes, Hobbs, NM 88240

Fax (505) 391-7954
Cell (505) 370-5924

June 01, 2000

LG & E Natural
Gathering and Processing Co.
921 W. Sanger
Hobbs, NM 88240

Hobbs Plant Stormwater Discharge Plan & SPCC Plan Determination

The following is the determination for the need of a *Stormwater Discharge Plan*, and the need for a *Spill Prevention Control and Countermeasure* (SPCC) plan for the Hobbs Plant. It is prepared in accordance with federal, state, and local laws and regulations.

Storm Water Discharges Associate with Industrial Activity 40 C.F.R. 122.26(b)(14)

The term "Storm Water Discharges Associated with Industrial Activity" defined in federal regulations 40 CFR 122.26(b)(14)(i)-(xi), determined which industrial facilities are potentially subject to Phase I of the storm water program. Facilities subject to the program must apply for a permit. The definition uses either SIC (Standard Industrial Classification) codes or narrative descriptions to characterize the activities. Note that categories iii, viii, and xi have special conditions, or exceptions which may make a facility NOT subject to the program, and therefore not required to apply, even though the facility's activity matches one of the SIC codes category (i) Facilities subject to storm water effluent limitations guideline, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi)). These types of facilities include the following:

40 CFR Subchapter N
==========

SIC Code
10 metal mining (metallic mineral/ores)
12 coal mining
13 oil and gas extraction
14 non-metallic minerals except fuels

Oil and gas operations that discharge contaminated storm water at any time between November 16, 1987 and October 1, 1992, and that are currently not authorized by an NPDES permit, must apply for a permit. Operators of oil and gas exploration, production, processing, or treatment operations or transmission facilities, that are not required to submit a permit application as of October 1, 1992 in accordance with 40 CFR 122.26(c)(1)(iii), but that after October 1, 1992 have a discharge of a reportable quantity of oil or a hazardous substance (in a storm water discharge) for which notification is required pursuant to either 40 CFR 110.6, 117.21, or 302.6, must apply for a permit.

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Storm Water Discharge Plan Determination

Since LG & E Natural has not had a discharge at this facility of a reportable quantity of oil or a hazardous substance (in a storm water discharge) for which notification is required pursuant to either 40 CFR 110.6, 117.21, or 302.6, a storm water discharge plan is not required for the Hobbs Plant.

SPCC Regulations

An SPCC plan must be prepared by all facilities subject to regulation. This plan is to help prevent any discharge of oil into navigable waters or adjoining shorelines. The main thrust of the SPCC regulations is prevention as opposed to after-the-fact reactive measures commonly described in Spill Contingency Plans.

Facilities regulated by the SPCC regulations

There are three criteria a facility must meet to be regulated by the SPCC regulations. These criteria are

1. the facility must be non-transportation related,
2. the facility must have an aboveground storage capacity greater than 660 gallons in a single container **or** an aggregate storage capacity greater than 1,320 gallons **or** a total underground storage capacity greater than 42,000 gallons, and
3. there must be a reasonable expectation of a discharge to navigable waters or adjoining shorelines.

Non-transportation related facilities

These facilities (including all equipment and appurtenances) may include, but are not limited to:

- Fixed onshore and offshore oil well drilling facilities;
- Mobile onshore and offshore oil well drilling platforms, barges, trucks or other mobile facilities;
- Fixed onshore and offshore oil production structures, platforms, derricks and rigs;
- Mobile onshore and offshore oil production facilities;
- Oil refining or storage facilities;
- Industrial, commercial, agricultural, or public facilities that use, store, drill for, produce, gather, process, refine or consume oil or oil products;
- Waste treatment facilities;
- Loading areas/racks, transfer hoses, loading arms and other equipment that are appurtenant to a non-transportation related facility;
- Highway vehicles and railroad cars used to transport oil exclusively within the confines of a non-transportation related facility; and

Phone (505) 391-7797
1220 N. Grimes, Hobbs, NM 88240
Fax (505) 391-7954
Cell (505) 370-5924

- Pipeline systems used to transport oil exclusively within the confines of a non-transportation related facility.

Oil storage capacity defined

Oil storage includes all containers storing oil at a facility. The **capacity** of the containers (maximum volume) must be considered and **not** the actual amount of product stored in the container (operational volume). Oil storage containers include, but are not limited to,

- tanks,
- containers,
- pails,
- drums,
- quart containers,
- transformers,
- oil-filled equipment, and
- mobile or portable totes.

A facility may be subject to SPCC regulations if they have at least one of the following oil storage capacities:

- If a facility has one aboveground oil storage container greater than 660 gallons; **or**
- If a facility has a total aboveground oil storage capacity greater than 1,320 gallons; **or**
- If a facility has a total underground oil storage capacity of greater than 42,000 gallons.

Under the SPCC regulations, oil is defined as

> "oil of any kind or in any form including, but not limited to, petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes other than dredged spoil and oily mixtures."

This also includes non-petroleum oils, animal and vegetable oils.

Discharge of oil into or upon navigable waters or adjoining shorelines

This determination is based upon a consideration of the geographical and locational aspects of the facility. The location of the facility must be considered in relation to streams, ponds and ditches (perennial or intermittent), storm or sanitary sewers, wetlands, mudflats, sandflats or farm tile drains. The distance to navigable waters, volume of material stored, worst case weather conditions, drainage patters, land contours, soil conditions, etc., must also be taken into account. Further, according to the regulations, this determination shall **not** include consideration of man-made features such as dikes, equipment or other structures that may serve to restrain, hinder, contain or **prevent** an oil discharge.

Compliance Services

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Fax (505) 391-7954
Cell (505) 370-5924

Determination of Need for SPCC

Under the above definitions (from the regulations) the possibility for the discharge of oil into or upon navigable waters or adjoining shorelines, the Hobbs Plant Compressor Station does not require a SPCC plan. Considering the location of the facility in relation to streams, ponds and ditches (perennial or intermittent), storm or sanitary sewers, wetlands, mudflats, sandflats or farm tile drains, the distance to navigable waters, volume of material stored, worst case weather conditions, drainage patters, land contours, and soil conditions, a discharge of oil into or upon navigable waters or adjoining shorelines is virtually impossible.

Persons making this determination are:

Dyke Browning
Registered Environmental Manager #7771
Certified Environmental Inspector #12441

Lee Hinman
Registered Professional Engineer
Texas #75230

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 2/23/00,

or cash received on _____ in the amount of $ 1,667.50

from LG+E

for HOBBS GAS PLANT (Facility Name) GW-175 (DP No.)

Submitted by: WAYNE PRICE Date: 2/25/00

Submitted to ASD by: [signature] Date: "

Received in ASD by: _____ Date: _____

Filing Fee ___ New Facility ___ Renewal ✓

Modification ___ Other _____ (specify)

Organization Code 521.07 Applicable FY 2000

To be deposited in the Water Quality Management Fund.

Full Payment ✓ or Annual Increment ___

THIS CHECK IS VOID WITHOUT A COLORED BACKGROUND AND AN ARTIFICIAL WATERMARK CERTIFICATION SEAL ON THE BACK - HOLD AT ANGLE TO VIEW SEAL

LG&E Natural Gathering & Processing
2777 Stemmons Frwy, Suite 1700
Dallas TX 75207

PNC Bank, National Association
Jeannette PA
[redacted]
60-162
433

Date	Amount
02/23/00	$*****1,667.50

Pay ONE THOUSAND SIX HUNDRED SIXTY SEVEN AND 50/100 ********** Dollars

TO THE ORDER OF
WATER QUALITY MANAGEMENT FUND
STATE OF NEW MEXICO
PO BOX 2088
SANTA FE NM 87504-2088

GW-175

Patricia A. Lockwood

SIGNATURE HAS A COLORED BACKGROUND • BORDER CONTAINS MICROPRINTING

U.S. PATENT NO. 5538290;5575508;5641183

[redacted]

LG&E Natural Gathering & Processing

GW-175

PNC Bank, National Association

STUB 1 OF 1

CHECK NO: [redacted]

DATE: 02/23/00

INVOICE NUMBER	DATE	PAYMENT ADVICE	GROSS	DISCOUNT	NET
REQ021700	02/17/00		1,667.50		1,667.50
67184 WATER QUALITY MANAGEMENT FUND		TOTALS	1,667.50		1,667.50

ATTACHMENT TO THE DISCHARGE PLAN RENEWAL GW-175
LG&E NATURAL GATHERING AND PROCESSING CO.
HOBBS GAS PLANT
DISCHARGE PLAN APPROVAL CONDITIONS
(February 4, 2000)

1. Payment of Discharge Plan Fees: The $50.00 filing fee has been received by the OCD. There is a required flat fee equal to one-half of the original flat fee for natural gas plants. The renewal flat fee required for this facility is $1,667.50 which may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the discharge plan, with the first payment due upon receipt of this approval.

2. LG&E Natural Gathering and Processing Co. Commitments: LG&E Natural Gathering and Processing Co. will abide by all commitments submitted in the discharge plan renewal application dated October 18, 1999 and these conditions for approval.

3. Waste Disposal: All wastes will be disposed of at an OCD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261.

4. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.

5. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.

6. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.

7. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.

8. Labeling: All tanks, drums and containers will be clearly labeled to identify their contents and other emergency notification information.

9. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must demonstrate integrity on an annual basis. Integrity tests include pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing.

10. Underground Process/Wastewater Lines: All underground process/wastewater pipelines must be tested to demonstrate their mechanical integrity every 5 years. The permittee may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing.

11. Class V Wells: No Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be closed unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

12. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.

13. Spill Reporting: All spills/releases will be reported pursuant to OCD Rule 116 and WQCC 1203 to the OCD Hobbs District Office.

14. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of a facility with an approved discharge plan. A written commitment to comply with the terms and conditions of the previously approved discharge plan must be submitted by the purchaser and approved by the OCD prior to transfer.

15. Storm Water Plan: The facility will have an approved storm water run-off plan.

16. Closure: The OCD will be notified when operations of the Hobbs Gas Plant are discontinued for a period in excess of six months. Prior to closure of the Hobbs Gas Plant a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.

17. Certification: LG&E Natural Gathering and Processing Co., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. LG&E Natural Gathering and Processing Co. further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Accepted:

LG&E NATURAL GATHERING AND PROCESSING CO.

by _____
Title

5/92

State . exico
Energy, Minerals and Na. d Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS, OIL REFINERIES AND GAS COMPRESSOR STATIONS

(Refer to OCD Guidelines for assistance in completing the application.)

Renew Discharge Plan # GW-175

I. **TYPE:** Natural. Gas Processing Plant

II. **OPERATOR:** LG&E Natural Gathering and Processing Co.

ADDRESS: 921 W. Sanger, Hobbs, NM 88240

CONTACT PERSON: Ed Sloman **PHONE:** 505-393-2153

III. **LOCATION:** SW /4 NE /4 Section 36 Township 18 S Range 36 E
Submit large scale topographic map showing exact location.

There has been no significant changes in this facility since the original Discharge Plan

IV. Attach the name and address of the landowner(s) of the disposal facility site.

V. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

VI. Attach a description of sources, quantities and quality of effluent and waste solids.

VII. Attach a description of current liquid and solid waste transfer and storage procedures.

VIII. Attach a description of current liquid and solid waste disposal procedures.

IX. Attach a routine inspection and maintenance plan to ensure permit compliance.

X. Attach a contingency plan for reporting and clean-up of spills or releases.

XI. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.

XII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

XIII. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: John R. Delaney Title: General Manager

Signature: [signature] Date: 10/18/99

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.

5/92

State of New Mexico
Energy, Minerals and Natural Resources Department
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87501

OIL CONSERVATION DIVISION RECEIVED
'94 SEP 7 AM 8 50

DISCHARGE PLAN APPLICATION FOR NATURAL GAS PROCESSING PLANTS, OIL REFINERIES AND GAS COMPRESSOR STATIONS

(Refer to OCD Guidelines for assistance in completing the application.)

I. TYPE: NATURAL GAS PROCESSING PLANT

II. OPERATOR: MINERALS INC.

ADDRESS: 921 W. Sanger, Hobbs, New Mexico 88240

CONTACT PERSON: Mr. J. R. Delaney PHONE: 505-393-2153

III. LOCATION: SW /4 NE /4 Section 36 Township 18 S Range 36 E
Submit large scale topographic map showing exact location.

IV. Attach the name and address of the landowner(s) of the disposal facility site.

V. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

VI. Attach a description of sources, quantities and quality of effluent and waste solids.

VII. Attach a description of current liquid and solid waste transfer and storage procedures.

VIII. Attach a description of current liquid and solid waste disposal procedures.

IX. Attach a routine inspection and maintenance plan to ensure permit compliance.

X. Attach a contingency plan for reporting and clean-up of spills or releases.

XI. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact fresh water. Depth to and quality of ground water must be included.

XII. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.

XIII. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: J. R. Delaney Title: General Manager of Operations

Signature: [signature] Date: 9-6-94

DISTRIBUTION: Original and one copy to Santa Fe with one copy to appropriate Division District Office.

I.

The major purpose of this facility, The Minerals, Hobbs Gas Plant, is the processing of natural gas.

We will be taking gas into the plant from our pipeline. The gas will then be compressed to a higher pressure in preparing for the processing. The gas will then be processed by cryogenics.

After processing, the clean, dry, natural gas will be sent by pipeline to our Apex Compressor Station where it will be compressed and dispursed to various markets. The gas will be sold via these competitive markets.

The NGL resulting from the processing, will be sold into an NGL pipeline.

II.

The Owner/Operator of the facility will be:
Minerals Inc. (505) 393-2153
921 W. Sanger
Hobbs, New Mexico 88240

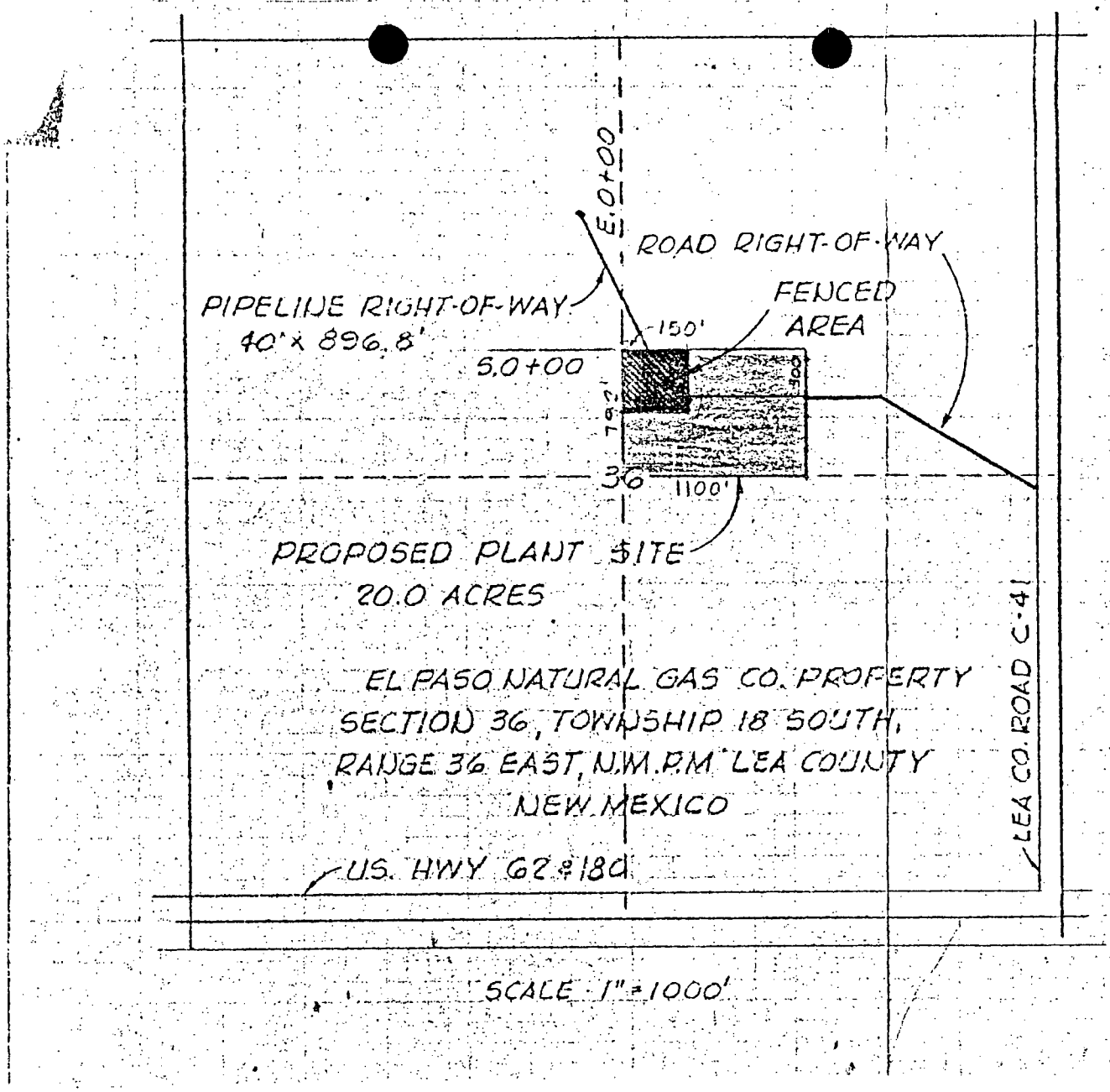
Mr. J. R. Delaney (505) 393-2153
Manager; Operations
921 W. Sanger
Hobbs, New Mexico 88240

The name of this facility is "The Minerals, Hobbs Gas Plant."

III.

Location: SW/4, of NE/4, Section 36, Township 18 S, Range 36 E, NMPM, LEA County, New Mexico:

Please find a copy of Survey Plat, Lease Agreement, and plate site plat attached. All legal land descriptions are contained in these attachments.


E.0+00
ROAD RIGHT-OF-WAY
PIPELINE RIGHT-OF-WAY
40' x 896.8'
FENCED
AREA
150'
5.0+00
300'
792'
36
1100'
PROPOSED PLANT SITE
20.0 ACRES
EL PASO NATURAL GAS CO. PROPERTY
SECTION 36, TOWNSHIP 18 SOUTH,
RANGE 36 EAST, N.M.P.M. LEA COUNTY
NEW MEXICO
US. HWY 62 & 180
LEA CO. ROAD C-41
SCALE 1" = 1000'

Misc BOOK 347 PAGE 738

43627

LEASE AGREEMENT

STATE OF NEW MEXICO

COUNTY OF LEA

THIS LEASE AGREEMENT made and entered into as of March 1, 1978, by and between EL PASO NATURAL GAS COMPANY (hereinafter referred to as "Lessor"), a Delaware corporation whose address is P. O. Box 1492, El Paso, Texas 79978, and MINERALS, INC. (hereinafter referred to as "Lessee"), a New Mexico corporation whose address is P. O. Drawer 1320, Hobbs, New Mexico 88240.

W I T N E S S E T H:

1. Lessor hereby demises, grants and leases to Lessee the following described tract of land situated in Lea County, New Mexico, to wit:

A tract of land containing 20.00 acres, more or less, being a certain part of the Northeast Quarter of Section 36, Township 18 South, Range 36 East, N.M.P.M., Lea County, New Mexico, and is more particularly described as follows:

Beginning at a point South 1848 feet, and South 89°58'30" West 1,543.04 feet from the Northeast corner of the said Section 36; thence South 0°00'30" West a distance of 792 feet; thence, South 89°58'30" West a distance of 1,100 feet; thence, North 0°00'30" East a distance of 792 feet; thence, North 89°58'30" East a distance of 1,100 feet to the point of beginning.

upon the terms and conditions as hereinafter specified:

2. The term of this lease shall be for a period of twenty (20) years beginning the 1st day of March, 1978, subject, however, to termination and cancellation as hereinafter provided.

3. Lessee agrees to pay to Lessor as rental for the leased premises the sum of Two Thousand Dollars ($2,000.00) per year during the term of this lease, due and payable on or before March 1 of each year.

4. This lease shall be for the purpose of constructing, maintaining and operating on the leased premises a natural gas processing plant and for the construction, maintenance and operation on the leased premises of buildings, structures, pipelines, roads and such other facilities and appurtenances as are or may be used or useful in connection with the maintenance and operation of Lessee's natural gas processing plant. Lessee shall also have the right of ingress to and egress from the leased premises across lands owned by Lessor adjoining the leased premises.

5. Lessee will at all times during the continuation of this lease maintain a fence around all improvements on the leased premises of such construction as to turn livestock, but Lessee may maintain such gates for entry to and egress from the leased premises as in its sole discretion it deems necessary, provided such gates are of such construction as to prevent the passage of livestock over or through them.

6. Lessee agrees to keep the leased premises in a neat, clean and respectable condition and free from the unsightly storage of materials and equipment which will not be used in connection with Lessee's natural gas processing plant.

7. This lease is subject to the terms of all outstanding valid oil, gas and mineral leases of record; and all oil, gas and mineral conveyances of record; and to all easements and rights of way of record.

8. It is understood that the described 20-acre tract to be leased is presently encumbered by an Indenture of Mortgage to Manufacturers Hanover Trust Company. Lessor agrees to take, as expeditiously as possible, the necessary action to obtain a release from said Mortgage insofar as it pertains to the property to be leased hereunder.

9. Lessor expressly reserves the right to lay pipelines across and/or to drill water wells on the 20 acres subject to this lease; provided, however, that the exercise of such rights shall be subject to Lessee's facilities, and provided further, that Lessor shall not lay any pipeline or drill any well until after Lessee has been given written notice of Lessor's intent to do so and until after Lessor has consulted with and reached an agreement with Lessee as to the location of such pipeline or well.

10. Lessee shall remain owner of and without payment of additional rental or other consideration shall have the right to remove from the leased premises within six (6) months after the expiration of this lease or after the

termination or cancellation hereof, as hereinafter provided, any and all buildings, structures, facilities, pipelines and equipment placed or installed thereon by Lessee, and all such property, as between the parties shall be considered as severed from the realty. If, upon such expiration or termination or cancellation of this lease Lessee is so requested in writing by Lessor, it will undertake to return the leased premises as nearly as is reasonably practicable to the condition in which they were when received by Lessee, but Lessee shall not be required to take up or remove any concrete slabs, foundations or other similar structures.

11. Lessee is hereby granted an option to renew this lease for an additional term of twenty (20) years upon the same terms and conditions herein specified. In the event Lessee elects to exercise this option of renewal, Lessee shall give Lessor written notice of such election at least three (3) months prior to the expiration date of this lease.

12. Lessee shall pay all taxes which may be levied upon the improvements and structures placed upon the leased premises by Lessee, plus any increase in taxes or new taxes or assessments assessed against Lessor's interest in the land over the amount paid by Lessor for the calendar year 1977, until such time as this lease expires or is terminated or cancelled. Lessor shall pay all taxes levied on its interest in land not to exceed the amount paid for such taxes for the calendar year 1977.

13. If Lessee should fail to perform any obligation imposed on Lessee under the terms of this agreement, Lessor shall notify Lessee of such failure. If the defect or default is not cured or remedied within thirty (30) days after receipt of such notification, Lessor, at its option may seek specific performances, damages or if Lessee's default is failure to pay rent, termination of this lease.

14. Lessor hereby acknowledges that Lessee's rights hereunder will be subject to a Leasehold Mortgage in favor of Manufacturers Hanover Trust Company and agrees to accept performance by Manufacturers Hanover Trust Company of any of Lessee's obligations hereunder and to allow Manufacturers Hanover Trust Company to cure any default of Lessee hereunder.

15. Lessee shall have the right to terminate and cancel this lease at any time prior to its expiration by giving ninety (90) days prior written notice to the Lessor of Lessee's intention to so terminate. In the event of such termination and cancellation, Lessee shall be under no further obligations to Lessor under the provisions of this lease, except as specifically provided for in Paragraph 10 above, and Lessor shall not be obligated to refund any portion of the consideration paid for this lease.

16. Lessee agrees to indemnify, protect, defend and save harmless Lessor, its directors, officers, agents and employees, from all and every kind and character of damages, losses, expenses, demands, claims and causes of action on account of personal injuries, death claims, or damages to property brought by any employee, agent or representative of Lessee, Lessor or any other third-party caused by any act of Lessee or Lessee's agent or employee, or arising directly or indirectly out of Lessee's exercise of any rights granted herein.

17. All notices necessary to be given under the terms of this lease shall be given in writing and addressed as follows:

Minerals, Inc.
P. O. Drawer 1320
Hobbs, New Mexico 88240

El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978
Attention: Director, Right of Way Department

or such other address as either party hereto may timely designate by written notice to the other party. All notices hereunder shall be deemed to have been given when properly addressed and deposited in the United States mail, with adequate postage paid.

18. Lessor covenants and agrees with Lessee that Lessor has good title to said leased premises and has the right and authority to lease the same to Lessee, and that Lessee shall have and hold peaceable possession of said premises during the term of this lease against the claim of any person or party whomsoever.

19. The terms, provisions, obligations, rights and privileges hereof shall be binding upon and shall inure to the benefit of the parties hereto, their successors, legal representatives and assigns.

EL PASO NATURAL GAS COMPANY

BY: Roland G. Tayler ffs
ROLAND G. TAYLER
Attorney-in-Fact

LESSOR

MINERALS, INC.

BY: Donald L. Garey
DONALD L. GAREY
President

LESSEE

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STATE OF Texas

COUNTY OF El Paso

The foregoing instrument was acknowledged before me this 16th day of March, 1978, by ROLAND G. TAYLER, as Attorney-in-Fact on behalf of EL PASO NATURAL GAS COMPANY.

Witness my hand and official seal.

D. Cynthia Jaurigue
Notary Public in and for the
County of El Paso
State of Texas

My Commission Expires:

D. CYNTHIA JAURIGUE
Notary Public in and for El Paso County, Texas
Commission Expires May 20, 1979

STATE OF NEW MEXICO)
)SS.
COUNTY OF LEA)

The foregoing instrument was acknowledged before me this 8 day of March, 1978, by DONALD L. GAREY, President of MINERALS, INC., a New Mexico corporation, on behalf of said corporation.

Loury L Greig
Notary Public in and for the
County of Lea
State of New Mexico

My Commission Expires:
October 30, 1980

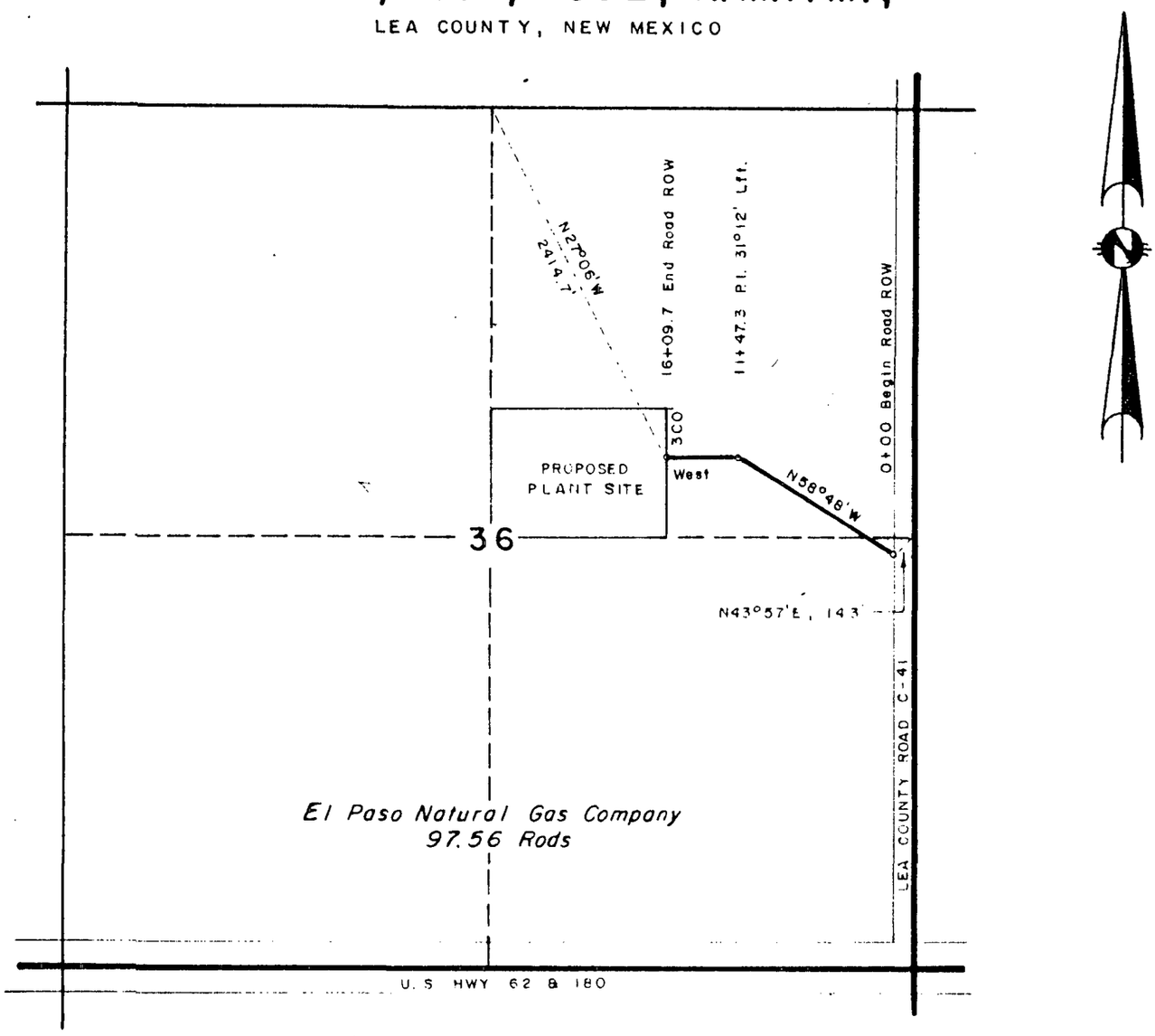
43627

STATE OF NEW MEXICO
COUNTY OF LEA
FILED

MAR 22 1978
at 11:55 o'clock A. M.
and Recorded in Book 347
Page 758
Donna Benge, County Clerk
By Deputy

SEC. 36, T18S, R36E, N.M.P.M.,

LEA COUNTY, NEW MEXICO

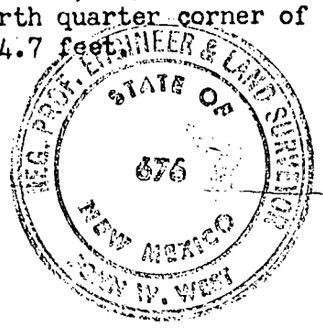


DESCRIPTION OF RIGHT-OF-WAY

A strip of land for a Road Right-of-way 50 feet wide, being 25 feet right, and 25 feet left of the following described survey of centerline:

Beginning at Eng. Sta. 0+00, a point on the west boundary line of Lea County Road No. C-41, from which the east quarter corner of Section 36, Township 18 South, Range 36 East, N. M. P. M., Lea County, New Mexico bears north 43°57' east a distance of 143 feet; thence, north 58°48' west, crossing the El Paso Natural Gas Company land a distance of 1147.3 feet to Eng. Sta. 11+47.3; thence, west a distance of 462.4 feet to Eng. Sta. 16+09.7, a point on the east boundary line of proposed plant site, from which the north quarter corner of the said Section 36 bears north 27°06' west a distance of 2414.7 feet.

97.56 Rods



I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD IN A BONA FIDE SURVEY MADE UNDER MY SUPERVISION, AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

John W. West

JOHN W. WEST, N.M. P.E. & L.S. NO.676
TEXAS R.P.S. NO. 1138

RONALD J. EIDSON, N.M. L.S. NO. 3239
TEXAS R.P.S. NO 1883

MINERALS, INC.

Proposed road right-of-way crossing the El Paso Natural Gas Company property in the Northeast Quarter of Section 36, Township 18 South, Range 36 East, N. M. P. M., Lea County, New Mexico.

JOHN W. WEST ENGINEERING COMPANY
CONSULTING ENGINEERS HOBBS, NEW MEXICO

Scale: 1" = 1000'	Drawn by: chb
Date: Jan. 31, 1978	Sheet 1 of 1 Sheets

IV.

The land owner of the facility site is:

ElPaso Natural Gas
"A Delaware Corp."
P.O. Box 1492
ElPaso, Texas 79978

Director, Right of Way Department
Same address:

(note) Address is contained in Lease Agreement attached.

V. Facility Description

This facility consist of an inlet filter skid, two inlet compressors, inlet dehydrators, gas processing skids, and an Amine skid for treating N G L. There is one steel tank with a steel top, and one fiberglass tank with metal netting for a top. These tanks have a capacity of 100 Bbl. each

The total compression Horse Power of this facility is 2700 H.P.

The gas enters the plant from the north, and is processed. The liquid product, N G L, is pumped out of the plant via a sales line which is located on the north side of the plant. The residue natural gas leaves the plant on the north side of the facility.

Please refer to the attached diagram of the facility for more detailed information.

VI. Sources, Quantities, & Quality of Effluent & Waste Solids

1) ENGINE COOLING WATER - The engine driving the compressors contains approximately 230 gallons of a 50% antifreeze, 50% water mixture, each, for cooling purposes. This is a closed loop system and normally requires no make-up.

2) SEPARATORS - The inlet filter separators remove an estimated 0 to 5 BBL/day of water and an estimated 0 to 5 BBL/day of hydrocarbon liquids depending upon ambient conditions.

3) WASTE LUBRICATION OILS - The compressors contains approximately 60 gallons of lubricating oil and the engine contains approximately 165 gallons of lubrication oil. The lubrication oil is a standard 30 or 40 weight oil and replaced approximately every 2160 hours of run time, or as required by oil analysis.

4) DEHYDRATION UNIT - The dehydration unit is a Molecular Sieve type dehydrator. The Molecular Sieve is Sodium/Aluminosilicate.(see attached MSDS). This is a sealed unit with no discharge.

5) SEWAGE - There is an office building with restroom and shower facilities. The office also has a sink, and an additional wash basin. All of the sewage from this office is plumbed into a septic tank which has been installed since the plant was first built. There is no sewage discharge commingled with plant fluids, or discharged just on top of the ground.

6) TRASH - The trash which is generated from this facility is disposed of in a "dumpster" type of container which has been furnished by Waste Management of Southeast New Mexico. This plant is on a scheduled pick-up from this contractor and they handle the actual disposal of the trash.

VI. SOURCES, QUANTITIES & QUALITY OF EFFLUENT & WASTE SOLIDS: CONT.

7) FLOOR DRAINS - The drains around the compressor building are gravity feed into two sumps. These sumps are individual tanks contained in a concrete "vault" for secondary containment. Each will have a float switch and a pump for automatic transfer of liquid to our above ground, burmed, tanks, previously mentioned. All wash down fluids and other liquids will be contained from our compressors by these drains.

The waste water and hydrocarbon liquids will be commingled within the facility. Individual rates, volumes and concentrations should not vary beyond the ranges identified above. All process units which could have a discharge to the ground, will be self-contained to prevent intentional or inadvertent discharges and spills. The hydrocarbon liquids and water will be separated at the holding tanks and will dealt with in an approved manner.

Please refer to the laboratory analysis of our waste streams attached to this document.

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

CHEMICAL ANALYSIS OF WATER

Company : Llano, Inc.
City, St.: 921 W. Sanger
Proj.Name: Minerals, Inc.
Location : not given

Sample 1 : Well House
Sample 2 : Haul Tank

Lab #: H1774
Date Received: 8/18/94
Date Analyzed: 8/19/94
P.O. # 822-01

Units: mg/L

PARAMETER	RESULT 1	RESULT 2
pH	6.97	8.72
Hardness ($CaCO_3$)	216	156
Calcium ($CaCO_3$)	148	100
Magnesium ($CaCO_3$)	68	56
Sulfate (SO_4^-)	43.1	309
Chloride (Cl^-)	32	
Total Dissolved Solids	363	1,420
Total Alkalinity	180	1,600
Bicarbonate	nil	736
Carbonate	nil	864
Sodium	34.3	143
Potassium	4.77	69.8

Michael R. Fowler

8/22/94
Date

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240
PHONE (505) 326-4669 • 118 S. COMMERCIAL AVE. • FARMINGTON, NM 87401

FINAL ANALYSIS REPORT

Company: Llano, Inc.
Address: 921 W. Sanger
City, State: Hobbs, NM 88240

Date: 8/22/94
Lab #: H1774
P.O.#: 822-01

Project Name: Minerals, Inc.
Location: not given
Sampled by: JM,MB Date: 8/18/94 Time: 7:15
Analyzed by: MF Date: 8/18/94 Time: 12:41
Sample Type: Water Sample Condition: VOA Units: mg/L

Samp #	Field Code	BENZENE	TOLUENE	ETHYL BENZENE	PARA-XYLENE	META-XYLENE	ORTHO-XYLENE
2	Waste Oil Tank	2.275	7.160	0.939	1.339	4.295	1.820
3	Inlet Filter Drain	<0.001	634.826	38.104	93.110	70.782	20.174
	QC Recovery	0.873	0.848	0.960	0.935	0.931	0.972
	QC Spike	0.881	0.865	0.869	0.866	0.860	0.886
	Accuracy	99.1%	98.0%	110.1%	107.6%	108.3%	109.7%
	Air Blank	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Methods - GAS CHROMOTOGRAPHY
- EPA SW-846; 8020

Michael R. Fowler

8/22/84
Date

VII. TRANSFER & STORAGE OF PROCESS FLUIDS & EFFLUENTS

Waste water and hydrocarbon liquids are collected in the inlet filter separator. The waste water and hydrocarbon liquids are commingled and piped to closed storage tank.
(See attached facility schematic).

The inlet filter separators are each pressurized. The closed storage tank will be maintained and checked on a daily bases.

The closed storage tank is a standard API 100, Barrel tank. There is an open top fiberglass 100 Barrel tank in the same location which has a metal netting over the top of it. After separation of the fluids, water is drained from the closed tank to the open top fiberglass tank. The tanks are constructed above ground level with an earthen dike enclosure to provide secondary containment equal to or greater than one-third of the tank capacity.

Waste lubrication oil and foundation drains are piped to sump tanks with safety containment. The waste oils and liquids from the floor drains are then transferred to the closed tanks. The drain system has atmospheric pressure only until liquid is "dumped" to the closed storage tank. All underground drain lines will be pressure tested to assure there are no leaks. A copy of the test report will be forwarded as soon as it is available.

VIII.

This is not a disposal site for EFFLUENT Liquid.

As previously stated, the purpose of this site is to process natural gas. There will be some produced water, and condensate which will be recovered from the natural gas. These liquids will be stored in the API. tanks, and will be hauled from location. The produced water will be disposed of by a trucking company, either Rowland Trucking, or AA Oilfield Service. Both of these companies have approved disposal wells which they use, and charge us for the disposal of the produced water.

The condensate will be sold to a refinery. The refinery of choice will be elected by price, and they will pick up the condensate from the storage tank and transport it to their facility.

The storage tank will be monitored by our operators on a daily bases. Our operators will be reporting to their supervisor if this tank should need any further attention. Our supervisors have the means to order a truck to haul liquid at the time our operator's report to him. With this type of check, and safety check, there should be no ground water contamination to contend with.

Simply stated, if the liquid is contained in the tank, then it cannot contaminate the ground, or ground water.

IX.

This facility will have operators which will check the operations of the facility on daily bases. The operator will report the functioning of the complete plant, and a log will be kept of the units. If the operator should locate any problem in any of the equipment, what-so-ever, he will report the problem to his supervisor.

In the event of a "reportable spill", the operator would notify his supervisor immediately of the occurrence. The supervisor would in turn notify his immediate supervisor, and our emergency report and operating plan would be implemented.

Fluids will be collected inside pressure vessels. These vessels will be ASME stamped, approved, pressure vessels. Therefore, no precipitation can be collected in them, or commingled with produced fluids.

The compressor units have "environmental" drains around the compressor building which will not allow precipitation to runoff onto the ground. The building drains will be piped into "sumps" which will transfer all fluids to above ground storage tanks. As previously stated the contents of this tank will be hauled by truck as often as necessary to assure proper levels are maintained.

X.

Our contingency plan for cleaning up spills, and reporting same is not complicated. We have a supervisor on call who is available on 24 hours a day. There are administrative support supervisors available when ever needed.

If a spill should occur, the supervisor on duty would start the field operations of the clean-up, by first stopping the source of the spill, and containing all fluids that he possibly can. The on duty supervisor would notify the support people of the situation. The OCD would be notified pursuant to rule 116, and a contractor would be dispatched at that time to start clean up. The land owner would be notified, and all measures would be taken to protect his live-stock, as well as any wild animals.

All clean up would be carried out in an approved manner, and all necessary waste would be dealt with accordingly.

XI. SITE CHARACTERISTICS

A. There is one water well on location at this plant. The well is located in the south west section of the plant.(please refer to attached plant plot plan) This well is used for non-potable water for our plant facility. A labortory analysis of the water from this well is attached to this report, and demonstrates no contamination of our well.

This is not a disposal site, for Effluent liquids. As previously stated, all liquids are contained, held in closed tanks, and properly disposed of by trucking. (also see section 5)

XII. ADDITIONAL INFORMATION:

This plant, Hobbs Minerals Plant, was originally built in the 1970's prior to the requirements of a Discharge Plan. Earlier this year we experienced a fire of significant magnitude to require us to rebuild the process skid in this plant.

In late June of 1994, a tour of this plant was done by Mr. Jerry Sexton, and Mr. Wayne Price of the O C D. The purpose of the tour was to identify this plant's Discharge Plan Requirements. The requirements were identified by Mr. Price, working with Mr. Roger Anderson, of the Oil Conservation Division. A copy of the requirements we received from this tour has been submitted with this Discharge Plan.

We have made every effort to see that these requirements have been satisfied in the rebuilding of this facility.

Additionally, all Air Emissions Permits are, and have been, in place for this plant. Copies of this document are on file at the plant and in the Operational Offices in Hobbs N.M.

A copy of the MSDS sheets on file at the plant have been attached for your reference.

If you have any questions we can help with please feel free to call at (505) 393-2153, or written inquires can be addressed to 921 W. Sanger, Hobbs, New Mexico 88240.

FAX TO ED SLOMAN
LLANO - 393-0381
7/1/94 9:35 AM

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

NMOCD Inter-Correspondence

To: Jerry Sexton-District I Supervisor

From: Wayne Price-Environmental Engineer District I

Date: July 1, 1994

Reference: Telephone conference with Roger Anderson

Subject: Llano Minerals Plant-Discharge Plan Requirements

Comments: Per telephone conversations with Roger, the following items were discussed:

1. Any new piece of equipment, pump, tank, line, etc. that has the opportunity to cause discharges to the ground will need some sort of pad and curb "type" containment.

2. Existing pieces of equipment that are already in place can be grandfather, however if significate contamination results from these devicee and discovered during an inspection, then we will require them to amend their discharge plan and put the containment in place.

3. All drums will have to have pad and curb "type" containment. Empty drums are recommended to be on containment however not required, but must be stored properly.

4. All LPG or LNG horizontal saddle type tanks are not required to be contained or bermed at

this time. Other regulations might be required by other agencies.

5. All existing vertical tanks are required to be bermed to 1-1/3 capacity at this time. If new tanks are installed or old one's renovated, then the requirement will be to install an impermeable pad and to be bermed.

6. All horizontal tanks shall have pad and curb "type" containment.

7. All process units that have the probability of leaking shall be installed to prevent contamination of the underlying soils.

8. Existing sumps shall be cleaned out and inspected on a yearly basis. Any new sumps will be required to be installed with secondary containment with leak detection. A minimum leak detection of line of sight is allowed.

9. All underground lines shall be hydrostatic pressure tested to 3 psi above operating pressure, held for 4 hours. This shall be completed once every five years or when the Dp is due.

10. You will be required to I.D. all waste streams and their final disposition.

Note: The discharge plan approval does not relieve LLano of other legal responsibilities, such as other Federal, State, Local laws, rules, regulations.

#7

PABCO

DIVISION OF
FIBREBOARD
CORPORATION

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.

COMPLIES WITH:
U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

Section I

MANUFACTURER'S NAME: Pabco Insulation	EMERGENCY TELEPHONE NO.: 1-303-858-7554
ADDRESS: 1110 - 16 Road, Fruita, CO 81521	
CHEMICAL NAME: Tobermorite form of calcium silicate	PRODUCT: Pabco Super Caltemp
CAS #: 1344-95-2	FORMULA: $CaSiO_3$

	YES	NO
IS THE MATERIAL LISTED AS A KNOWN OR SUSPECTED CARCINOGEN?		X
IS ASBESTOS USED AS AN INGREDIENT IN MAKING THE PRODUCT?		X
IS MERCURY USED IN THE PRODUCT IN ANY WAY?		X

Section II—Physical and Chemical Data

APPEARANCE AND ODOR: White, chalklike solid. No odor.

Density (pcf)*	14	Major ingredient	$CaSiO_3$
Solubility in water*	insol.	Minor Ingredient	Na_2SiO_3
Maximum use temp. (°F)*	1200°F	Reinforcing fibers	Cellulosic
pH in water*	10.5		

*Typical

Section III—Fire and Explosion Hazard Data

COMBUSTIBILITY: Passes ASTM E136; 0 Smoke, 0 flame per ASTM E84

EXPLOSION HAZARD: None

Section IV—Health Hazard Data

ACGIH TLV OR OTHER RECOMMENDED EXPOSURE LIMIT: Nuisance dust - 10 mg/m³

SYMPTOMS OF OVEREXPOSURE: Drying of skin

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE: None known

ACUTE AND TOXIC EFFECTS AND PRIMARY ROUTES OF ENTRY: None known

EMERGENCY FIRST AID PROCEDURES: None

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Section V—Reactivity Data

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Unknown
	STABLE	X	

INCOMPATIBILITY: The alkalinity of wet calcium silicate corrodes unprotected aluminum.

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID: Unknown
	WILL NOT OCCUR	X	

Reduces autoignition temperature of ethylene oxide

Section VI—Waste Management

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Scraps from cutting and sawing should be cleaned up.

WASTE DISPOSAL METHOD: Dispose to dry dump area.

Section VII—Special Protection Information

RESPIRATORY PROTECTION: When sawing the material, nuisance dump respirators should be worn.

VENTILATION: When sawing indoors, mechanical ventilation should be provided.

EYE PROTECTION: Safety glasses recommended when sawing.

PROTECTIVE GLOVES: Protective gloves or barrier creams suggested for sensitive skin.

OTHER PROTECTIVE EQUIPMENT

Section VIII—Other Precautions

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Should be stored in a dry, clean area. Organically-contaminated insulation should not be installed.

DISCLAIMER

This MSDS is intended for use solely in safety education and environmental health training and not for specification purposes. The information in this MSDS was obtained from usually reliable sources and is provided without any representation or warranty, express or implied regarding the accuracy or correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. PABCO assumes no responsibility and expressly disclaims liability for loss, damage or expense

#118

Material Safety Data Sheet

The Dow Chemical Company
Midland, Michigan 48674
Emergency 517-636-4400

The Dow Chemical Company, Midland, MI 48674 Emergency Phone:517-636-4400

Product Code: 40087

Product Name: TRYMER (R) 2000 RIGID FOAM INSULATION

Effective Date: 04/07/93 Date Printed: 02/01/94 MSDS:004826

1. INGREDIENTS: (% w/w, unless otherwise noted)

Polymerized polyurethane modified polyisocyanurate rigid cellular plastic		89%
1,1-Dichloro-1-fluoroethane	CAS# 001717-00-6	11%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: Not applicable
VAP. PRESS: Not applicable
VAP. DENSITY: Not applicable
SOL. IN WATER: Not applicable
SP. GRAVITY: Not applicable
APPEARANCE: Rigid cellular plastic.
ODOR: None.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: Not applicable
METHOD USED: Not applicable

FLAMMABLE LIMITS
LFL: Not applicable
UFL: Not applicable

EXTINGUISHING MEDIA: If stored or in-place polyurethane or polyisocyanurate foam should ignite, extinguish fire immediately by drenching with water spray from a fire hose. For small fires, use water spray, foam, carbon dioxide, or dry chemical extinguishers.

(Continued on page 2)

3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

FIRE AND EXPLOSION HAZARDS: Rigid polyurethane and polyisocyanurate foams, in common with other organic materials such as paper, wood, cotton and rubber, can present unreasonable fire risks in certain misapplications when exposed to ignition sources in air. Once ignited, such fires can burn rapidly and produce intense heat, dense smoke and irritating or toxic gases. Rigid polyurethane foams autoignite at about 650-800F (343-427C) and rigid polyisocyanurate foams at about 900-1000F (482-538C).

Carbon dioxide, carbon monoxide, possible traces of hydrogen cyanide, halogen acids, and nitrogen oxides evolved under fire conditions.

The probability of dust explosions from polyurethane or polyisocyanurate dust is very low, however, do not smoke or use naked lights, open flames, space heaters or other ignition sources near rigid foam fabricating operations or near stored buns or sheets.

Install foam only after all welding, cutting or other hot work has been completed. If hot work must be done after foam has been installed, the hot work trade must be warned: Remove foam from immediate work area to a sufficient distance that heat transmitted from the torch or through the metal will not ignite the foam. Remove all combustible material from vicinity of and immediately below work area. Post a fire watcher equipped with a fire extinguisher during and for 30 minutes after hot operations. Stop work immediately if foam begins to smoke and remove more foam from the work area.

When hot-wire cutting rigid polyurethane or polyisocyanurate foam, keep a fire extinguisher nearby. Work should be carried out in well ventilated area - do not breathe fumes.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure self-contained

(Continued on page 3)

3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

breathing apparatus and protective turnout clothing.

Protect all indoor bun and sheet storage areas with fusible sprinklers. Maintain a minimum clearance of six feet between tops of foam stacks and sprinkler heads.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Stable.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide, possible traces of hydrogen cyanide, halogen acids and nitrogen oxides under fire conditions.

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS: Not applicable.

DISPOSAL METHOD: Incinerate or bury in an approved landfill according to local, state, and federal regulations.

6. HEALTH HAZARD DATA:

EYE: Solid or dust may cause irritation or corneal injury due to mechanical action.

SKIN CONTACT: Essentially nonirritating to skin. Mechanical injury only.

SKIN ABSORPTION: Skin absorption is unlikely due to physical properties.

(Continued on page 4)

6. HEALTH HAZARD DATA: (CONTINUED)

INGESTION: Ingestion is unlikely due to physical state. Physical injury only. May cause choking if swallowed.

INHALATION: Dust may cause irritation to upper respiratory tract. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. (1,1-dichloro-1-fluoroethane) Signs and symptoms of excessive exposure may be central nervous system effects. (1,1-dichloro-1-fluoroethane) Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). (1,1-dichloro-1-fluoroethane) Concentrations of the blowing agents anticipated incidental to proper handling are expected to be well below those which cause the acute inhalation effects above and to be well below the OSHA PEL and Dow IHG.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Repeated excessive exposures to dusts may cause respiratory irritation and possibly other respiratory effects. In laboratory animals, repeated inhalation exposure to concentrations of 8000 ppm produced no adverse effects; higher concentrations prodced only minor biochemical changes such as an increase in choiesterol.

CANCER INFORMATION: Preliminary results of a 2-year inhalation study on dichlorofluoroethane show an increase in testicular tumors in rats exposed to 1500 ppm. Direct administration (injection) of polyurethane dust into lungs of rats resulted in benign tumors; this route of administration delivers large particles to the lungs and is not relevant to industrial exposure.

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause virth defects in animals; other effects were seen in the fetus only at doses which

(Continued on page 5)

6. HEALTH HAZARD DATA: (CONTINUED)

caused toxic effects to the mother. (1,1-dichloro-1-fluoroethane) No relevant information found on other component(s).

REPRODUCTIVE EFFECTS: Interim results of a 2-generation reproduction study suggest possible effects on fertility in rats exposed to high vapor concentrations of dichlorofluoroethane. (1,1-dichloro-1-fluoroethane)

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): Has been shown to be negative in some in vitro ('test tube') mutagenicity tests and positive in others. (1,1-dichloro-1-fluoroethane) Results of in vitro ('test tube') mutagenicity tests have been negative. (1,1-dichloro-1-fluoroethane) The weight of evidence from a battery of mutagenicity studies suggests that this material has a very low potential to affect genetic material. (1,1-dichloro-1-fluoroethane) No relevant information found on other component(s).

7. FIRST AID:

EYES: Flush eyes with plenty of water; mechanical effects only.

SKIN: Wash off in flowing water or shower.

INGESTION: No adverse effects anticipated by this route of exposure.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): 1,1-dichloro-1-fluoroethane: AIHA WEEL is 500 ppm. Although some of the additives used in this

(Continued on page 6)

8. HANDLING PRECAUTIONS: (CONTINUED)

product may have exposure guidelines, these additives are encapsulated under normal handling conditions. For particulates which have no specific guideline, the ACGIH TLV is 10 mg/m3 and the OSHA PEL is 15mg/m3 total, 5 mg/m3 respirable.

VENTILATION: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In dusty atmospheres, use an approved dust respirator.

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

EYE PROTECTION: Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Potential risks associated with rigid polyurethane and polyisocyanurate foams arise from DUST, FIRE and TOXIC THERMAL DECOMPOSITION PRODUCTS and may result from improper storage, inadequate ventilation, improper disposal and/or misapplication.

DUST: The probability of dust explosions from polyurethane or polyisocyanurate dust is very low. Finely divided dust can cause health risks and can irritate the eyes, nose and throat, as can any other nuisance dust. Avoid exposure to any dust, including foam dust. Conduct rigid foam fabrication operations

(Continued on page 7)

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Product Code: 4008J Page: 7

Product Name: TRYMER (R) 2000 RIGID FOAM INSULATION

Effective Date: 04/07/93 Date Printed: 02/01/94 MSDS:004826

9. ADDITIONAL INFORMATION: (CONTINUED)

(sawing, routing, fly-cutting, etc.) in areas reserved exclusively for such operations. Do not allow dust to accumulate. Use cyclone dust collectors on all fabricating power tools. Keep work areas clean. Remove settled dust by vacuuming, not blowing.

FIRE: Polyurethane or polyisocyanurate foam used as a wall or ceiling insulation must not be left exposed, but must be covered as soon as practicable with a fire-resistive thermal barrier of one-half inch gypsum wallboard or the equivalent. If covering is not immediately possible or practicable, post signs that fire risk exists because of the exposed foam. Do not install foam in any flue-like configuration. Do not allow combustible trash or scrap foam to accumulate on the job site. Dispose of scrap foam according to good industrial practice and in accordance with environmental protection regulations. Provide protection for BOTH surfaces of foam used as ceiling insulation. Foam plastic must not remain exposed in attics or crawl spaces.

Store polyurethane and polyisocyanurate foam buns and sheets with adequate aisleways to permit access to all areas.

For more detailed information on precautions for the proper handling and storage of polyurethanes, polyisocyanurates, and related materials, contact the Urethanes Product Department, The Dow Chemical Company, Midland, Michigan.

MSDS STATUS: New MSDS

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The Dow Chemical Company, Midland, MI 48674 Emergency Phone:517-636-4400

Product Code: 40087 Page: R 1

Product Name: TRYMER (R) 2000 RIGID FOAM INSULATION

Effective Date: 04/07/93 Date Printed: 02/01/94 MSDS:004826

REGULATORY INFORMATION: (Not meant to be all-inclusive--selected *regulations represented.*)

NOTICE: The information herein is presented in good faith and believed to be accurate as the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numberous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

U.S. REGULATIONS

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:

MATERIAL SAFETY DATA SHEET

An explanation of the terms used herein may be found in OSHA 29 CFR 1910.1200, available from OSHA regional or area offices.
(Similar to U.S. Department of Labor Form OMB 1218-0072 and generally accepted in Canada for information purposes)
Do Not Duplicate This Form. Request an Original.

I. PRODUCT IDENTIFICATION

PRODUCT	Molecular Sieve Type 4A		
CHEMICAL NAME	Sodium/Aluminosilicate	**SYNONYMS**	Zeolite
FORMULA	Na_2O, MgO, Al_2O_3, SiO_2	**CHEMICAL FAMILY**	Molecular Sieve
		MOLECULAR WEIGHT	Not Applicable

TRADE NAME UOP® Molecular Sieve formerly UNION CARBIDE® Molecular Sieve

II. HAZARDOUS INGREDIENTS

A complex of elements and compounds composed of material shown below.
NOTE: In the table below, the symbol "<" means "less than."

MATERIAL (CAS/TSCA NO.)	Wt (%)	1989-1990 ACGIH TLV—TWA (OSHA-PEL)	
Sodium Oxide (1313-59-3)	<30	None established	(None established)
Magnesium Oxide (1309-48-4)	< 5	10 mg/m³ Fume	(10 mg/m³ Fume Total) (5 mg/m³ Respirable fraction)
Aluminum Oxide (1344-28-1)	<30	10 mg/m³ as Al	(10 mg/m³ Total dust) (5 mg/m³ Respirable fraction)
Silicon Oxide (7631-86-9)	<50	10 mg/m³	(6 mg/m³)

III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	Not Applicable	**FREEZING POINT**	Not Applicable
SPECIFIC GRAVITY (H_2O = 1)	1.1 (piece), 2.0 (crystal)	**VAPOR PRESSURE AT 20°C.**	Not Applicable
VAPOR DENSITY (air = 1)	Not Applicable	**SOLUBILITY IN WATER, % by wt.**	Not Applicable
PERCENT VOLATILES BY VOLUME	Not Applicable	**EVAPORATION RATE (BUTYL ACETATE = 1)**	Not Applicable

APPEARANCE AND ODOR: Product may appear as a bead, pellet, TRISIV, mesh, cake or powder; odorless.

M-4502-D

EMERGENCY PHONE NUMBER

IN CASES OF EMERGENCIES involving this material, further information is available at all times:
Emergency Phone No.: In USA: UOP 708-391-2123 CHEMTREC 800-424-9300
In Canada: CANUTEC 613-996-6666 From other Countries: CHEMTREC 202-483-7616
For routine information contact your local supplier

UOP urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the potential hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS. To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees, customers, and other users of the product of this information.

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section II.

EFFECTS OF SINGLE (ACUTE) OVEREXPOSURE:

SWALLOWING — The product gets hot as it adsorbs water. Burns to moist body tissues can result if contact is prolonged. No evidence of adverse effects from available information.

SKIN ABSORPTION — No evidence of adverse effects from available information.

INHALATION — May cause irritation of the nose and throat, accompanied by cough and chest discomfort.

SKIN CONTACT — May cause irritation seen as local redness and/or burns.

EYE CONTACT — May cause irritation seen as excess redness of the conjunctiva and/or burns.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE: Prolonged inhalation may cause lung damage.

OTHER EFFECTS OF OVEREXPOSURE: None currently known.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Breathing of dust may aggravate asthma and inflammatory or fibrotic pulmonary disease.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING — If ingested in large quantities, then drink 2 glasses of water. Contact physician for permission to induce vomiting.

SKIN CONTACT — Wash the contacted area with soap and water.

INHALATION — Remove the person to fresh air.

EYE CONTACT — Flush eyes with water for at least 15 minutes.

NOTES TO PHYSICIAN: *This product is a desiccant and generates heat as it adsorbs water. The used product can contain material of a hazardous nature. Identify that material and treat symptomatically.*

V. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	Does not burn	**AUTOIGNITION TEMPERATURE**	Not Applicable

FLAMMABLE LIMITS IN AIR, % by volume	**LOWER** Not Applicable	**UPPER** Not Applicable

EXTINGUISHING MEDIA: Unused material will not burn. Use media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Depends on the use of the material. Used material may contain products of a hazardous nature. The user of this product must identify the hazards of the retained material and inform the fire fighters of these hazards.

UNUSUAL FIRE AND EXPLOSION HAZARDS: In their fresh unused state, molecular sieves are not flammable. When exposed to water, however, they can get quite hot. When first wetted they can heat to the boiling point of water. Flooding will reduce the temperature to safe limits.

VI. REACTIVITY DATA

STABILITY	
UNSTABLE	**STABLE**
	X

CONDITIONS TO AVOID: The addition of moisture (water) without flooding can cause rise in temperature from heat of adsorption, and contact with skin might result in burns.

INCOMPATIBILITY (Materials to Avoid): Sudden contact with high concentrations of chemicals having high heats of adsorption such as olefins, HCl, etc.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrocarbons and other materials that contact the molecular sieve during normal use can be retained on the sieve. It is reasonable to expect that decomposition products will come from these retained materials of use. The molecular sieve itself does not readily decompose unless subjected to extreme temperature or chemical conditions. If such decomposition did occur the products would include the mix of oxides listed in Section II.

HAZARDOUS POLYMERIZATION	
May Occur	**Will not Occur**
	X

CONDITIONS TO AVOID: None currently known.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Sweep the spill area. Collect and place the spilled material in a waste disposal container. Avoid raising dust.

WASTE DISPOSAL METHOD: Discard any product (including any retained materials of use), disposable container or liner in an environmentally acceptable manner, in full compliance with Federal, State and local regulations.

RCRA Hazardous Waste No.: Not federally regulated.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: A NIOSH/MSHA approved respirator for protection against dust, mist or vapor is recommended for operations when the permissible exposure limit might be exceeded.

VENTILATION	**LOCAL EXHAUST** — Local exhaust ventilation is recommended for operations where the permissible exposure limit might be exceeded.
	MECHANICAL (general) — Not applicable - See Local Exhaust.
	SPECIAL — Not applicable - See Local Exhaust.
	OTHER — Not applicable - See Local Exhaust.

PROTECTIVE GLOVES: Use gloves to avoid PROLONGED skin contact.

EYE PROTECTION: Safety glasses or goggles selected as per OSHA 29 CFR 1910.133.

OTHER PROTECTIVE EQUIPMENT: Select in accordance with OSHA 1910.132 and 1910.133.

IX. SPECIAL PRECAUTIONS

LABEL:

CAUTION

DUST MAY IRRITATE EYES, NOSE, THROAT AND SKIN.
Avoid breathing dust.
Avoid contact with eyes and skin.
Open container slowly.
Use with adequate ventilation.
Do not put in mouth or pour liquid into product. Burns can result.
BEFORE HANDLING OR USING, READ AND UNDERSTAND CURRENT MATERIAL SAFETY DATA SHEET FOR THIS MATERIAL, and, when appropriate, also read safety booklet, M-1001.

FIRST AID - EYE CONTACT: Immediately flush with water for at least 15 minutes. Call a physician if irritation persists. **SWALLOWING:** Give two or more glasses of water. **INHALED:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. **SKIN CONTACT:** Flush with plenty of water.

OTHER HANDLING AND STORAGE CONDITIONS: pH range if in aqueous slurry 8-11.

Designers of processes and fabricators of equipment should read UOP's free booklet, *Precautions and Safe Practices for Handling Molecular Sieves in Process Units*, M-1001. Request a copy from your UOP representative.

X. REGULATORY INFORMATION

Under the TSCA rules for chemical mixtures and naturally occurring substances the EPA defines this product to be a statuatory mix, therefore, only its component oxides or metals shown in Section II of this MSDS are in the inventory. The human and the environmental hazards are, however, not the summation of the hazards of the components because the components do not separate from the product (see Section VI of this MSDS). The hazards discussed in this MSDS are based on the product as a whole.

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on Reportable Quantities (RQ's) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

Components present in this product at a level which could require reporting under the statute are: ****NONE****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material.
Components present in this product at a level which could require reporting under the statute are: ****NONE****

D.O.T.: Hazard Class — Not a corrosive, flammable, irritant, or explosive material. Not a Class B poison by skin contact or acute inhalation.

PROPOSITION 65: This product contains no levels of listed substances, which the State of Califoı ia has found to cause cancer, birth defects or other reproductive harm, *which would require a warning under the statute.*

This product is not classified as a controlled product under Canada's Federal Hazardous Produci Act (WHMIS).

The opinions expressed herein are those of qualified experts within UOP. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of UOP, it is the user's obligation to determine the conditions of safe use of the product.

GENERAL OFFICES

IN THE USA:
UOP
Molecular Sieve Adsorbents
25 East Algonquin Road
Des Plaines, IL 60017-5017

IN CANADA:
UOP Canada Inc.
245 Eglington Ave. East Suite 310
Toronto, Ontario M4P 3B7

Other offices in principal cities all over the world.

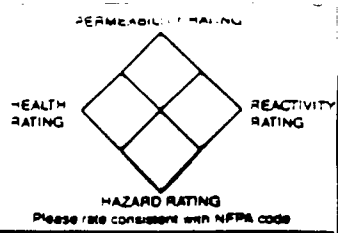
MOLSIV® ADSORBENTS
A PRODUCT OF UOP

Lithographed in U.S.A.

NORTON

NORTON COMPANY

MATERIAL SAFETY DATA SHEET



SECTION I — NAME AND PRODUCT

MANUFACTURER'S NAME: NORTON COMPANY

CONTACT: K. HARRISON

ADDRESS STREET, CITY, STATE AND ZIP CODE: P.O. BOX 350 AKRON, OHIO 44309

EMERGENCY TELEPHONE NO.: (216)-673-5860

TRADE NAME, COMMON NAME OR SPECIFICATION: DENSTONE 57 BALLS AND PELLETS ALL SIZES

APPROVED BY: LOU WALTER

DATE: 8/3/90

CHEMICAL FAMILY OR PRODUCT TYPE

SECTION II — COMPOSITION

CHEMICAL NAME	COMMON NAME	REG* (Y/N)	CAS #	OSHA PERMISSIVE EXPOSURE LIMIT	ACGIH TLV	CARCINOGEN* (Y/N)
Silicon dioxide 64.06	Silica	y	14808-60-7	0.1mg/m^3		y
Aluminum oxide 26.48	Alumina	y	1344-28-1	5mg/m^3		N
Titanium oxide 1.21	Titania	y	13463-67-7	5mg/m^3		N
Iron oxide 0.78	Iron oxide	y	1309-37-1	10mg/m^3		N
Calcium oxide 0.70	Calcia	y	1305-78-8	5mg/m^3		N
Magnesium oxide 0.67	Magnesia	y	1309-48-4	5mg/m^3		N
Potassium oxide 1.18	Potassia	N	12136-45-7	10mg/m^3		N
Sodium oxide 1.22	Soda	N	1313-59-3	10mg/m^3		N

*Materials are regulated by OSHA 1910.1200, Hazard Communication Standard, and/or the Massachusetts General Law Chapter 11F, Right to Know Regulations

SECTION III — PHYSICAL AND CHEMICAL DATA

BOILING POINT: N/A

MELTING POINT: N/A

SPECIFIC GRAVITY: 2.6

VAPOR PRESSURE: N/A

PERCENT VOLATILE BY VOL.: N/A

VAPOR DENISTY: N/A

EVAPORATION RATE: N/A

SOLUBILITY IN WATER: Insoluble

SOLUBILITY IN ALCOHOL: Insoluble

SOLUBILITY IN OTHER SOLVENT: Insoluble

APPEARANCE AND ODOR: Buff colored solid-odorle

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A (METHOD USED)

FLAMMABLE LIMITS LEL: N/A LEL: N/A

EXTINGUISHING MEDIA: N/A

SPECIAL FIREFIGHTING PROCEDURES: N/A

EXPLOSION POTENTIAL: N/A

SECTION V — HEALTH FIRST AID AND MEDICAL DATA

PRIMARY ROUTE(S) OF ENTRY	ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE	FIRST AID AND MEDICAL INFORMATION
INHALATION	If dust is created there is the possibility in irritant powders. Excessive exposure to silica can lead to silicosis. Silica may also be a possible carcinogen.	For acute exposure, remove to fresh air. Call for medi assistance if symptoms cont
INGESTION		N/A
SKIN CONTACT & ABSORPTION	N/A	N/A
EYE	Dust may cause irritation.	Irrigate eyes with water. Examine for physical presen of particles.
OTHER POTENTIAL HEALTH RISKS	Most of the silica is chemically combined as Silicates.	Minimize creation of dust.

SECTION VI — CORROSIVITY AND REACTIVITY DATA

STABILITY UNSTABLE ☐ STABLE ☒ | **POLYMERIZATON** MAY OCCUR ☐ WILL NOT OCCUR ☒

INCOMPATIBILITY (MATERIALS TO AVOID) Silicate products may react, although not violently, with hydrofluoric acid or active fluorides.

DECOMPOSITION PRODUCTS
None

CONDITIONS TO BE AVOIDED
Active fluorides

SECTION VII — STORAGE, HANDLING AND USE PROCEDURES

NORMAL STORAGE AND HANDLING Store in dry areas. Do not overstock to the point of deforming cartons. Suppress dust when unloading cartons or wear respirato Protect against sharp, broken edges.

NORMAL USE Avoid rough handeling to prevent abrading or crushing the articles.

STEP TO BE TAKEN IN CASE OF LEAKS OR SPILLS Minimize dust. Sweep, shovel, vacuum. Watch footing if articles fall onto walking surface.

WASTE DISPOSAL METHOD Landfill in according with local, state, and federal regulati Be guided by extraneous mater to which these articles may have been exposed the using process.

SECTION VIII — PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)
NIOSH approved disposable or other dust mask. See OSHA CFR 1910.134

VENTILATION	
	LOCAL: Recommended
	MECHANICAL (GENERAL):
	OTHER:

PROTECTIVE GLOVES
Recommended

EYE PROTECTION
Recommended

OTHER EQUIPMENT
As customers policies dictate.

MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL
As said, these articles are inert and non-hazardous. If customers proces introduces hazardous materials to the articles, be guided by their nature. Minimize dust when handling these articles.

SECTION IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Minimize dust by careful handling. Use respirators and adequate ventilati if dust is created.

OTHER PRECAUTIONS These articles are hard and abrasive. Minimize bodily contact with gloves, safety glasses, and adequate covering.

FOR COMPANY USE

Date Issued: 12/05/90
Supercedes: 06/21/89

TEXACO
MATERIAL SAFETY DATA SHEET

NOTE: Read and understand Material Safety Data Sheet before handling or disposing of product

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product Code and Name:
00584 URSA OIL P-100

Chemical Name and/or Family or Description:
Paraffin Pale Oils

Manufacturer's Name and Address:
Texaco Lubricants Co. Div of TRMI
P.O. Box 52332 Houston, TX 77052

Telephone Numbers:
TRANSPORTATION EMERGENCY Company: (914) 831-3400 CHEMTREC: (800) 424-9300
HEALTH EMERGENCY Company: (914) 831-3400
GENERAL MSDS ASSISTANCE (914) 838-7204
TECHNICAL INFORMATION Fuels: (914) 838-7336; Lubricants/Antifreezes: (914) 838-7509
Chemicals: (512) 459-6543

2. COMPOSITION/INFORMATION ON INGREDIENTS

Product and/or Component(s) Carcinogenic According to:	OSHA	IARC	NTP	OTHER	NONE
	_	_	_	_	X

Composition:

Chemical/Common Name	CAS No.	Exposure Limit	Range in %
Solvent-dewaxed heavy paraffinic petroleum distillates	64742650	5mg/m3 OSHA (MIST) 5mg/m3 ACGIH (MIST) 10mg/m3 STEL (MIST)	100.00

Mineral oil mist has a permissible exposure level (PEL); therefore, this product by definition, is considered hazardous by OSHA (1910.1200).

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: dark pale liquid

WARNING STATEMENT

NONE CONSIDERED NECESSARY

HMIS				NFPA			
Health:	0	Reactivity:	0	Health:	0	Reactivity:	0
Flammability:	1	Special:	-	Flammability:	1	Special:	-

POTENTIAL HEALTH EFFECTS

	EYE	SKIN	INHALATION	INGESTION
Primary Route of Exposure:	X	X	X	_

Effects of Overexposure

Acute

Eyes:
May cause minimal irritation, experienced as temporary discomfort.

Skin:
No adverse effects expected from absorption of material through the skin.

Brief contact is not irritating Prolonged contact, as with clothing wetted with material, may cause defatting of skin or irritation, seen as local redness with possible mild discomfort.

N.D. - Not Determined N.A. - Not Applicable N.T. - Not Tested
< - Less Than > - Greater Than

Date Issued: 12/05/90
Supercedes: 06/21/89

TEXACO
MATERIAL SAFETY DATA SHEET

NOTE: Read and understand Material Safety Data Sheet before handling or disposing of product

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product Code and Name:
00584 URSA OIL P-100

Chemical Name and/or Family or Description:
Paraffin Pale Oils

Manufacturer's Name and Address:
Texaco Lubricants Co. Div of TRMI
P.O. Box 52332 Houston, TX 77052

Telephone Numbers:
TRANSPORTATION EMERGENCY Company: (914) 831-3400 CHEMTREC: (800) 424-9300
HEALTH EMERGENCY Company: (914) 831-3400
GENERAL MSDS ASSISTANCE (914) 838-7204
TECHNICAL INFORMATION Fuels: (914) 838-7336; Lubricants/Antifreezes: (914) 838-7509
Chemicals: (512) 459-6543

2. COMPOSITION/INFORMATION ON INGREDIENTS

Product and/or Component(s) Carcinogenic According to:	OSHA	IARC	NTP	OTHER	NONE
	_	_	_	_	X

Composition:

Chemical/Common Name	CAS No.	Exposure Limit	Range in %
Solvent-dewaxed heavy paraffinic petroleum distillates	64742650	5mg/m3 OSHA (MIST) 5mg/m3 ACGIH (MIST) 10mg/m3 STEL (MIST)	100.00

Mineral oil mist has a permissible exposure level (PEL); therefore, this product by definition, is considered hazardous by OSHA (1910.1200).

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: dark pale liquid

WARNING STATEMENT

NONE CONSIDERED NECESSARY

HMIS				NFPA			
Health:	0	Reactivity:	0	Health:	0	Reactivity:	0
Flammability:	1	Special:	-	Flammability:	1	Special:	-

POTENTIAL HEALTH EFFECTS

	EYE	SKIN	INHALATION	INGESTION
Primary Route of Exposure:	X	X	X	_

Effects of Overexposure

Acute

Eyes:
May cause minimal irritation, experienced as temporary discomfort.

Skin:
No adverse effects expected from absorption of material through the skin.

Brief contact is not irritating. Prolonged contact, as with clothing wetted with material, may cause defatting of skin or irritation, seen as local redness with possible mild discomfort.

N.D. - Not Determined N.A. - Not Applicable N.T. - Not Tested
< - Less Than > - Greater Than

7. HANDLING AND STORAGE

Precautions to be Taken in Handling and Storage:
Minimum feasible handling temperatures should be maintained. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)

Eye/Face Protection:
Chemical-type goggles or face shield recommended to prevent eye contact.

Skin Protection:
Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned at least once a week.

Respiratory Protection:
Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated, use respirator approved by MSHA or NIOSH as appropriate. Supplied air respiratory protection should be used for cleaning large spills or upon entry into tanks, vessels, or other confined spaces. See below for applicable permissible concentrations.

Ventilation:
Adequate to meet occupational exposure limits. (See below)

Exposure Limit for Total Product:
5mg/m3 for mineral oil mist averaged over an 8 hour daily exposure (ACGIH)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: dark pale liquid
Boiling Point (Degrees F.): N.D.
Specific Gravity: .8871 (H20=1)
pH of undiluted product: N.A.
Vapor Pressure: N.D. mmhg
Viscosity: 107 cSt @ 40°C

Percent VOC: 100
Vapor Density: N.D. Air=1
Solubility in Water: N.D.

Other: -

10. STABILITY AND REACTIVITY

This Material Reacts Violently With: (If others is checked below, see comments for details)

Air	Water	Heat	Strong Oxidizers	Others	None of These
_	_	_	Y	_	_

Comments:
None

Products Evolved When Subjected to Heat or Combustion:
Toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones, and combustion products or compounds of nitrogen, sulfur

	OCCUR	DO NOT OCCUR
Hazardous Polymerizations:	_	X

N.D. - Not Determined N.A. - Not Applicable N.T. - Not Tested
< - Less Than > - Greater Than

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION(ANIMAL TOXICITY DATA)

Median Lethal Dose (LD50 LC50) (Species)

Oral:	believed to be >5 g/kg (rat); practically non-toxic
Inhalation:	N.D.
Dermal:	believed to be >3 g/kg (rabbit); practically non-toxic

Irritation Index, Estimation of Irritation (Species)

Skin:	believed to be <0.5/8.0 (rabbit); no appreciable effect
Eyes:	believed to be <15/110 (rabbit); no appreciable effect
Sensitization:	N.D.

Other:
None

12. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

REMARKS

None

13. TRANSPORT INFORMATION

TRANSPORTATION

DOT: PROPER SHIPPING NAME: N.D.

IMDG: PROPER SHIPPING NAME: N.D.

IATA: PROPER SHIPPING NAME: N.D.

TDG: PROPER SHIPPING NAME: N.D.

14. REGULATORY INFORMATION

A. **SARA TITLE III**

Title III Section 302/304 Extremely Hazardous Substance:

Component	CAS No.	Percent	RQ (lbs)	TPQ (lbs)
NONE				

CERCLA Section 102(a) Hazardous Substance

Component	CAS No.	Percent	RQ (lbs)
NONE			

Title III Section 311 Hazard Categorization

Acute	Chronic	Fire	Pressure	Reactive	Not Applicable
–	–	–	–	–	X

Title III Section 313 Toxic Chemicals

Component	CAS No.	Percent
NONE		

B. **WHMIS CLASSIFICATION**
NA

C. **MICHIGAN CRITICAL MATERIALS**
No critical materials present.

15. OTHER INFORMATION

N.D. - Not Determined N.A. - Not Applicable N.T. - Not Tested
< - Less Than > - Greater Than

16. PRODUCT LABEL

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT

00584 URSA OIL P-100

WARNING STATEMENT

NONE CONSIDERED NECESSARY

PRECAUTIONARY MEASURES

FIRST AID

INGESTION:
If more than several mouthfuls have been swallowed, give two glasses of water (16 oz.). Get medical attention.

INHALATION:
If irritation or drowsiness occurs, remove to fresh air.

EYE CONTACT:
Flush eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

SKIN CONTACT:
Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

FIRE

In case of fire, use foam, dry chemical, or CO2. Use water spray to keep containers cool.

Chemical/Common Name	CAS No.	Range in %
Solvent-dewaxed heavy paraffinic petroleum distillates	64742650	100.00

Mineral oil mist has a permissible exposure level (PEL); therefore, this product by definition, is considered hazardous by OSHA (1910.1200).
Not classified as a hazardous material by DOT definition.

HMIS				National Fire Protection Association			
Health	: 0	Reactivity	: 0	Health	: 0	Reactivity	: 0
Flammability	: 1	Special	: -	Flammability	: 1	Special	: -

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

Manufacturer's Name: Texaco Lubricants Co. Div of TRMI
P.O. Box 52332 Houston, TX 77052

TRANSPORTATION EMERGENCY Company: (914) 831-3400
CHEMTREC: (800) 424-9300

HEALTH EMERGENCY Company: (914) 831-3400

None

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF TEXACO'S PRODUCT SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILTIY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL TEXACO PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL TEXACO PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. TEXACO DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

Date: 12-05-90 _ New X Revised, Supersedes: 06-21-89
Date Printed: 02-07-91

Inquiries regarding MSDS should be directed to:
Texaco Inc.
Manager, Product Safety
P.O. Box 509
Beacon, N.Y. 12508

PLEASE SEE NEXT PAGE FOR PRODUCT LABEL

N.D. - Not Determined N.A. - Not Applicable N.T. - Not Tested
< - Less Than > - Greater Than

MATERIAL SAFETY DATA SHEET

NATURAL GAS

MSDS N
E-0010

Rev. Dat
05/27/8

ARCO OIL AND GAS COMPANY
DIVISION OF ATLANTIC RICHFIELD COMPANY
1601 BRYAN ST.
DALLAS, TEXAS 75201

IMPORTANT: Read this MSDS be handling and disposing of this prod and pass this information on to employees, customers, and users o this product

I. General

Trade Name	PLANT RESIDUE GAS
Other Names	MARSH GAS, NATURAL GAS

Telephone Numbers
EMERGENCY
214/880-4698 COMPANY
800/424-9300 CHEMTREC

Chemical Family	ALKANES
Generic Name	METHANE

DOT Hazardous Materials Proper Shipping Name
METHANE

DOT Hazard Class
FLAMMABLE GAS

CAS No.	74-82-8	**Company ID No.**	0000000010	**UN/NA ID No.**	UN 1971

II. DANGER Summary of Hazards

EXTREMELY FLAMMABLE! OSHA/NFPA CLASS-IA FLAMMABLE GAS.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.

VAPOR REDUCES OXYGEN AVAILABLE FOR BREATHING. ASPHYXIANT HAZARD!
USE ONLY WITH ADEQUATE VENTILATION. ODOR IS AN INADEQUATE WARNING OF POTENTIALLY HAZARDOUS AIR CONCENTRATIONS.
LOW BOILING POINT INTENSIFIES PRESSURE AND RAPID DIFFUSION HAZARD.
MAY CAUSE FROSTBITE OR FREEZE BURNS!
AVOID EXPOSURE TO LIQUID OR CRYOGENIC GAS VAPOR.

III. Fire and Explosion

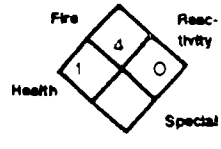
Flash Point (Method)	**Autoignition Temperature (Method)**	**Flammable Limits (% Vol. in Air) At Normal Atmospheric Temperature and Press**
LT -305°F (EST.) SEE FIREFIGHTING PROCEDURES	AP 930°F (EST.)	Lower AP 5.0 Upper AP 15.

Fire and Explosion Hazards
THIS GAS RELEASES FLAMMABLE VAPORS AT WELL BELOW AMBIENT TEMPERATURES AND READILY FORMS FLAMMABLE MIXTURES WITH AIR. EXPOSED TO AN IGNITION SOURCE, IT WILL BURN IN THE OPEN OR BE EXPLOSIVE IN CONFINED SPACES. ITS VAPORS MAY TRAVEL LONG DISTANCES TO A POINT OF IGNITION, AND THEN FLASH BACK. ALKANE/CHLORINE GAS MIXTURES HAVE PRODUCED EXPLOSIONS.

Extinguishing Media
DRY CHEMICAL
CO2

HALOGENATED EXTINGUISHING AGENT

HAZARD RATING:
4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant



Special Firefighting Procedures
GAS FIRES SHOULD NOT BE EXTINGUISHED UNLESS THE GAS FLOW CAN BE STOPPED IMMEDIATELY. SHUT OFF GAS SOURCE AND ALLOW THE FIRE TO BURN ITSELF OUT. IF THE SOURCE CANNOT BE SHUT OFF IMMEDIATELY, ALL EQUIPMENT AND SURFACES EXPOSED TO THE FIRE SHOULD BE COOLED WITH WATER TO PREVENT OVER-HEATING, FLASH-BACKS, OR EXPLOSIONS. CONTROL FIRE UNTIL GAS SUPPLY CAN BE SHUT OFF. FIREMEN MUST USE PROPER PROTECTIVE EQUIPMENT INCLUDING RESPIRATORY APPARATUS TO PROTECT AGAINST HAZARDOUS COMBUSTION PRODUCTS/OXYGEN DEFICIENCIES.

IV. Health Hazards

Summary of Acute Hazards	EXTREME FLAMMABILITY. VAPOR CLOUDS ARE EASILY IGNITED. SIMPLE ASPHYXIANT. FREEZE BURNS.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	Primary Route(s)
Inhalation	OXYGEN DEFICIENT ATMOSPHERES MAY PRODUCE RAPID BREATHING, HEADACHE, DIZZINESS, VISUAL DISTURBANCES, MUSCULAR WEAKNESS, TREMORS, NARCOSIS, UNCONSCIOUSNESS, AND DEATH, DEPENDING ON CONCENTRATION AND DURATION OF EXPOSURE.	[x]
Eye Contact	THIS GAS IS NON-IRRITATING, BUT DIRECT CONTACT WITH LIQUIFIED/PRESSURIZED GAS OR FROST PARTICLES MAY PRODUCE SEVERE AND POSSIBLY PERMANENT EYE DAMAGE FROM FREEZE BURNS.	[ ]
Skin Absorption	THIS MATERIAL IS NOT EXPECTED TO BE ABSORBED THROUGH THE SKIN.	[ ]
Skin Irritation	NON IRRITATING, BUT SOLID AND LIQUID FORMS OF THIS MATERIAL AND PRESSURIZED GAS CAN CAUSE FREEZE BURNS.	[ ]
Ingestion	SOLID AND LIQUID FORMS OF THIS MATERIAL AND THE PRESSURIZED GAS CAN CAUSE FREEZE BURNS.	[ ]
Summary of Chronic Hazards and Special Health Effects	PERSONNEL WITH PRE-EXISTING CHRONIC RESPIRATORY DISEASES SHOULD AVOID EXPOSURE TO THIS MATERIAL.	

V. Protective Equipment and Other Control Measures

Respiratory	FOR EXCESSIVE GAS CONCENTRATIONS, USE ONLY NIOSH/MSHA-APPROVED, SELF-CONTAINED BREATHING APPARATUS. (SEE "OTHER HYGIENE AND WORK PRACTICES" BELOW, AND SECTION XI.)
Eye	USE CHEMICAL-TYPE GOGGLES AND FACE SHIELD WHEN HANDLING LIQUIFIED GASES. SAFETY GLASSES AND/OR A FACE SHIELD ARE RECOMMENDED WHEN HANDLING HIGH-PRESSURE CYLINDERS AND PIPING SYSTEMS AND WHENEVER VAPORS ARE DISCHARGED.
Skin	PREVENT POTENTIAL SKIN CONTACT WITH COLD LIQUID/SOLID/VAPORS. USE INSULATED, IMPERVIOUS PLASTIC OR NEOPRENE-COATED CANVAS GLOVES AND PROTECTIVE GEAR (APRON, FACE SHIELD, ETC.) TO PROTECT HANDS AND OTHER SKIN AREAS.
Engineering Controls	LOCAL EXHAUST AND GENERAL ROOM VENTILATION MAY BOTH BE ESSENTIAL IN WORK AREAS TO PREVENT ACCUMULATION OF EXPLOSIVE MIXTURES. IF MECHANICAL VENTILATION IS USED, ELECTRICAL EQUIPMENT MUST MEET N.E.C. REQUIREMENTS.
Other Hygienic and Work Practices	EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS FOR FIRST AID TREATMENT OF POTENTIAL FREEZE BURNS SHOULD BE AVAILABLE IN THE VICINITY OF ANY SIGNIFICANT EXPOSURE FROM COMPRESSED GAS RELEASE. (SEE SECTIONS IV. AND VII.) PERSONNEL SHOULD NOT ENTER AREAS WHERE THE ATMOSPHERE IS BELOW 19.5 VOL.% OXYGEN WITHOUT SPECIAL PROCEDURES/EQUIPMENT. RESPIRATOR USE SHOULD COMPLY WITH OSHA 29 CFR 1910.134 OR EQUIVALENT. (SEE SECTION XI.-GENERAL COMMENTS)

VI. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time
METHANE	ACGIH	1986			

VII. Emergency and First Aid

Inhalation	IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE AIR, OXYGEN, AND/OR ADMINISTER CARDIOPULMONARY RESUSITATION. PATIENTS SHOULD BE KEPT QUIET AND WARM UNTIL MEDICAL CARE IS OBTAINED.
Eye Contact	RINSE IMMEDIATELY WITH WATER. REMOVE CONTACT LENSES. THEN FLUSH EYES WITH WATER FOR 10-15 MINUTES. IF IRRITATION OR DISCOMFORT PERSISTS, CALL FOR MEDICAL ATTENTION.
Skin Contact	FROZEN TISSUES SHOULD BE FLOODED OR SOAKED WITH WARM WATER (105' - 115'F.). DO NOT USE HOT WATER! CRYOGENIC BURNS WHICH RESULT IN BLISTERING OR DEEPER TISSUE FREEZING SHOULD BE PROMPTLY SEEN BY A PHYSICIAN.
Ingestion	RINSE MOUTH WITH WATER. DRINK 1-2 GLASSES OF WATER OR MILK. DO NOT INDUCE VOMITING UNLESS OIRECTED BY MEDICAL PERSONNEL.
Emergency Medical Treatment Procedures	SEE ABOVE PROCEDURES.

VIII. Spill and Disposal

Precautions if Material is Spilled or Released	ELIMINATE ALL POTENTIAL SOURCES OF IGNITION. EVACUATE ALL NON-ESSENTIAL PERSONNEL TO AN AREA UPWIND. (AT LEAST 1/2 MILE IN ALL DIRECTIONS IF TANKS OR TANK CARS ARE INVOLVED IN FIRE.) STOP SOURCE OF RELEASE WITH NON-SPARKING TOOLS BEFORE PUTTING OUT ANY FIRE. VENTILATE ENCLOSED AREAS TO PREVENT FORMATION OF FLAMMABLE OR OXYGEN-DEFICIENT ATMOSPHERES. WATER SPRAY MAY BE USED TO REDUCE VAPORS. LIQUID SPILLS WILL VAPORIZE FORMING COLD, DENSE VAPOR CLOUDS THAT DO NOT READILY DISPERSE. AVOID VAPOR CLOUD, EVEN WITH PROPER RESPIRATORY EQUIPMENT.
Waste Disposal Methods	RELEASES ARE EXPECTED TO CAUSE ONLY LOCALIZED NON-PERSISTENT ENVIRONMENTAL DAMAGE. WASTE MIXTURES CONTAINING THESE GASES SHOULD NOT BE ALLOWED TO ENTER DRAINS OR SEWERS WHERE THERE IS DANGER OF THEIR VAPORS BEING IGNITED. WHEN IT BECOMES NECESSARY TO DISPOSE OF THESE GASES, IT IS PREFERABLE TO DO SO AS A VAPOR. THESE GASES MAY BE USED AS AN AUXILIARY FUEL OR DISPOSED OF BY BURNING IN A PROPERLY DESIGNED FLARE OR INCINERATOR. VENTING OF THE GASES TO THE ATMDSPHERE SHOULD BE AVOIDED.

IX. Components

{This may not be a complete list of components}

SEE SUPPLEMENT BEGINNING ON PAGE 5

Component Name	CAS No.	Carcinogen##		Composition amount (Wt.) (See Qualification on Page
METHANE	74-82-8	N/AP	N/DA	
CARBON DIOXIDE	124-38-9	N/AP	GT	≤5 PERCENT

##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other

Compositions given are typical values, not specifications.

X. Physical and Chemical Data

Boiling Point (At 760.0 mm Hg) AP -258° F	**Viscosity Units, Temp. (Method)** N/AP		**Dry Point** N/AP
Freezing Point AP -296° F	**Vapor Pressure** N/DA		**Volatile Characteristics** COMPLETE
Specific Gravity (H_2O = 1 at 39.2°F) LT 0.30	**Vapor Sp. Gr. (Air = 1.0 at 60° - 90° F)** AP 0.5	**Solubility in Water** NEGLIGIBLE	**pH** N/AP
Hazardous Polymerization NOT EXPECTED TO OCCUR	**Other Chemical Reactivity** N/P		**Stability** STABLE

Other Physical and Chemical Properties	GROSS HEAT OF COMBUSTION @ 60° F. = AP 24,000 BTU/LB OR 1,000 BTU/FT3.
Appearance and Odor	COLORLESS, TASTELESS, ODORLESS GAS. ODOR IS INADEQUATE WARNING (SEE SECTION XI.).
Conditions to Avoid	HEAT, SPARKS, AND OPEN FLAMES.
Materials to Avoid	OXIDIZING AGENTS SUCH AS OXYGEN, CHLORINE, FLUORINE/FLUORIDE COMPOUNDS, BROMINE & METAL CATALYSTS.
Hazardous Decomposition Products	INCOMPLETE COMBUSTION MAY PRODUCE CARBON MONOXIDE AND OTHER HARMFUL SUBSTANCES.

XI. Additional Precautions

Handling, Storage and Decontamination Procedures	CONSULT D.O.T. REGULATIONS ABOUT THE SHIPMENT OF PETROLEUM GASES. D.O.T. REQUIRES USE OF RED "FLAMMABLE GAS" LABEL. IF UPON INITIAL RECEIPT INSPECTION A CYLINDER IS FOUND TO BE IN POOR OPERATING CONDITION, CONTACT THE SUPPLIER. THE MOST COMMON HAZARD IS LEAKAGE DUE TO FAULTY PRESSURE CONTROL REGULATORS. LARGE PRESSURE BUILD-UP CAN RESULT IN EXPLOSIVE DECOMPRESSION AT THE CYLINDER HEAD, CAUSING THE CYLINDER TO ROCKET LIKE A MISSILE. USE PRESSURE-REDUCING REGULATOR WHEN CONNECTING TO LOWER PRESSURE PIPING SYSTEMS. PREVENT ENTRAPMENT OF LIQUID IN CLOSED SYSTEMS. USE CHECK VALVE TO PREVENT BACK-FLOW INTO STORAGE CONTAINER. CHAIN CYLINDERS WHEN NOT IN USE.
General Comments	STORE AND USE GAS CONTAINERS ONLY IN WELL-VENTILATED AREAS. STORAGE AREAS SHOULD NOT EXCEED 100° F AND BE PROTECTED FROM DAMPNESS, SALT, AND CORROSIVE CHEMICALS. CYLINDER STORAGE SHOULD BE SEGREGATED FROM OXIDIZERS SUCH AS OXYGEN, CHLORINE, ETC. AND AWAY FROM HEAVY TRAFFIC AREAS TO PREVENT KNOCKING OVER OR DAMAGE OF FALLING OBJECTS. AVOID DRAGGING, ROLLING, OR SLIDING CYLINDERS. VALVE CAPS SHOULD REMAIN ON CYLINDERS NOT CONNECTED FOR USE. SEPARATE FULL CONTAINERS FROM EMPTY ONES. ODOR IS NOT AN ADEQUATE WARNING OF POTENTIALLY HAZARDOUS CONCENTRATIONS IN AIR. FOR EXPLANATION OF OCCUPATIONAL EXPOSURE LIMITS SHOWN IN SECTION VI., REFER TO THE DEFINITION OF "SIMPLE ASPHYXIANT" PRESENTED IN THE ACGIH TLV BOOKLET. RELEASES OF THESE GASES MAY CAUSE FLAMMABLE ATMOSPHERE WITH EXPLOSION POTENTIAL. THESE ATMOSPHERES MAY ALSO BE OXYGEN DEFICIENT. DO NOT ENTER SUCH AREAS/CONFINED SPACES WITHOUT IMPLEMENTING SPECIAL SAFETY PROCEDURES, INCLUDING MONITORING FOR OXYGEN DEFICIENCY AND FLAMMABLES. THE INFORMATION AND CONCLUSIONS HEREIN REFLECT NORMAL OPERATING CONDITIONS AND MAY BE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

- - - Note - - - Qualifications:

EQ = Equal	AP = Approximately	N/P = No Applicable Information Found
LT = Less Than	UK = Unkown	N/AP = Not Applicable
GT = Greater Than	TR = Trace	N/DA = No Data Available

XII. Supplement

INDUSTRY EXPERIENCE HAS SHOWN THAT THIS MATERIAL MAY CONTAIN SMALL AMOUNTS OF RADON, A NATURALLY OCCURING RADIOACTIVE GAS, AND ITS PARTICULATE DECAY PRODUCTS, SOME OF WHICH MAY BE RETAINED IN PROCESS EQUIPMENT. GAMMA RADIATION ABOVE BACKGROUND LEVELS, EMITTED FROM SHORT HALF-LIFE DECAY PRODUCTS, MAY BE DETECTED EXTERNALLY AT THAT EQUIPMENT DURING OPERATIONS BUT WILL DECAY TO BACK-GROUND LEVELS WITHIN 4 HOURS AFTER CESSATION OF FLOW. EQUIPMENT EMITTING GAMMA RADIATION SHOULD BE PRESUMED TO BE INTERNALLY CONTAMINATED WITH THE LONGER-LIFE DECAY PRODUCTS THAT EMIT ALPHA RADIA-TION, WHICH MAY BE A HAZARD IF INHALED.
IF YOUR ASSESSMENT INDICATES THE PRESENCE OF GAMMA RADIATION, EMPLOYEE EXPOSURE POTENTIAL SHOULD BE MINIMIZED BY LIMITING ACCESS NEAR THAT EQUIPMENT. PRIOR TO MAINTENANCE ON THOSE EQUIPMENT INTERNALS, STOP FLOW AND ALLOW A 4-HOUR DELAY PRIOR TO OPENING. MAINTENANCE PERSONNEL SHOULD WEAR APPROPRIATE PROTECTIVE EQUIPMENT TO PREVENT SKIN CONTAMINATION OR INHALATION OF ANY RESIDUE CONTAINING ALPHA RADIATION.

XII. Supplement Continued

IV. Health Hazards

SEE SUPPLEMENT BEGINNING ON PAGE

Primary Hazard	BURNS AND INJURY DUE TO FIRE AND EXPLOSION. INHALATION OF EXCESSIVE VAPOR OR AEROSOL CONCENTRATION.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS
Inhalation	DROWSINESS/DRUNKENNESS,HEADACHE,VISUAL DISTURBANCE LEADING TO BLINDNESS; COUGHING/SHORTNESS OF BREATH;COLLAPSE AND DEATH AT VERY HIGH CONCENTRATIONS
Eye Contact	UPON DIRECT LIQUID CONTACT, MAY CAUSE MODERATE BURNING, TEARING, REDNESS, AND SWELLING.HIGH VAPOR CONCENTRATIONS (>2000 PPM) MAY CAUSE SAME SYMPTOMS.
Skin Absorption	IN LIQUID OR SOLUTION FORM, THIS MATERIAL MAY BE ABSORBED THROUGH INTACT SKIN AND PRODUCE TOXIC EFFECTS.
Skin Irritation	FOLLOWING EXTENSIVE, REPEATED AND/OR PROLONGED SKIN CONTACT, MAY CAUSE BURNING, ITCHING, REDNESS, OR BLISTERS.
Ingestion	SWALLOWING BETWEEN 2 AND 8 OUNCES OF METHANOL CAN CAUSE DEATH.
Effects Of Overexposure	SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.

V. Protective Equipment

SEE SUPPLEMENT BEGINNING ON PAGE

Respiratory	DO NOT USE AIR-PURIFYING RESPIRATORS. METHANOL CANNOT BE DETECTED BY ITS ODOR UNTIL DANGEROUS EXPOSURE OCCURS. SEE SUPPLEMENTAL SHEET BEGINNING ON PAGE 5 OF THIS MSDS FOR DETAILED RECOMMENDATIONS.
Ventilation	LOCAL EXHAUST VENTILATION MAY BE REQUIRED TO MEET EXPOSURE STANDARD(S) IN ADDITION TO GENERAL ROOM VENTILATION.
Eye	EYE PROTECTION, SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE MASK, MUST BE WORN WHEN ANY POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN.
Skin	PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS AND HEAD AND FACE PROTECTION MUST BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.
Other	EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

VI. Occupational Exposure Limits

	Substance	Source	Date
1.	METHANOL	OSHA	1972

Exposure Limit Value/Time	Short Term Limit/Time	Peak Limit
200.00 PPM / 8 HOURS		

	Substance	Source	Date
2.	METHANOL -SKIN	ACGIH	1982

Exposure Limit Value/Time	Short Term Limit/Time	Peak Limit
200.00 PPM / 8 HOURS	250.00 PPM / 15 MINUTES	

VII. Emergency and First Aid

SEE SUPPLEMENT BEGINNING ON PAGE 5

Inhalation	IF OVERCOME BY EXPOSURE, IMMEDIATELY MOVE VICTIM TO FRESH AIR. KEEP VICTIM QUIET. ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION IMMEDIATELY. PROMPT ACTION IS ESSENTIAL.
Eye Contact	IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH EYES WITH CLEAN, LOW PRESSURE, LUKEWARM WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING EYELIDS. OBTAIN MEDICAL ATTENTION.
Skin Contact	SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.
Ingestion	IF SWALLOWED, ADMINISTER LUKEWARM WATER (PINT) ONLY IF VICTIM IS COMPLETELY CONSCIOUS/ALERT. INDUCE VOMITING. OBTAIN IMMEDIATE EMERGENCY MEDICAL TREATMENT. PROMPT ACTION IS ESSENTIAL.
Note to Physician	IN CASE OF INGESTION OR MASSIVE INHALATION, OBSERVE AS INPATIENT BECAUSE SLOW METABOLISM CAUSES A LATENT PERIOD OF 24 HOURS BETWEEN EXPOSURE AND ACIDOSIS/BLINDNESS. SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS FOR ADDITIONAL INFORMATION.

VIII. Spill and Disposal

SEE SUPPLEMENT BEGINNING ON PAGE 5

Precautions if Material is Spilled or Released	SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF THIS MSDS.
Waste Disposal Methods	DESIGNATE RCRA F005 IF SPENT SOLVENT INTENDED FOR DISPOSAL. DESIGNATE SPILL CLEANUP RESIDUE RCRA U154. LANDFILL PROPERLY CONTAINED, CONTAMINATED SOLIDS ONLY AT PERMITTED DISPOSAL SITES USING REGISTERED CONTRACTORS. BURN CONCENTRATED LIQUID WASTE IN PROPERLY DESIGNED COMBUSTION SYSTEMS. TAKE SAFETY PRECAUTIONS DUE TO LOW FLASH POINT. ASSURE EMISSIONS ARE COMPLIANT WITH ALL APPLICABLE AIR POLLUTION CONTROL REGULATIONS. DILUTE AQUEOUS WASTE (<1% WT) MAY BE BIODEGRADABLE WHEN FED IN LOW PROPORTION TO SUITABLE BIOPLANT. AVOID OVERLOADING/POISONING THE BIOMASS. ASSURE EFFLUENT IS COMPLIANT WITH ALL APPLICABLE WATER POLLUTION CONTROL REGULATIONS.

IX. Components

(This may not be a complete list of components)

Component Name	CAS No.		Composition amount (See Note on Page 4)
METHANOL	67-56-1	AP	100 PERCENT

Compositions given are typical values, not specifications.

MATERIAL SAFETY DATA SHEET

METHANOL

MSDS No. 998211201
Rev. Date 01/28/83

ARCO CHEMICAL COMPANY
DIVISION OF ATLANTIC RICHFIELD COMPANY
1500 MARKET STREET
P.O. BOX 7258
PHILADELPHIA, PENNSYLVANIA 19101

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product

I. General

Trade Name	METHANOL
Other Names	METHYL ALCOHOL, WOOD ALCOHOL

Telephone Numbers
800/424-9300 CHEMTREC
215/353-8300 ARCO CHEM
215/557-2000 INFO ONLY

Chemical Family	ALIPHATIC ALCOHOL
Generic Name	

DOT Hazardous Materials Proper Shipping Name
METHYL ALCOHOL

DOT Hazard Class
FLAMMABLE LIQUID

CAS No.	**Company ID No.** EO00142300	**UN No.** 1230

II. Summary of Hazards

DANGER
EXTREMELY FLAMMABLE - MAY BURN WITH INVISIBLE FLAME
CAUTION - MODERATE INHALATION HAZARD - SERIOUS OVEREXPOSURE TO METHANOL VAPOR CAN CAUSE BLINDNESS AND PERHAPS DEATH
CAUTION - MODERATE INGESTION HAZARD - UNSAFE FOR HUMAN CONSUMPTION, MAY CAUSE BLINDNESS OR DEATH
CAUTION - MODERATE SKIN HAZARD - EXTENSIVE/PROLONGED LIQUID CONTACT CAN CAUSE SERIOUS ILLNESS
CAUTION - MODERATE EYE HAZARD

III. Fire and Explosion

SEE SUPPLEMENT BEGINNING ON PAGE 5

Flash Point (Method)	**Autoignition Temperature (Method)**	**Flammable Limits at Normal Atmospheric Temperature Pressure (% Vol in Air)**
AP 50 F (CC)	AP 725 F	Lower 6.0 Upper 36.5

Unusual Fire and Explosion Hazards
RELEASES FLAMMABLE VAPOR BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, CAN BURN IN THE OPEN OR EXPLODE IF CONFINED. MIXTURES WITH WATER AND AS LITTLE AS 21% (BY VOL) METHANOL ARE STILL FLAMMABLE (FLASH PT <100 F) UNDER SOME CIRCUMSTANCES, MAY CORRODE CERTAIN METALS, INCLUDING ALUMINUM AND ZINC, AND GENERATE HYDROGEN GAS.

Extinguishing Media
DRY CHEMICAL ALCOHOL TYPE FOAM
CO2
FOR ADDITIONAL EXTINGUISHING MEDIA INFORMATION -
SEE SUPPLEMENTAL DATA BEGINNING ON PAGE 5 OF MSDS

Special Firefighting Procedures
DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION X - DECOMPOSITION PRODUCTS POSSIBLE. HEAT MAY BUILD PRESSURE AND RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. APPLY AQUEOUS EXTINGUISHING MEDIA CAREFULLY TO AVOID FROTHING AND LIMIT EXPOSURE OF NEARBY EQUIPMENT. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER OR PUBLIC WATERS. A METHANOL FIRE MAY NOT BE VISIBLE TO THE NAKED EYE

X. Physical and Chemical Data

Boiling Point AP 148 F	Evaporation Rate (Ratio of Time) N/AP		Dry Point N/AP
Freezing Point AP -144 F	Vapor Pressure (MM HG AT 68 F) AP 96		Volatile Characteristics MODERATE
Specific Gravity (H,O = 1 at 39.2°F) AP 0.79	Vapor Density (Air = 1 at 60 - 90°F) AP 1.1	Solubility in Water COMPLETE	Stability STABLE
Hazardous Polymerization NOT EXPECTED TO OCCUR	Viscosity Units, Temp., Method N/AP		pH N/AP

Other Physical and Chemical Properties	
Appearance and Odor	CLEAR LIQUID WITH FAINT ALCOHOL ODOR. ODOR IS NOT GOOD INDICATION OF EXPOSURE LEVEL.
Conditions to Avoid	HEAT, SPARKS, OPEN FLAME, OXIDIZING CONDITIONS: OPEN CONTAINERS AND POOR VENTILATION.
Materials to Avoid	STRONG OXIDIZING AGENTS; ALUMINUM; ZINC; ANY REACTIVE METAL WHICH WILL DISPLACE HYDROGEN; CERTAIN FORMS OF PLASTICS, RUBBER, AND COATINGS.
Hazardous Decomposition Products	INCOMPLETE COMBUSTION WILL GENERATE HIGHLY POISONOUS CARBON MONOXIDE AND PERHAPS OTHER TOXIC VAPORS SUCH AS FORMALDEHYDE.

XI. Additional Precautions

Handling and Storage	STORE ONLY IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, OPEN FLAME, SPARKS, STRONG OXIDIZING AGENTS. MAY BE STORAGE FIRE HAZARD ON CONTACT WITH AIR ABOVE 50 DEG.F. BLANKET STORAGE WITH DRY INERT GAS. STORE DRUMS W/ BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. GROUND CONTAINERS BEFORE TRANSFER. WILL ABSORB ATMOSPHERIC MOISTURE. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. CARBON STEEL IS SATISFACTORY MATERIAL OF CONSTRUCTION. DO NOT STORE IN ALUMINUM OR ZINC (GALVANIZED). HANDLE "EMPTY" DRUMS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. DECONTAMINATE CONTAINERS BEFORE REUSE/DISPOSAL.
General Comments	IT IS RECOMMENDED THAT SPILL CLEANUP RESIDUES CONTAMINATED WITH THIS PRODUCT BE SHIPPED AS: HAZARDOUS WASTE (METHYL ALCOHOL) FLAMMABLE LIQUID UN 1230

- - - Note - - - Qualifications: EQ = Equal, LT = Less Than, AP = Approximately, GT = Greater Than, UK = Unknown, TR = Trace, N/AV = Not Available, N/AP = Not Applicable

XII. Supplement

FIRE EXTINGUISHING MEDIA

DO NOT USE SOLID WATER STREAM BUT WATER SPRAY/FOG ARE USEFUL TO COOL EXPOSED FACILITIES OR DILUTE THIS WATER SOLUBLE LIQUID BELOW FLASH POINT. WATER DILUTION REQUIRED TO EXTINGUISH FIRE IS HIGH (>5:1).

EFFECTS OF OVEREXPOSURE

EXPOSURE TO 4,000-13,000 PPM OF METHANOL FOR 12 HOURS WAS FATAL TO ONE WORKER. APPARENT EXPOSURE TO 1,200-8,000 PPM FOR 4 YEARS CAUSED CHRONIC POISONING WITH DIMMING OF VISION AMONG A GROUP OF WORKERS; OTHERS IN THE AREA WERE NOT AFFECTED. HEADACHES REPORTED AMONG DUPLICATING MACHINE OPERATORS EXPOSED TO 300 PPM. MOST SERIOUS CASES OF METHANOL POISONING REPORTED IN LAST 40 YEARS RESULTED FROM INGESTION IN BELIEF IT WAS ETHYL ALCOHOL.

RESPIRATORY PROTECTION

CONDITION	MINIMUM RESPIRATORY PROTECTION* REQUIRED ABOVE 200 PPM
VAPOR CONCENTRATION	
2000 PPM OR LESS	ANY SUPPLIED-AIR RESPIRATOR
	ANY SELF-CONTAINED BREATHING APPARATUS
10,000 PPM OR LESS	ANY SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE, HELMET OR HOOD
	ANY SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE
25,000 PPM OR LESS	A TYPE C SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE OR WITH FULL FACEPIECE, HELMET OR HOOD OPERATED IN CONTINUOUS-FLOW MODE.
GREATER THAN 25,000 PPM OR ENTRY AND ESCAPE FROM UNKNOWN CONCENTRATIONS	SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.
	A COMBINATION RESPIRATOR WHICH INCLUDES TYPE C SUPPLIED-AIR RESPIRATOR WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE OR CONTINUOUS-FLOW MODE AND AN AUXILIARY SELF-CONTAINED BREATHING APPARATUS OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.
FIREFIGHTING	SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE.
ESCAPE	ANY ESCAPE SELF-CONTAINED BREATHING APPARATUS.

*ONLY NIOSH-APPROVED OR MSHA-APPROVED EQUIPMENT SHOULD BE USED.

NOTE TO PHYSICIAN

METHANOL IS WATER SOLUBLE AND DISTRIBUTES IN THE WATER SPACE (0.68 L/KG WT. (KG)). IT IS SLOWLY METABOLIZED TO FORMIC ACID. ETHANOL, BY COMPETITIVE INHIBITION, RETARDS METHANOL METABOLISM. TREATMENT SHOULD BEGIN WITH PO ETHANOL VIA NG TUBE OR IV ETHANOL UNTIL BLOOD ETHANOL LEVEL REACHES 100 MG/DL. CONTINUE ETHANOL UNTIL BLOOD METHANOL LEVEL IS LESS THAN 20 MG/DL. RELAPSES CAN OCCUR IF ETHANOL STOPPED PREMATURELY. HEMODIALYSIS IS HELPFUL TO REMOVE METHANOL AND FORMATE BUT ALSO REMOVES ETHANOL AND DOSAGE ADJUSTMENT IS REQUIRED.

XII. Supplement Continued

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

RELEASE MAY CAUSE FIRE/EXPLOSION. EVACUATE/EXCLUDE NONESSENTIAL PERSONNEL. EXTINGUISH ALL IGNITION SOURCES/STOP RELEASE IF FEASIBLE WITHOUT UNDUE RISK. IMMEDIATELY NOTIFY FIRE/WATER SUPPLY/POLLUTIO CONTROL AUTHORITIES. DO NOT FLUSH TO SEWER. LIQUID REMAINS FLAMMABLE EVEN WHEN MIXED WITH WATER UNLESS MAJOR DILUTION IS ACHIEVED. BLANKET SPILL WITH ALCOHOL RESISTANT FOAM TO LIMIT VAPOR EMIS-SION. EQUIP CLEANUP CREW WITH PROPER PROTECTION.

DIKE/IMPOUND DOWNGRADE FROM LARGE LAND SPILL. SOAK UP SMALL SPILL ONTO INERT SOLIDS/SHOVEL INTO SUITABLE DISPOSAL CONTAINERS. RESTRICT WATER USE IN CLEANUP. ON WATER, LIQUID IS HIGHLY SOLUBLE/WI REMAIN ON SURFACE UNTIL RECOVERED OR DISPERSED. LIQUID IS HIGHLY BIODEGRADABLE/MAY DEPLETE OXYGEN FROM WATER/CAUSE FISH KILL. DISPERSE UNRECOVERABLE MATERIAL TO MINIMIZE THIS EFFECT. IF RELEASED T THE ENVIRONMENT, COMPLY WITH ALL REGULATORY NOTIFICATION REQUIREMENTS.

TEXACO INC.
INDUSTRIAL HYGIENE, TOXICOLOGY, AND MATERIAL SAFETY DATA SHEET

NOTE: NO REPRESENTATION IS MADE AS TO THE ACCURACY OF THE INFORMATION HEREIN. SEE PAGE 7 FOR CONDITIONS UNDER WHICH DATA ARE FURNISHED.

Trade Name and Synonyms
00365 TEXACO UNLEADED

Manufacturer's Name
Texaco Inc.

Emergency Telephone No.
(914) 831-3400 ext. 204

Address
P.O. Box 509 Beacon, NY 12508

Chemical Name and/or Family or Description
Automotive Lead-Free Gasoline

THIS PRODUCT IS CLASSIFIED AS:
X HAZARDOUS BY DEFINITION NO. 1,2,7,10
____ NOT HAZARDOUS
____ ON ATTACHED EXPLANATION SHEETS

WARNING STATEMENT:
DANGER! EXTREMELY FLAMMABLE
HARMFUL OR FATAL IF SWALLOWED
MAY BE HARMFUL IF INHALED; MAY CAUSE IRRITATION
MAY BE HARMFUL IF ABSORBED THROUGH SKIN

OCCUPATIONAL CONTROL PROCEDURES

Protective Equipment (Type)

Eyes: Chemical type goggles or face shield optional.

Skin: Protective clothing such as uniforms, coveralls or lab coats should be worn. Launder or dry clean when soiled. Gloves resistant to chemicals and petroleum distillates required.

Inhalation: SCBA or supplied air respiratory protection required for entry into tanks, vessels, or other confined spaces containing gasoline.

Ventilation: Adequate to meet permissible concentrations.

Permissible Concentrations:

Air: The ACGIH (1984-85) TWA for gasoline is 300ppm; Texaco recommends a TWA of 100ppm.

EMERGENCY AND FIRST AID PROCEDURES

First Aid

Eyes: Flush with water for fifteen minutes.

Skin: Wash exposed areas with soap and water.

Ingestion: Do NOT induce vomiting. May cause chemical pneumonitis. Call a physician.

Inhalation: Should symptoms noted under physiological effects occur, remove to fresh air. If not breathing, apply artificial respiration.

Other Instructions: Remove gasoline-soaked clothing.

ND - Not Determined NA - Not Applicable

PHYSIOLOGICAL EFFECTS

Code No. 00365

Effects of Exposure

Acute:

Eyes: Causes slight-moderate eye irritation.

Skin: Moderately irritating; causes redness, edema, or drying of the skin.

Respiratory System: May cause dizziness, irritation of eyes, nose and throat, vomiting, bluish color of the skin, and CNS effects. See A.C., p.4.

Chronic: Recent studies with laboratory animals have shown that gasoline vapors caused kidney damage and kidney cancer in rats and liver cancer in mice.

Other: -

Sensitization Properties:

Skin: Yes ___ No X Unknown ___ Respiratory: Yes ___ No X Unknown ___

Median Lethal Dose (LD_{50} LC_{50} XSpecies)

Oral: LD50 = 18.75 ml/kg (rat)

Inhalation: N.D.

Dermal: >5 ml/kg (rabbit)

Other: N. D.

Irritation Index, Estimation of Irritation (Species)

Skin: 0.98/8.0 (rabbit)

Eyes: 0/110 (rabbit)

Symptoms of Exposure: See above.

FIRE PROTECTION INFORMATION

Ignition Temp °F: 850 F Flash Point °F. (Method): -40F (COC)

Flammable Limits (%) Lower 1.4% Upper 7.6%

Products Evolved When Subjected to Heat or Combustion:

Carbon monoxide and carbon dioxide may be formed on burning in limited air supply.

Recommended Fire Extinguishing Agents And Special Procedures:

According to the National Fire Protection Association Guide 325M, use dry chemical, foam or carbon dioxide. Water may be ineffective on the flames, but water should be used to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for the persons attempting to stop the leak.

Unusual or Explosive Hazards:

Flowing gasoline can be ignited by self-generated static electricity; use adequate grounding.

N.D. - Not Determined N.A. - Not Applicable

ENVIRONMENTAL PROTECTION

Code No. 00365

Waste Disposal Method:
Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures and processes may change classification to non-hazardous or hazardous for reasons other than, or in addition to ignitability. (See Remarks for Waste Classification.)

Procedures in Case of Breakage or Leakage (Transportation Spills Call CHEMTREC (800) 424-9300)
Eliminate all ignition sources including internal combustion engines and power tools. Ventilate area. Avoid breathing vapor. Use SCBA or supplied-air mask for large spills in confined areas. Contain spill if possible. Remove with inert absorbant.

Remarks:
Waste Classification: Product (as presently constituted) has the RCRA characteristic of ignitability and if discarded in its purchased form would have the hazardous waste number D001.

PRECAUTIONS

DANGER! EXTREMELY FLAMMABLE
HARMFUL OR FATAL IF SWALLOWED
MAY BE HARMFUL IF INHALED. MAY CAUSE IRRITATION
MAY BE HARMFUL IF ABSORBED THROUGH SKIN
Long term exposure to vapors has caused cancer in laboratory animals. Keep away from heat, sparks and flame.
Avoid breathing vapor. Use only in well-ventilated locations.
Avoid contact with eyes and prolonged contact with skin.
Keep container closed. Wash thoroughly after handling.
FOR USE AS MOTOR FUEL ONLY

Requirements for Transportation, Handling and Storage
Transport, handle and store in accordance with OSHA Regulation 1910.106, and applicable D.O.T. regulations.

DOT Proper Shipping Name: Gasoline
DOT Hazard Class (if applicable): Flammable liquid, UN 1203

CHEMICAL AND PHYSICAL PROPERTIES

Boiling Point (°F): >90 Vapor Pressure: >-350 (mmHg)

Specific Gravity: 0.7-.77 (H_2O = 1) Vapor Density: 3-4.0 (Air = 1)

Appearance and Odor: Light straw to light red liquid

pH of undiluted product: N.A. Solubility: slight

Percent Volatile by Volume: 100 Evaporation: N.D. ( )= 1

Viscosity: <1.4 cSt @ 100F Other: -

Hazardous Polymerizations: _____ Occur X Do not occur

The Material Reacts Violently With (If others is checked below, see additional comments on page 6 for futher details)

Air	Water	Heat	Strong Oxidizers	Others	None of These
		X	X		

ND - Not Determined NA - Not Applicable
< - Less Than > - Greater Than

MPOSITION

Code No. 00365

Chemical/Common Name	CAS No.	Exposure Limit	Range in %
*Gasoline consists mainly of straight chain and branched paraffin-ic hydrocarbons, olefins-, cycloparaffins and aromatics. The benzene content normally varies from 0.2-3.5% with a typical value of 1.4%.	8006619	300ppm ACGIH 100ppm Texaco	95.00 - 99.9
*Benzene	71432	10ppm TWA ACGIH 10ppm TWA OSHA	1.00 - 3.9

*Hazardous according to OSHA (1910.1200) or one or more state Right-To-Know lists.

PRODUCT SHIPPING LABEL

Product No. 00365

00365 TEXACO UNLEADED

DANGER! EXTREMELY FLAMMABLE
HARMFUL OR FATAL IF SWALLOWED
MAY BE HARMFUL IF INHALED; MAY CAUSE IRRITATION
MAY BE HARMFUL IF ABSORBED THROUGH SKIN
Long term exposure to vapors has caused cancer in laboratory animals. Keep away from heat, sparks and flame.
Avoid breathing vapor.Use only in well-ventilated locations.
Avoid contact with eyes and prolonged contact with skin.
Keep container closed. Wash thoroughly after handling.
FOR USE AS MOTOR FUEL ONLY

If swallowed, do not induce vomiting. Call a physician immediately. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Wash skin with soap and plenty of water. Gasoline-soaked clothing should be removed and laundered befor reuse.

In case of fire use water spray, foam, dry chemical or CO2.

Chemical/Common Name	CAS No.	Exposure Limit	Range in %
*Gasoline consists mainly of straight chain and branched paraffinic hydrocarbons,olefins-,cycloparaffins and aromatics. The benzene content normally varies from 0.2-3.5% with a typical value of 1.4%.	8006619	300ppm ACGIH 100ppm Texaco	95.00 - 99.9
*Benzene	71432	10ppm TWA ACGIH 10ppm TWA OSHA	1.00 - 3.9

*Hazardous according to OSHA (1910.1200) or one or more state Right-To-Know lists.

HMIS
Health : 2 Reactivity : 0
Flammability: 4 Special : -

DOT Proper Shipping Name: Gasoline
DOT Hazardous Class : Flammable liquid, UN 1203

ON Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammab or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

HEALTH EMERGENCY TELEPHONE (914) 831-3400 (EXT. 204)

Texaco Inc.
2000 Westchester Avenue
White Plains, New York 10650

For Additional Information Concerning:

Fuels/Lubricants/Antifreezes
call (914) 831-3400 (EXT.204)
Chemicals/Additives
call (409) 722-8381
Transportation Spills
call CHEMTREC (800) 424-9300

ADDITIONAL COMMENTS	Code No. 00385

STATE OF MICHIGAN CRITICAL MATERIALS ACT (REVISED 1985)
1.4% benzene; conversion factor 6.7 pounds per gallon

Other effects of inhalation include central nervous system effects such as contracted pupils, loss of reflexes, convulsions, seizures, sudden loss of consciousness, coma and sudden death. Other indications of overexposure are headaches, flushing of the face, nausea, mental confusion and depression, loss of appetite, blurred speech and difficulty in swallowing.
This product is intended for motor fuel only.

To determine applicability or effect of any law or regulation with respect to the product, users should consult his legal advisor or the appropriate government agency. Texaco does not undertake to furnish advice on such matters.

By R. I. Richards Title Mgr. Env. Conservation & Toxicology

Date 11-27 85 ☐ New ☒ Revised, Supersedes 01-19-84

ND Not Determined NA Not Applicable
< Less Than > Greater Than

DOW **TRANSPORTATION EQUIPMENT DATA**

– EMERGENCY DATA ON OTHER SIDE –

PRODUCT	CODE NO.	DATE ISSUED OR REVISED
DIETHANOLAMINE LFG	21106	R-05-01-79

SYNONYM:			TYPE COMMODITY: Ethanolamine/ water solution	
CHARACTERISTICS	DOT SHIPPING NAME: --		DOT HAZARD CLASS: --	
	FLASH POINT: 342°F (PMCC)	FLAMMABLE LIMITS: --	BOILING POINT: 514°F	VAPOR DENSITY (AIR = 1): >Air
	FREEZING POINT: -37°F	LOADING TEMP.: 100°F	MAX. PRODUCT TEMP.: 140°F	MAX. STEAM PRESSURE: 0 psig
	WT/GAL @ 77°F (25°C): 8.9	CONCENTRATION SHIPPED: 85% in water	SOLUBILITY IN WATER: Mixes completely	PHYSICAL STATE: Liquid

APPROVED EQUIPMENT:

	TANK TRUCK	TANK CAR
TANK TYPE:	MC 303, 304, 306, 307 NON-ALUMINUM	DOT 103W, 111A60W-1, 111A100W-1, 111A100W-6
TANK MATERIALS:	Stainless steel	Stainless steel, lined steel Carbon steel
INSULATION:	Not required	Not required
STEAMCOILS:	Not required	Not required
METHOD USED TO CLEAN TANK:	Drain, flush with water, steam, rinse thoroughly with water and dry.	Drain, flush with water, steam, rinse with water and dry.
PUMP TYPES:	Stainless steel, carbon steel Centrifugal or positive displacement	
HOSE TYPES:	Stainless steel, Teflon, Viton, Neoprene	
GASKETS:	Teflon, Asbestos, Viton, Neoprene (leather - single use only)	
OTHER:	PREVENT CONTACT WITH BRASS, BRONZE & COPPER ALLOYS.	

HANDLING:

HOW UNLOADED:	Pump or N_2 (Pressure NOT approved for MC 303 & 306 tanks.)
PROBLEMS:	IRRITATING: PREVENT PERSONAL CONTACT. DO NOT BREATHE VAPORS.
PRECAUTIONS:	USE PROTECTIVE EQUIPMENT- MINIMUM OF CHEMICAL WORKERS GOGGLES HARD HAT, RUBBER GLOVES, RUBBER BOOTS. HAVE RESPIRATOR AVAILABLE.
OTHER:	

FORM C-15766 PRINTED R-8-78

FOR CHEMICAL EMERGENCY - CALL 1-800-424-9300 IN THE U.S.A.
(1-202-483-7616 OUTSIDE THE CONTINENTAL U.S. AND IN WASHINGTON, D.C.)

EMERGENCY RESPONSE INFORMATION

DIETHANOLAMINE LFG

COMPOSITION: DIETHANOLAMINE 84-86% MINIMUM, WATER 14-16%

PHYSICAL PROPERTIES:
FORM: LIQUID
DENSITY: 1.08
SOLUBILITY IN WATER: MIXES COMPLETELY
FREEZING POINT: -37°F
BOILING POINT: 514°F
FLASH POINT: 342°F (PMCC)
FLAMMABLE LIMITS:
VAPOR HAZARD:
REACTS WITH: OXIDIZERS

HAZARDS

ENVIRONMENT:
ANIMAL: AVOID INGESTION AND EXPOSURE.

FISH: AVOID ENTRY INTO NATURAL WATERS. MAY CAUSE LOCALIZED FISH KILL.

EXPOSURE:
EYES: MAY CAUSE SEVERE PAIN, IRRITATION AND INJURY.
SKIN: UP TO MODERATE IRRITATION, EVEN A BURN ON REPEATED CONTACT.
INHALATION: VAPORS IRRITATING.
INGESTION: LOW SINGLE DOSE ORAL TOXICITY.

IN CASE OF ACCIDENT

SPILL or LEAK

IRRITATING. KEEP UPWIND. ISOLATE AND ROPE OFF AREA.
PREVENT PERSONAL CONTACT. DO NOT BREATHE VAPORS.
NO SMOKING OR OPEN FLAMES. SHUT OFF IGNITION AND LEAK IF WITHOUT RISK.
AVOID ENTRY INTO SEWERS OR NATURAL WATERS. USE NONCOMBUSTIBLE ABSORBENT OR SAND ON SMALL SPILLS AND SWEEP OR SCOOP INTO WASTE CONTAINERS.
DIKE LARGER SPILLS AND RECOVER.
CLOTHING: WEAR FULL PROTECTIVE CLOTHING AND SELF-CONTAINED BREATHING EQUIPMENT.
DISPOSAL: CONTACT MANUFACTURER AND AUTHORITIES.

FIRE

IRRITATING. WILL BURN BUT DOES NOT IGNITE EASILY.
COOL CONTAINERS EXPOSED TO HEAT/FIRE WITH WATER.
MAY DECOMPOSE IN HEAT/FIRE RELEASING PRODUCTS OF GREATER HAZARDS.
SMALL FIRES: USE DRY CHEMICAL OR CARBON DIOXIDE.
LARGE FIRES: USE WATER SPRAY OR ALCOHOL FOAM.
DIKE RUN OFF. PREVENT ENTRY INTO SEWERS OR NATURAL WATERS.
CLOTHING: WEAR FULL TURNOUT CLOTHING AND SELF-CONTAINED BREATHING EQUIPMENT.

FIRST AID

EYES: IRRIGATE WITH FLOWING WATER IMMEDIATELY & CONTINUOUSLY FOR 15 MIN. REFER TO MEDICAL PERSONNEL.
SKIN: IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVE CONTAMINATED CLOTHING. CALL A PHYSICIAN.
CLOTHING: REMOVE CONTAMINATED CLOTHING IMMEDIATELY, PREFERABLY UNDER SHOWER, & WASH BEFORE REUSE. DESTROY CONTAMINATED SHOES.
INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CALL A PHYSICIAN &/OR TAKE TO A MEDICAL FACILITY.

R-05-01-8

FORM C-60615 PRINTED 8-11-76

DOW CHEMICAL U.S.A.
AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

DOW **TRANSPORTATION EQUIPMENT DATA**

– EMERGENCY DATA ON OTHER SIDE –

TRIETHYLENE GLYCOL TECH	CODE NO. 87792	DATE ISSUED OR REVISED 08-01-80

CHARACTERISTICS				
SYNONYM:		TYPE COMMODITY: Glycol		
DOT SHIPPING NAME: --		DOT HAZARD CLASS: --		
FLASH POINT: 320°F (COC)	FLAMMABLE LIMITS: 0.9 - 9.2%	BOILING POINT: 545.9°F	VAPOR DENSITY (AIR = 1): >Air	
FREEZING POINT: 21.2°F	LOADING TEMP.: Ambient	MAX. PRODUCT TEMP.: (1)	MAX. STEAM PRESSURE: (1)	
WT/GAL @ 77°F (25°C): 9.33	CONCENTRATION SHIPPED: Full strength	SOLUBILITY IN WATER: Mixes completely	PHYSICAL STATE: Liquid	

APPROVED EQUIPMENT:

	TANK TRUCK	TANK CAR
TANK TYPE	MC 303, 304, 306, 307	DOT-103ALW, 111A60ALW, 103W, 111A60W-1, 111A100W-1
TANK MATERIALS:	Stainless steel, aluminum, lined steel	Aluminum, lined carbon steel
INSULATION:	Required in severe cold weather (Temp. 32°F or lower)	Required in severe cold weather
STEAMCOILS:	Not required	Required in severe cold weather
METHOD USED TO CLEAN TANK	Drain, flush with water, steam, wash with water and dry.	Drain, Butterworth aluminum tank with hot water, steam carbon steel tank, wash with water, dry.
PUMP TYPES:	Stainless steel, carbon steel, air pressure Centrifugal or positive displacement	
HOSE TYPES:	Seamless stainless steel, Teflon, Viton, Neoprene, Hypalon, CHEM-SOLV, Kem-King, Chemi-Flo	
GASKETS:	Teflon, Asbestos, Viton, Neoprene (leather - single use only)	
OTHER:	(1) OBTAIN INSTRUCTIONS IF NECESSARY TO HEAT. WHEN COLD (-20°F OR LESS) BECOMES VISCOUS AND DIFFICULT TO PUMP.	

HANDLING:

HOW UNLOADED:	Pump or air pressure. (Pressure NOT approved for Mc 303 and 306 tanks)
PROBLEMS:	AVOID PERSONAL CONTACT. AVOID BREATHING VAPORS IF ANY.
PRECAUTIONS	USE PROTECTIVE EQUIPMENT - MINIMUM OF CHEMICAL WORKERS GOGGLES, HARD HAT, RUBBER GLOVES.
OTHER:	

ORM C-10709 PRINTED 8-6-79

FOR CHEMICAL EMERGENCY - CALL 1-800-424-9300 IN THE U.S.A.
(1-202-483-7616 OUTSIDE THE CONTINENTAL U.S. AND IN WASHINGTON, D.C.)

EMERGENCY RESPONSE INFORMATION

TRIETHYLENE GLYCOL TECH

COMPOSITION: TRIETHYLENE GLYCOL 99%

PHYSICAL PROPERTIES:
FORM: LIQUID, COLORLESS
DENSITY: 1.122
SOLUBILITY IN WATER: MIXES COMPLETELY
FREEZING POINT: 21.2°F
BOILING POINT: 545.9°F
FLASH POINT: 320°F (COC)
FLAMMABLE LIMITS: 0.9% - 9.2%
WILL IGNITE IN AIR AT 700°F
REACTS WITH: OXIDIZING MATERIALS

HAZARDS

ENVIRONMENT:
ANIMAL: NOT LIKELY A PROBLEM.
FISH: AVOID ENTRY INTO NATURAL WATERS. MAY CAUSE LOCALIZED FISH KILL.

EXPOSURE:
EYES: UP TO SLIGHT IRRITATION.
SKIN: UP TO SLIGHT IRRITATION.
INHALATION: LOW IN TOXICITY.
INGESTION: VERY LOW IN TOXICITY FROM SINGLE DOSE.

IN CASE OF ACCIDENT

SPILL or LEAK

AVOID EYE AND SKIN CONTACT. AVOID BREATHING VAPORS IF ANY.
NO SMOKING, FLARES OR OPEN FLAMES. SHUT OFF IGNITION AND LEAK IF WITHOUT RISK. AVOID ENTRY INTO SEWERS OR NATURAL WATERS. USE ABSORBENT OR SAND ON SMALL SPILLS AND SHOVEL INTO STEEL DRUMS. DIKE LARGER SPILLS AND RECOVER.
CLOTHING: WEAR FULL PROTECTIVE CLOTHING AND, IF VAPORS PRESENT, SELF-CONTAINED BREATHING APPARATUS.
DISPOSAL: CONTACT MANUFACTURER AND AUTHORITIES.

FIRE

WILL BURN IF EXPOSED TO FIRE.
COOL CONTAINERS WITH WATER IF EXPOSED TO FIRE TO PREVENT BURSTING.
SMALL FIRES: USE DRY CHEMICALS OR CARBON DIOXIDE.
LARGE FIRES: USE WATER FOR OR SPRAY OR ALCOHOL FOAM. DIKE RUNOFF.
PREVENT ENTRY INTO SEWERS OR NATURAL WATERS.
CLOTHING: WEAR FULL TURN OUT CLOTHING AND SELF-CONTAINED BREATHING.

FIRST AID

EYES: IRRIGATION IMMEDIATELY WITH WATER FOR 5 MIN IS GOOD SAFETY PRACTICE.
SKIN: WASH OFF IN FLOWING WATER OR SHOWER.
CLOTHING: REMOVE CONTAMINATED CLOTHING AND WASH BEFORE REUSE.
INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CALL A PHYSICIAN AND/OR TAKE TO A MEDICAL FACILITY.

08-01-80

FORM C-40618 PRINTED 8-11-78

DOW CHEMICAL U.S.A.
AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

TRIANGLE REFINERIES, INC.
SPECIALTY PRODUCTS DIVISION
3020 KNIGHT STREET • SUITE 130 • SHREVEPORT, LOUISIANA 71105
TELEPHONE (800) 548-3417 (318) 861-0954
A SUBSIDIARY OF KERR-McGEE REFINING CORPORATION

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: W-1410

EMERGENCY TELEPHONE	COMPANY	CHEMTREC
	405/270-2526	800/424-9300

I. PRODUCT IDENTIFICATION

PRODUCT	CHEMICAL NAME	
KERMAC 100-W	Stoddard Solvent, White Spirits	
CHEMICAL FAMILY	**FORMULA**	**CAS NUMBER**
Petroleum Hydrocarbon Naphtha	C_8-C_{12}	64741-48-9

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATING CODES Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4	HEALTH CODE	FIRE CODE	REACTIVITY CODE
	0	2	0

II. HAZARDOUS COMPONENTS

INGREDIENT	%	OSHA LIMIT	TLV
Stoddard Solvent	100	TWA-500 ppm	TWA-100 ppm STEL-200 ppm
Xylene	Up to 1%	TWA-100 ppm	TWA-100 ppm STEL-150 ppm

III. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT	VAPOR PRESSURE	EVAPORATION (ETHYL ETHER = 1)
300-410°F	Approx. 5.3 mm Hg @ 100°F	Estimated 4
PERCENT VOLATILE BY VOLUME (%)	**MOLECULAR WEIGHT**	**APPEARANCE**
100	Approximately 140	Clear Liquid
ODOR AND THRESHOLD	**MELTING POINT**	**VAPOR DENSITY (AIR = 1)**
Petroleum Naphtha/Approx 1 ppm	Not Available	4.8
SPECIFIC GRAVITY (H_2O = 1)	**VISCOSITY**	**SOLUBILITY (G/100G WATER AT 20°C)**
0.78	<32 SUS @ 100°F	Negligible

VI. FIRST AID PROCEDURES

INHALATION

Move exposed person to fresh air. If breathing has stopped, perform artificial respiration
et medical attention as soon as possible.

EYE CONTACT

Immediately flush eyes with water for a minimum of 15 minutes, occasionally lifting the low
and upper lids. Get medical attention as soon as possible.

SKIN CONTACT

If clothing soaked, immediately remove clothing and wash skin with soap and water. Launder
clothing before wearing. Get medical attention promptly.

INGESTION

Do not induce vomiting. Get medical attention as soon as possible.

VII. EMPLOYEE PROTECTION

PIRATORY PROTECTION (UTILIZE NIOSH APPROVED RESPIRATORS. REFER TO MANUFACTURER'S PROTECTION FACTORS AND OSHA STANDARD 1910.134. AS A GUIDELINE:)

Up to 500 ppm, half-mask organic vapor respirator.
Up to 1000 ppm, full-face organic vapor respirator or full-face supplied air respirator.
Greater than 1000 ppm, fire fighting, or unknown concentration, self-contained breathing apparatus with positive pressure.

PROTECTIVE CLOTHING

EYE

Chemical goggles, face shield.

SKIN

Gloves: Nitrile, neoprene or other material resistant to naphtha solvent.

VENTILATION

Maintain local or dilution ventilation to keep air concentration below 100 ppm. Loading, unloading, tank gauging, etc. remain upwind. Request assistance of safety and industrial hygiene personnel to determine air concentrations.

IV. FIRE PROTECTION INFORMATION

FLASH POINT AND METHOD	AUTOIGNITION TEMPERATURE	FLAMMABLE LIMITS % VOLUME IN AIR	LOWER	UPPER
Tag Closed Cup 100°F minimum	Approx. 440°F		1	6

EXTINGUISHING MEDIA

Carbon dioxide, dry chemical, or foam. Water stream may spread fire, use water spray only t cool containers exposed to fire. If leak or spill has not ignited, use water spray to disperse vapors.

HAZARDOUS DECOMPOSITION PRODUCTS

Incomplete combustion can yield carbon monoxide and various hydrocarbons.

FIRE AND EXPLOSION HAZARDS

Can form flammable mixtures with air and flash when heated to approximately 100°F. Explosion hazard in fire situation. Vapor heavier than air and may travel considerable distance to a source of ignition and flash back.

HAZARDOUS POLYMERIZATION		STABILITY	
☒ Will Not Occur	☐ May Occur	☒ Stable	☐ Unstable

V. HEALTH INFORMATION

INHALATION

Possible effects include headache, nasal and respiratory irritation, nausea, drowsiness, tigue, peumonitis, pulmonary edema, central nervous system depression.

EYE CONTACT

Irritation

SKIN CONTACT

Irritation, may cause dermatitis due to defatting of keratin layer.

INGESTION

Possible effects include headache, drowsiness, nausea, fatigue, peumonitis, pulmonary edema, central nervous system depression. Aspiration hazard.

REPORTED AS POTENTIAL CARCINOGEN OR CARCINOGEN		
☒ Not Applicable	☐ National Toxicology Program	
☐ International Agency for Research on Cancer	☐ OSHA	

VIII. TRANSPORTATION AND STORAGE INFORMATION

DOT Hazardous Material ☒ Yes ☐ No

DOT SHIPPING NAME AND NUMBER	DOT HAZARD CLASS
Petroleum naphtha UN1255	Combustible liquid

STORAGE

Do not store with strong oxidizers. Store as OSHA Class II combustible liquid.

IX. ENVIRONMENTAL PROTECTION

SPILLS

Notify emergency response personnel. Evacuate area and remove ignition sources. Build dike to contain flow. Remove free liquid, do not flush to sewer or open water. Pick up with inert absorbent and place in closed container for disposal. If flash point of residue is under 140°F, utilize hazardous waste manifest and permitted hazardous waste disposal site. If flash is above 140°F, utilize permitted industrial waste disposal site.

WASTE DISPOSAL

EPA Hazardous Waste ☒ Yes ☐ No

EPA WASTE CODE NUMBER	WASTE CHARACTERISTIC OR HAZARD CODE
D 001	Ignitable

Utilize licensed waste disposal company. Consider recycling or incineration. Based on flash point, utilize permitted hazardous waste disposal site and manifest or permitted industrial waste disposal site as appropriate.

MANAGER'S SIGNATURE (PRODUCT SAFETY AND COMPLIANCE)	DATE PREPARED
Prepared by Kerr-McGee Refining Corporation for Triangle Refineries, Inc. C. L. Russell	5-15-85

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200)
(Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON Gas Engine Oil HDAX SAE 40 **CPS 232307**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-54-7, 64742-65-0, 64742-36-5, 64742-62-7, 64742-41-2, 64742-57-0, 64742-01-4)	>90%
Detergent, inhibitor, antiwear agent and zinc dialkyldithiophosphate (CAS 68649-42-3)	<10%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based on information reviewed to date, we recommend an exposure standard of 5 mg/m^3. This is the Federal OSHA exposure standard and the ACGIH (1985-86) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS	EMERGENCY & FIRST AID PROCEDURES
Eyes	
Expected to cause no more than minor eye irritation.	Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.
Skin	
Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact. SEE ADDITIONAL HEALTH DATA.	Wash skin thoroughly with soap and water. Launder contaminated clothing.
Inhalation	
Not expected to be acutely toxic by inhalation. Breathing mineral oil mist at concentrations in air that exceed the recommended exposure standard can cause respiratory irritation or discomfort. See Additional Health Data.	If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.
Ingestion	
Not expected to be acutely toxic by ingestion.	If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

ee Page 3.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: No special skin protection is necessary.
Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.
Ventilation: Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)464°F(240°C) Min.
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog.
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills.
Precautions if Material is Released or Spilled: Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of nitrogen and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Insoluble in water. Miscible with hydrocarbon solvents.
Appearance (Color, Odor, etc.): Amber liquid
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: 0.89 @ 15.6/15.6°C
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a

n/a = Not Applicable
NDA = No Data Available

Gulf Oil Corporation

MATERIAL SAFETY DATA SHEET

MEDICAL & HEALTH RESOURCES DIVISION, TOXICOLOGY DEPARTMENT
P. O BOX 3240, PITTSBURGH, PA 15230

LPG, Demethanized, Gulf

CODE NUMBER 10WAR0002MAR8301	SECTION I		PREPARED BY R. K. Rigney
MANUFACTURER'S NAME Warren Petroleum Company	EMERGENCY TELEPHONE NO. (713) 651-0693		NEW / REVISED 3/83 (#2, 3/1
ADDRESS (NUMBER, STREET, CITY, STATE & ZIP CODE) P. O. Box 1589, Tulsa, OK 74102			REPLACES 10WARPP2FEB8
			EXPIRES 3/86
CHEMICAL NAME & SYNONYMS NA		TRADE NAMES & SYNONYMS Gulf Demethanized Raw Product	
CHEMICAL FAMILY Liquid Petroleum Gas		FORMULA Mixture	
CAS NUMBER 68476-85-7		UN Number 1075	

SECTION II – HAZARDOUS INGREDIENTS

MATERIALS	%	TLV (Units)	MATERIALS	%	TL (Uni
L.P.G.	100	1000 ppm 1800mg/m^3			

DOT HAZARD CLASS: Flammable Gas

SECTION III – PHYSICAL DATA

Distillation Range °C °F	~ 45 to 181°C (~113 to 375°F)	SPECIFIC GRAVITY (H_2O=1) 15.6 / 15.6 C	Variable
VAPOR PRESSURE (mm Hg.)	290psig at -20°F (loading temperature)	PERCENT, VOLATILE BY VOLUME (%)	100
VAPOR DENSITY (Air = 1)	Variable	EVAPORATION RATE	NA
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Colorless gas which may, or may not, be odorized.		

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

FLASH POINT NA | FLAMMABLE LIMITS | LEL 1.9 | UEL 9.5

EXTINGUISHING MEDIA

☐ ALCOHOL FOAM ☒ CARBON DIOXIDE ☒ DRY CHEMICAL ☐ FOAM ☐ WATER ☐ OTHER

SPECIAL FIRE FIGHTING PROCEDURES

Stop flow of gas or liquid. Let fire burn out. Wear a self-contained breathing apparatus when firefighting in confined or enclosed spaces. Use water to cool fire-exposed containers, structures and to protect personnel. Use water to disperse flammable vapors.

FIRE AND EXPLOSION HAZARDS – Dangerous when exposed to heat or flame. Vapors may form explosive mixture with air. Material may be ignited by flame or spark under all normal atmospheric conditions. In highly concentrated atmospheres, gas may adsorb to clothing creating a potential fire hazard. Can react when exposed to higher than normal temperatures.

SECTION V – HEALTH HAZARD DATA

RECOMMENDED OCCUPATIONAL EXPOSURE LIMIT: See Section II.

EFFECTS OF OVEREXPOSURE

At concentrations above the recommended TLV, muscle relaxation, fatigue, lethargy, insensibility and unconsciousness may result in addition to irritation of the eyes and mucous membranes. At even higher concentrations, this product may act as a simple asphyxiant gas. Symptoms of the consequent oxygen deficiency include nausea, vomiting, fainting, unconsciousness and possible death. Liquefied gas may cause frostbite.

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Immediately remove from exposure. If the victim is unconscious, administer artificial respiration and/or oxygen, as indicated. Seek medical aid. Contact with liquid - EYES: Flush immediately with large amounts of lukewarm water. Seek medical aid. SKIN: Keep affected area warm. If possible, submerge affected area in lukewarm water. Stimulate circulation in affected area by massage. Seek medical aid.

SECTION VI – REACTIVITY DATA

STABILITY:	UNSTABLE		STABLE	X	CONDITIONS TO AVOID: Heat, flame, sparks, etc.

INCOMPATABILITY (Materials to avoid): May react with oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide may be emitted under conditions of incomplete combustion.

HAZARDOUS POLYMERIZATION:	MAY OCCUR		WILL NOT OCCUR	X	CONDITIONS TO AVOID: NA

SECTION VII – SPILL OR LEAK PROCEDURES

- [X] EVACUATE AREA
- [X] STOP FLOW
- [X] ELIMINATE ALL SOURCES OF IGNITION, FLAMMABLES
- [X] AVOID INHALATION (Excessive)
- [X] AVOID DERMAL CONTACT (with liquid)
- [X] RESPIRATORY PROTECTION (AS PER SECTION VIII)
- [X] SKIN PROTECTION (AS PER SECTION VIII)
- [ ] ABSORB OR SCRAPE UP
- [ ] VACUUM UP
- [ ] OTHER
- [X] Turn leaking cylinder with leak upside down to prevent liquid contents from escaping.
- [X] If leak is irreparable, move cylinder to an open, safe area and allow gas to dissipate into the atmosphere.
- [ ] NEUTRALIZE AND WASH AWAY WITH WATER
- [X] OBSERVE GOVERNMENTAL SPILL & WATER QUALITY REGULATIONS
- [X] REMOVE SOILED CLOTHING
- [X] KEEP UPWIND AND ISOLATE EXPOSURE AREA

SECTION VIII – SPECIAL PROTECTION INFORMATION

	DURING NORMAL USE EXPOSURE LESS THAN TLV	FOR GASES, VAPORS, DUSTS, FUMES, MISTS EXCEEDING TLV	SPECIAL (E.G. THERMAL PROCESSING, SPRAY APPLICATIONS)
GENERAL VENTILATION	Maintain adequate ventilation	Yes	NA
LOCAL EXHAUST	Maintain adequate ventilation	Yes	
NIOSH - CERTIFIED RESPIRATORY PROTECTION (1-3)	NA	3	

1. Particle Removing Air Purifying Air Respirator (Mechanical Filter) *2. Gas and Vapor Removing Air Purifying Respirator (Canister)* *3. Full Face Mask Positive Pressure–Demand Type Supplied Air*

EYE PROTECTION	SAFETY GLASSES	X	CHEMICAL GOGGLES	*	FACE SHIELD		(E) EXCELLENT
PROTECTIVE GLOVES *	NEOPRENE	NR	POLYVINYL ALCOHOL	NR	POLYETHYLENE	NR	(G) GOOD (F) FAIR (P) POOR
	NATURAL RUBBER	NR	BUTYL RUBBER	NR	POLYVINYL CHLORIDE	NR	(NR) NOT RECOMMENDED

OTHER PROTECTIVE EQUIPMENT *When working with LPG wear thermal protective clothing, heavy duty insulated gloves, and chemical goggles.

SECTION IX – SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Follow methods advocated for the safe handling and storage of flammable or combustible hydrocarbons. Protect against physical damage. Store in a cool, well-ventilated area, away from possible sources of ignition. Protect against static electricity and lightning.

OTHER PRECAUTIONS

Gas may adsorb to clothing after exposure to high concentrations, creating a fire hazard. No open flames, sparks or smoking permitted in areas where this product is being used. Flammable vapors may spread from area of leak or spill.

FOR TRANSPORTATION SPILLS OR LEAK EMERGENCIES, CALL CHEMTREC - 800 424 9300 (CHEMICAL TRANSPORTATION EMERGENCY CENTER).

MATERIAL SAFETY DATA SHEET

"Essentially Similar" to Form OSHA-20

UNICHEM INTERNATIONAL

Date Prepared March 24, 1987

Supersedes Previous Sheet Dated New

I PRODUCT IDENTIFICATION

UNICHEM INTERNATIONAL 707 N. Leech / P. O. Box 1499 / Hobbs, New Mexico 88240	EMERGENCY TELEPHONE NO. (505) 393-7751

PRODUCT NAME TECHNI-HIB 630W TRADE NAME: Corrosion Inhibitor

CHEMICAL DESCRIPTION:

Aqueous solution of formaldehyde and quaternary compounds

II HAZARDOUS INGREDIENTS

MATERIAL		TLV (UNITS)
Contains Ethylene Glycol		50 ppm PEL Not established
Contains Formaldehyde		8 hr. TWA 3 ppm

III PHYSICAL DATA

OILING POINT, 760 mm Hg	N/D	FREEZING POINT:	-35°F
SPECIFIC GRAVITY (H_2O=1)	1.07	VAPOR PRESSURE @	N/D
VAPOR DENSITY (AIR=1)	N/D	SOLUBILITY IN WATER	Soluble
PERCENT VOLATILES BY WEIGHT	N/D	EVAPORATION RATE	N/D

APPEARANCE AND ODOR Clear liquid, pungent odor

IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD) 145°F (TCC)

FLAMMABLE LIMITS IN AIR, % BY VOLUME for Methanol	LOWER	6.0	UPPER	36.5

EXTINGUISHING MEDIA CO_2, dry chemical, alcohol foam, and water mist or fog. Use a blanketing effect to smother fire.

SPECIAL FIRE FIGHTING PROCEDURES Fire fighters should wear self-contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS Moderate to low explosion hazard and dangerous fire hazard when exposed to heat, sparks, or flames and can react vigouously with oxidizing agents.

UNICHEM
INTERNATIONAL

Home Office 707 N. Leech, P.O. Box 1499 / Hobbs, NM 88240 / Ph. 505/393-7751, TWX 910/986-0010

AUGUST 1987

The **Environmental Protection Agency** (EPA) has completed a **health risk assessment for formaldehyde,** and concluded that "formaldehyde is a probable human carcinogen." The findings were based on "sufficient" evidence that formaldehyde causes cancer in laboratory animals, and "limited" evidence from human studies.

The study seems in direct contradiction to a National Cancer Institute study released last February that failed to show a connection between formaldehyde and cancer.

The two main areas of exposure that triggered the EPA study involved mobile homes constructed with products containing urea-formaldehyde resins, and the manufacture of apparel from fabrics treated with formaldehyde resins.

EPA has now classified the substance as a B1 probable carcinogen under carcinogen risk assessment guidelines. The studies reported "statistically significant" associations between site-specific respiratory neoplasms and exposure to formaldehyde. Supportive evidence was gained by checking the effects of the carcinogenicity on the DNA of the rats. Cross-linkage, sister chromatid exchange and chromosome abberations were found.

EPA notes, however, that human cancer risk was assessed by the use of a linear model, and actual risk may be lower than the linear model suggests.

MATERIAL SAFETY DATA SHEET

Sun Refining and Marketing Company

THIS PRODUCT SAFETY INFORMATION IS PROVIDED PERIODICALLY TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH/SAFETY/ENVIRONMENTAL REGULATIONS. PLEASE FORWARD THIS TO YOUR MANAGER OF SAFETY AND HEALTH. THIS IS THE FIRST FORM PRINTED FOR YOU FOR THIS PRODUCT

SUN CODE R00000443511

PRINTED: 87/09/19

SECTION 1 IDENTIFICATION

NAME CRUDE OIL

SYNONYMS CRUDE; PETROLEUM CRUDE; PETROLEUM

REV. DATE 12/09/85

CAS REGISTRY NO 8002-05-9

CAS NAME CRUDE OIL

NAVAJO REFINING CO.
2600 DIAM. SHAMROCK TWR.
DALLAS, TEXAS 75201

CHEMICAL FAMILY PETROLEUM

SUN REFINING
AND MARKETING COMPANY
TEN PENN CENTER 1801 MARKET STREET
PHILADELPHIA PA 19103

INFORMATION SUPPLIED BY AND PHONE JONATHAN M. HAAS (215) 293-6321

SECTION 2 INGREDIENTS

MATERIAL(S)

A NATURAL PRODUCT PRIMARILY CONSISTING OF COMPLEX COMBINATION OF ALIPHATIC HYDROCARBONS. MAY ALSO CONTAIN UNSATURATED HYDROCARBONS, AROMATIC HYDROCARBONS AND THEIR DERIVATIVES, NITROGEN COMPOUNDS, SULFUR COMPOUNDS, ACID GASES, WATER, SALTS, TRACE AMOUNTS OF SOLUBLE METALS, AND SMALL AMOUNTS OF HYDROGEN SULFIDE AND BENZENE.

SECTION 3 PHYSICAL DATA

BOILING POINT: 760 mm Hg WIDE RANGE °F. WIDE RANGE °C

MELTING POINT: N/A °F. N/A °C

SPECIFIC GRAVITY: (H_2O=1) < 1

PACKING DENSITY: (WHEN APPLICABLE) Kg/m³ N/A

VAPOR PRESSURE: (mm Hg AT 20°C) >15 TO 570

VAPOR DENSITY: (AIR = 1) > 1

SOLUBILITY IN H_2O: (% BY VOL.) < 1

% VOLATILES BY VOL.: < 25

EVAPORATION RATE: (ETHYL ETHER = 1) SLOWER

pH INFORMATION: pH N/A @ N/A g/l H_2O

OCTANOL/WATER PARTITION COEFFICIENT: N.D.

APPEARANCE AND ODOR: YELLOW TO DK. GREEN DISTINCTIVE, ACRID.

ODOR THRESHOLD (ppm) N.D.

SECTION 4 FIRE AND EXPLOSION DATA (CONT. ON PAGE 2)

FLASH POINT: 20 TO 90 °F. MINUS 6 TO 32 °C.

AUTOIGNITION TEMPERATURE: NOT DETERMINED °F. NOT DETERMINED °C.

NFPA CLASSIFICATION

HEALTH 2 FIRE 3 REACTIVITY 0

SPECIFIC HAZARD

HAZARD RATING

LEAST 0 SLIGHT 1 MODERATE 2 HIGH 3 EXTREME 4

FLAMMABLE LIMITS IN AIR

LOWER EXPLOSIVE LEVEL (LEL) ESTIMATED AT 1.0 % VOL

UPPER EXPLOSIVE LEVEL (UEL) ESTIMATED AT 7.0 % VOL

FIRE AND EXPLOSION HAZARDS

FLAMMABLE LIQUID (FLASH POINT LESS THAN 100F)

SUN CODE R00000443511

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
(Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON DELO 100 Motor Oil SAE 30 **CPS 222403**

TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-65-0, 64742-52-5, 64741-96-4, 64742-54-7, 64742-01-4, 64742-36-5, 64742-62-7, 64742-41-2)	>90%
Additives including inhibitors, dispersants, calcium phenate and zinc dialkyldithiophosphate (CAS 68649-42-3)	<10%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based on information reviewed to date, we recommend an exposure standard of 5 mg/m^3. This is the Federal OSHA exposure standard and the ACGIH (1984-85) TLV for mineral oil mists.

PHYSIOLOGICAL & HEALTH EFFECTS — EMERGENCY & FIRST AID PROCEDURES

Eyes

Expected to cause no more than minor eye irritation.

Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.

Skin

Expected to cause no more than minor skin irritation following prolonged or frequently repeated contact. See Additional Health Data.

Wash skin thoroughly with soap and water. Launder contaminated clothing.

Inhalation

Not expected to be acutely toxic by inhalation. Breathing mineral oil mist at concentrations in air that exceed the recommended exposure standard can cause respiratory irritation or discomfort. See Additional Health Data.

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

Ingestion

Not expected to be acutely toxic by ingestion.

If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

See Page 3.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: No special skin protection is necessary.
Respiratory Protection: No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.
Ventilation: Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

FIRE PROTECTION

Flash Point: (COC)428°F(220°C) Min.
Autoignition Temp.: NDA
Flammability Limits: n/a
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog..
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently.

CAUTION! Do not use pressure to empty drum or explosion may result.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills.
Precautions if Material is Released or Spilled: Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur, nitrogen and phosphorus; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

Solubility: Insoluble in water. Miscible with hydrocarbon solvents.
Appearance (Color, Odor, etc.): Dark amber liquid.
Boiling Point: n/a
Melting Point: n/a
Specific Gravity: 0.89 @ 15.6/15.6°C
Vapor Pressure: n/a
Vapor Density (Air=1): n/a
Percent Volatile (Volume %): n/a
Evaporation: n/a
Pour Point: -18°C (0.4°F) Max.
Viscosity: 12 cSt @ 100°C

n/a = Not Applicable
NDA = No Data Available

Material Safety Data Sheet

CHEVRON DELO 100 Motor Oil SAE 30 CPS 222403

ADDITIONAL HEALTH DATA

Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following, depending on concentration and length of exposure: nasal discharge, nosebleed, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

This product contains zinc dialkyldithiophosphate (ZDDP). ZDDPs have been tested by repeated application to the skin of young rabbits for three weeks. These rabbits developed severe skin damage, weight loss, and adverse testicular effects. Follow-up studies indicated similar testicular effects can be produced by placing rabbits on a restricted diet and causing them to lose weight or by treating rabbits with simple caustic chemicals and causing them to develop both severe skin irritation and weight loss. Rats similarly treated with ZDDP did not develop testicular effects even when skin damage and weight loss occurred. These results indicate that the testicular effects seen in rabbits were not caused by the toxicity of ZDDPs but were due to the species reaction to stress from severe skin irritation and weight loss. There is no evidence that human exposure to ZDDPs in the workplace will cause testicular effects since occupational exposure does not cause stress from severe skin irritation and weight loss similar to that observed in rabbits. In summary, we now believe there is no risk of male reproductive impairment from working with ZDDPs.

Several ZDDPs have also been found to have weak mutagenic activity in cultured mammalian cells. The low level of activity occurred only at ZDDP concentrations which were highly toxic to the test cells. Since mutagenic activity was observed with zinc chloride but not with calcium dialkyldithiophosphate, the weak mutagenic activity of ZDDP may be due to the zinc in the chemical. Zinc is abundant in the environment, is an essential element in our diets, and it is generally accepted that zinc is not a health hazard. Therefore, we do not believe the test results discussed above indicate a genetic hazard to employees working with ZDDPs. Appropriate personal hygiene procedures as outlined in the MSDS, should, of course, be followed since ZDDPs in concentrated form are irritating to the skin.

This product also contains calcium phenate. When a similar calcium phenate was applied to the skin of rabbits five days/week for four weeks, the animals developed adverse testicular effects. Studies with other chemicals have since shown that rabbits may develop similar testicular effects due to stress rather than to chemical toxicity. We further investigated the effects of calcium phenates in rats, a species now recognized as more appropriate than rabbits for investigating toxicity by repeated skin exposures. Calcium phenate applied five days/week for four weeks to the skin of rats did not produce adverse testicular effects. Based on these data, we believe that there is no risk of male reproductive impairment from exposure to calcium phenate in the workplace.

This product contains base oils which the International Agency for Research on Cancer (IARC) classifies as having no evidence of carcinogenic potential.

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. See Chevron Material Safety Data Sheet No. 1793 for additional information on used motor oil.

MATERIAL SAFETY DATA SHEET

PETROLITE CORPORATION
369 MARSHALL AVE.
ST.LOUIS MO 63119 U.S.A

REVISION DATE: 05/29/90
EMERGENCY PHONE: 1-314-961-3500
CHEMTREC EMER NO: 1-800-424-9300

****

SECTION 1 PRODUCT IDENTIFICATION

PRODUCT: OW 5827 TRADE NAME: FLUDEX LABEL: 12 97

(IF HAZARDOUS PER D.O.T. CFR TITLE 49)
SHIPPING NAME: Combustible Liquid, N.O.S. (In Bulk D.O.T.)

HAZARD CLASS: Combustible Liquid ID#: NA1993

CHEMICAL DESCRIPTION
FATTY QUATERNARY AMMONIUM CHLORIDE IN METHANOL AND WATER.

****

SECTION 2 HAZARDOUS INGREDIENTS

CAS NUMBER	MATERIAL	%	EXPOSURE LIMITS
**	Fatty quaternary ammonium chloride	10-30	Not Established
00067-56-1	Methanol	10-30	ACGIH TLV: 200ppm TWA OSHA PEL: 200ppm TWA ACGIH STEL: 250 ppm

**Specific chemical identity is being withheld for confidential business purposes.

****

SECTION 3 PHYSICAL DATA

SPECIFIC GRAVITY(H20 = 1.0@60 F): 0.966 VOLATILITY: Moderate
VAPOR PRESSURE: Not Established SOL. IN WATER: Soluble

APPEARANCE AND ODOR: Amber liquid. Amine/alcohol odor.

****

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 110 F FLAMMABLE LIMITS: Not Established

FLASH METHOD:
SFCC ASTM D-3828

EXTINGUISHING MEDIA:
Use water spray or fog, alcohol-type foam, dry chemical or CO2.

CONTINUED ON PAGE: 2

***CONTINUATION OF OW 5827 ***

FIRE FIGHTING PROCEDURES:
Use a self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode. Combustible. Keep fire exposed containers cool using water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
At elevated temperatures, vapors can form an ignitable mixture with air. Vapors can flow along surfaces to distant ignition sources and flash back.

****

SECTION 5 HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

INHALATION:
Prolonged exposure may cause mild irritation of mucous membranes, headache and tiredness. At elevated concentrations, symptoms may include nausea, shortness of breath and a sense of drunkeness. In extreme cases, visual disturbances and occular damage may occur.
Inhalation of mists or exposure to very high vapor concentrations may cause extreme eye, nose and respiratory irritation, and may result in lung damage. Prolonged over-exposure may result in chemical pneumonitis and systemic effects.

SKIN AND EYE CONTACT:
Contact with skin will cause moderate to severe irritation or burns. Repeated or prolonged contact may result in absorption of toxic quantities. Contact with eyes will result in severe eye irritation or burns and, if not immediately removed, may lead to permanent eye damage. Systemic effects resulting from repeated or prolonged skin absorption may include kidney and liver injury as well as other organ damage.

INGESTION:
Harmful if swallowed. May cause headache, gastrointestinal disturbances, dizziness, and nausea. May result in irritation or burns of mouth and digestive tract. Ingestion of methanol may result in a feeling of intoxication and can cause visual disturbances and, in extreme cases, occular damage.

EMERGENCY AND FIRST AID PROCEDURES:
If contacted, wash skin immediately with soap and water. Remove contaminated clothing and wash before reuse. If irritation or burns develop, consult a physician. If in eyes, irrigate with flowing water immediately and continuously for fifteen minutes. Consult a physician.

CONTINUED ON PAGE: 3

***CONTINUATION OF OW 5827 ***

If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.
If ingested, DO NOT induce vomiting. If conscious, drink promptly large quantities of water. Call a physician immediately. NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock and convulsion may be necessary.

****

SECTION 6 REACTIVITY DATA

STABILITY:
Stable under normal conditions of storage and use.

INCOMPATIBILITY:
Keep away from strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:
Oxides of nitrogen. HCl.

HAZARDOUS POLYMERIZATION:
Will not occur.

****

SECTION 7 SPILL AND LEAK PROCEDURES

IF MATERIAL IS SPILLED OR RELEASED:
Small spill - Absorb on paper, cloth or other material.
Large spill - Dike to prevent entering any sewer or waterway. Transfer liquid to a holding container. Cover residue with dirt, or suitable chemical adsorbent. Use personal protective equipment as necessary.

DISPOSAL METHOD:
Place chemical residues and contaminated adsorbent materials into a suitable waste container and take to an approved hazardous waste disposal site. Dispose of all residues in accordance with applicable waste management regulations.

DECONTAMINATION PROCEDURES:
Not appropriate.

****

SECTION 8 SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
When concentrations exceed the exposure limits specified, use of a NIOSH-approved supplied air respirator is recommended. Where the protection factor of the respirator may be exceeded, use of a self-contained breathing unit may be necessary.

CONTINUED ON PAGE: 4

***CONTINUATION OF OW 5827 ***

VENTILATION:

General ventilation should be provided to maintain ambient concentrations below nuisance levels. Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits.

PROTECTIVE CLOTHING:

Chemical-resistant gloves, rubberized boots and full body and face protection should be used to prevent skin and eye contact.

****

SECTION 9 SPECIAL PRECAUTIONS

Avoid heat, sparks and open flames. Avoid breathing of vapors and contact with eyes, skin or clothing. Keep container closed when not in use. Hazardous product residue may remain in emptied container. Do not reuse empty container without commercial cleaning or reconditioning.

****

Although the information and recommendations set forth herein are believed to be correct as of the date hereof, Petrolite makes no representations to the accuracy of such information and recommendations. It is the user's responsibility to determine the suitability and completeness of such information and recommendation for its own particular use.Petrolite shall not be responsible for any direct,indirect,incidental or consequential damages of whatsoever nature resulting from the publication,use of or reliance upon such information and recommendations.

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PETROLITE

ENVIRONMENTAL DATA SHEET

PETROLITE CORPORATION
369 MARSHALL AVE.
ST. LOUIS MO 63119 U.S.A.

REVISION DATE: 02/06/91
EMERGENCY PHONE: 1-314-961-3500
CHEMTREC EMER NO: 1-800-424-9300

****

OW 5827

SARA TITLE III, SECTION 313

This notification is incorporated into the Material Safety Data Sheet (MSDS) for the Petrolite product named above. When physically attached to the MSDS, this notification must not be detached from the MSDS. Any copying and redistribution of the MSDS to which this notification is attached must include copying and redistribution of this notification.

This Petrolite product contains a toxic chemical or chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372, as follows:

CHEMICAL	CAS NUMBER	WEIGHT PERCENT
Methanol	000067-56-1	15.7 %

****

15/91 **Champion Technologies, Inc.** MATERIAL SAFETY DATA SHEET TIME 13.46.55

********** SECTION I - PRODUCT CODE 90004 **********

CHAMPION TECHNOLOGIES, INC.
3130 FM 521 FRESNO, TEXAS 77545
PO BOX 450499 HOUSTON, TEXAS 77245

EMERGENCY TELEPHONE NO.
713/431-2561 1/800/424-9300

PRODUCT NAME: METHANOL FORMULA: CH3 OH
CHEMICAL FAMILY: Alcohol

********** SECTION II - HAZARDOUS INGREDIENTS **********

MATERIALS	%	TLV UNITS	MATERIALS	%	TLV UNITS
* Methanol (67561)	100	200ppm			

RQ=13.5 Drums

********** SECTION III - PHYSICAL DATA **********

BOILING POINT	IBP 149	SPECIFIC GRAVITY	0.8
VAPOR PRESSURE	97 @ 20 C	% VOLATILE BY VOLUME	100
VAPOR DENSITY	1.11	EVAPORATION RATE	ND
pH	Neutral	Viscosity	1-5

SOLUBILITY IN WATER: Complete CARCINOGEN: NO
APPEARANCE AND ODOR: Water clear liquid with alcohol odor

********** SECTION IV - FIRE AND EXPLOSION HAZARD DATA **********

FLASH POINT 54 F (TCC) FLAMMABLE LIMITS -- LEL 6 UEL 36.5
EXTINGUISHING MEDIA:
NO- FOAM YES- ALCOHOL FOAM NO- CARBON DIOXIDE
YES- DRY CHEMICAL YES- WATER SPRAY (FOG)

SPECIAL FIRE FIGHTING PROCEDURES:
Water spray may be used to cool fire-exposed metal containers to prevent re-ignition from hot surfaces. Do not breathe smoke or hot fumes.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Water may not be effective unless large quantities are used. Burns with an invisible flames in daylight.

********** TRANSPORTATION DATA **********

TRANSPORTATION HAZARD CLASS: Flammable Liquid
LABEL REQUIRED: Flammable # 2
PROPER SHIPPING NAME: Methyl Alcohol

ID NUMBER: UN 1230

* Denotes an ingredient listed in SARA Title III, Section 313

SARA Title III Hazard Categories: 1, 3

NFPA Rating Scale: FIRE 3 REACTIVITY 0 HEALTH 1
4 Severe 3 Serious 2 Moderate 1 Slight 0 Minimal

NA = Not Applicable ND = No Data Available NE = Not Established

REVISION DATES: 12/09/89 8/19/88

Champion Technologies, Inc. PRODUCT: METHANOL

********** SECTION V - HEALTH HAZARD DATA **********

THRESHOLD LIMIT VALUE: 200 ppm

EFFECTS OF OVEREXPOSURE:

EYES	Irritation, burning, itching and pain.
SKIN CONTACT	Irritation, redness. Sensitized skin may show signs of dermatit
INHALATION	Nausea, dizziness; pneumonia if aspirated.
IF SWALLOWED	Nausea, vomiting, lightheadedness, and other symptoms of methanol poisoning.

EMERGENCY AND FIRST AID PROCEDURES:

EYES	Flush copiously with water immediately for 15-20 minutes, get medical treatment.
SKIN CONTACT	Wash with soap and water. Remove contaminated clothing and wash skin with soap and water. Launder clothing before rewearing.
INHALATION	Remove to fresh air. Give oxygen if breathing is labored. Call a physician.
IF SWALLOWED	Drink water to dilute. INDUCE vomiting. Get emergency medical treatment for ingestion of methanol.

********** SECTION VI - REACTIVITY DATA **********

STABLE: YES CONDITIONS TO AVOID: heat, sparks and open flames
INCOMPATABLE MATERIALS TO AVOID:
strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS:
none known
HAZARDOUS POLYMERIZATION WILL NOT OCCUR
CONDITIONS TO AVOID: NA

********** SECTION VII - SPILL OR LEAK PROCEDURES **********

top the flow of liquid, eliminate sources of ignition. Dike or otherwise stop spreading. Vacuum up, absorb or scrape up liquid and contaminated soil. Put into containers for later disposal in approved incinerator or chemical landfill.

********** SECTION VIII - SPECIAL PROTECTION INFORMATION **********

RESPIRATORY PROTECTION: NIOSH approved respirator for organic vapors.

VENTILATION:
LOCAL EXHAUST: recommended
MECHANICAL: adequate to maintain TLV
SPECIAL: entering tanks or cleaning up spills; air supply recommended
PROTECTIVE GLOVES: chemically resistant
EYE PROTECTION: splash proof goggles
OTHER PROTECTIVE EQUIPMENT: eyewash stations, ample water supply; showers

********** SECTION IX - SPECIAL PRECAUTIONS **********

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Keep containers closed when not in use. Do not weld or cut empty drums.

OTHER PRECAUTIONS:
DO NOT INGEST.

PREPARED BY: Don G. Morse

Champion Technologies, Inc.

*/15/91 MATERIAL SAFETY DATA SHEET TIME 16.0

********** SECTION I - PRODUCT CODE 70025 **********

CHAMPION TECHNOLOGIES, INC.
3130 FM 521 FRESNO, TEXAS 77545
PO BOX 450499 HOUSTON, TEXAS 77245

EMERGENCY TELEPHONE NO.
713/431-2561 1/800/424-9

PRODUCT NAME: BACTRON K-24 FORMULA: Proprietary
CHEMICAL FAMILY: Quaternary Ammonium Chlroide

********** SECTION II - HAZARDOUS INGREDIENTS **********

MATERIALS	%	TLV UNITS	MATERIALS	%	TLV U
* Methanol (67561)	3.0	200(PPM)			

RQ=416 Drums

********** SECTION III - PHYSICAL DATA **********

BOILING POINT	200-210	SPECIFIC GRAVITY	0.944
VAPOR PRESSURE	25	% VOLATILE BY VOLUME	50
VAPOR DENSITY	0.5	EVAPORATION RATE	NA
PH	7.5	VISCOSITY	94 cps

SOLUBILITY IN WATER: soluble CARCINOGEN: NO
APPEARANCE AND ODOR: pale yellow liquid with slight or no odor

********** SECTION IV - FIRE AND EXPLOSION HAZARD DATA **********

FLASH POINT 120 F (TCC) FLAMMABLE LIMITS -- LEL 6.7 UEL 36.
EXTINGUISHING MEDIA: NO- ALCOHOL FOAM YES- CARBON DIOXIDE
YES- FOAM YES- DRY CHEMICAL YES- WATER SPRAY (FOG

Flammable limits based on volatile portion of product.

SPECIAL FIRE FIGHTING PROCEDURES:
Water spray may be used to cool fire exposed metal containers to prevent re-ignition from hot surfaces. Do not breathe smoke or hot fumes.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
No unusual fire and explosion hazard known.

********** TRANSPORTATION DATA **********

TRANSPORTATION HAZARD CLASS: Combustible Liquid
LABEL REQUIRED: None if container capacity is 110 gallons or less. # 2
PROPER SHIPPING NAME: Combustible Liquid, N.O.S.
(Methanol)
ID NUMBER: NA 1993

* Denotes an ingredient listed in SARA Title III, Section 313

SARA Title III Hazard Categories: 3,

NFPA Rating Scale: FIRE 2 REACTIVITY 0 HEALTH 1
4 Severe 3 Serious 2 Moderate 1 Slight 0 Mini

NA = Not Applicable ND = No Data Available NE = Not Established

REVISION DATES: 12/07/89 10/28/87

Champion Technologies, Inc. PRODUCT: BACTRON K-24

********** SECTION V - HEALTH HAZARD DATA **********

THRESHOLD LIMIT VALUE: 200 ppm TLV based on Methanol

EFFECTS OF OVEREXPOSURE:

EYES	May cause severe irritation, burning, itching and pain.
SKIN CONTACT	Will cause severe irritation, redness, and dermatitis.
INHALATION	Nausea, dizziness; pneumonia if aspirated.
IF SWALLOWED	Nausea, vomiting, lightheadedness, and other systems of methanol poisoning.

EMERGENCY AND FIRST AID PROCEDURES:

EYES	Flush copiously with water immediately for 15 - 20 minutes, get medical treatment.
SKIN CONTACT	Wash with soap and water. Remove contaminated clothing and wash skin with soap and water. Launder clothing before rewearing.
INHALATION	Remove to fresh air. If breathing is difficult, give oxygen. If breathing stops, give artificial respiration.
IF SWALLOWED	Drink water to dilute. INDUCE vomiting. Get emergency medical treatment for ingestion of methanol.

********** SECTION VI - REACTIVITY DATA **********

STABLE: YES CONDITIONS TO AVOID: open flames and ignition sources
INCOMPATABLE MATERIALS TO AVOID:
strong oxidizing agents, mineral acids
HAZARDOUS DECOMPOSITION PRODUCTS:
may emit carbon dioxide,carbon monoxide and oxides of nitrogen
HAZARDOUS POLYMERIZATION WILL NOT OCCUR
CONDITIONS TO AVOID: NA

********** SECTION VII - SPILL OR LEAK PROCEDURES **********

Stop the flow of liquid, eliminate sources of ignition. Dike or otherwise stop spreading. Avoid prolonged dermal and inhalation contact. Wear NIOSH approved organic vapor respirator or self-contained breathing apparatus. Vacuum up, absorb or scrape up liquid and contaminated soil. Put into containers for later disposal in approved incinerator or chemical land-fill. Remove soiled clothing.

********** SECTION VIII - SPECIAL PROTECTION INFORMATION **********

RESPIRATORY PROTECTION: In closed area use NIOSH approved organic vapor respirator.
VENTILATION:
LOCAL EXHAUST: recommended
MECHANICAL: adequate to maintain TLV
SPECIAL: Entering tanks or cleaning up spills; air supply recommended
PROTECTIVE GLOVES: neoprene or rubber
EYE PROTECTION: chemical safety glasses
OTHER PROTECTIVE EQUIPMENT: eyewash stations, ample water supply; showers

********** SECTION IX - SPECIAL PRECAUTIONS **********

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
General good housekeeping practices should be observed. Clean up any spills promptly. Protect exposed skin.

OTHER PRECAUTIONS:
DO NOT INGEST.

PREPARED BY: Bob Young

Marathon Oil Company

PRODUCT NAME: NATURAL GAS
MARATHON MSDS NO: 217MAR001

THE FOLLOWING INFORMATION IS FURNISHED SUBJECT TO THE DISCLAIMER ON THE BOTTOM OF THIS FORM

SECTION 1 - PRODUCT IDENTIFICATION

PRODUCT NAME: NATURAL GAS

SYNONYMS:
NATURAL GAS; NATURAL GAS C1-C4; RAW NATURAL GAS

MANUFACTURER / DISTRIBUTOR:
MARATHON OIL COMPANY
539 SOUTH MAIN STREET
FINDLAY, OH
45840
EMERGENCY PHONE NUMBERS:
(419) 422-2121 (MARATHON)
(800) 424-9300 (CHEMTREC)

CHEMICAL FAMILY: NATURAL GAS
CHEMICAL FORMULA: MIXTURE
CAS NO: 8006-14-2
PRODUCT CODE:

SECTION 2 - PHYSICAL PROPERTIES

BOILING POINT	MELTING POINT	SPECIFIC GRAVITY(H2O=1)
-259 TO-43 F	N.A. F	.37-.5 LIQ
% SOLUBILITY IN WATER	VAPOR DENSITY(AIR=1)	VAPOR PRESSURE
SLIGHT	0.55-0.62	N.A.

PH INFORMATION: PH: N.A. AT CONC.
APPEARANCE: COLORLESS GAS ODOR: MERCAPTAN ODOR

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	AUTOIGNITION TEMP	EXPLOSIVE LIMITS (% BY VOLUME IN AIR)
N.A. F	N.D.A. F	LOWER/UPPER: 3.2/14.0

EXTINGUISHING MEDIA:

CLASS B FIRE EXTINGUISHING MEDIA SUCH AS HALON, CO2 OR DRY CHEMICAL CAN BE USED. FIRE FIGHTING SHOULD BE ATTEMPTED ONLY BY THOSE WHO ARE ADEQUATELY TRAINED.

SPECIAL FIRE FIGHTING PROCEDURES:

STOP THE FLOW OF GAS AND ALLOW FIRE TO BURN OUT. EXTINGUISHING THE FLAME BEFORE SHUTTING OFF THE SUPPLY CAN CAUSE THE FORMATION OF EXPLOSIVE MIXTURES. IN SOME CASES IT MAY BE PREFERRED TO ALLOW THE FLAME TO CONTINUE TO BURN. KEEP THE SURROUNDING AREA COOL WITH WATER SPRAY AND PREVENT FURTHER IGNITION OF COMBUSTIBLE MATERIAL.

PRODUCT NAME: NATURAL GAS
MARATHON MSDS NO: 217MAR001

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA (CON'T)

STABILITY: THE MATERIAL IS STABLE AT 70 F, 760MM PRESSURE
CONDITIONS TO AVOID:
SOURCES OF HEAT OR IGNITION

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE, CARBON DIOXIDE

INCOMPATIBLE MATERIALS:
STRONG OXIDIZERS (E.G. CHLORINE), MINERAL ACIDS

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION 4 - PRODUCT COMPOSITION AND EXPOSURE LIMITS

EXPOSURE LIMITS FOR PRODUCT:	TLV	SOURCE
NATURAL GAS	NONE ESTABLISHED	

COMPONENTS:	PERCENT RANGE	TLV	SOURCE
NATURAL GAS	100.00	0.00 ( )	

RAW NATURAL GAS, AS FOUND IN NATURE, OR A GASEOUS COMBINATION OF HYDROCARBONS HAVING CARBON NUMBERS PREDOMINANTLY IN THE RANGE OF C1 THROUGH C4 SEPARATED FROM RAW NATURAL GAS BY THE REMOVAL OF NATURAL GAS CONDENSATE, NATURAL GAS LIQUIDS, AND NATURAL GAS CONDENSATE NATURAL GAS.
*
METHANE, ETHANE AND PROPANE ARE SIMPLE ASPHYXIANTS BY ACGIH, OXYGEN LIMITING FACTOR. NITROGEN IS AN INERT GAS.
*

SECTION 5 - POTENTIAL HEALTH EFFECTS

EYE:

NATURAL GAS IS GENERALLY NON-IRRITATING TO EYES. PRESSURIZED GAS CAN CAUSE MECHANICAL INJURY TO THE EYE.

SKIN:

NATURAL GAS IS GENERALLY NON-IRRITATING TO SKIN.

INHALATION:

NATURAL GAS ACTS AS AN ANESTHETIC AT HIGH CONCENTRATIONS, PRODUCING DIZZINESS, HEADACHE, INCOORDINATION AND NARCOSIS; EXTREMELY HIGH CONCENTRATIONS CAN CAUSE ASPHYXIATION BY EXCLUSION OF OXYGEN.

INGESTION:

INGESTION NOT LIKELY.

ADDITIONAL TOXICITY INFORMATION:

AT EXTREMELY HIGH CONCENTRATIONS AND EXCESSIVE EXPOSURE CONDITIONS, COMPONENTS OF NATURAL GAS MAY PRODUCE CARDIAC SENSITIZATION.

NISHED SUBJECT TO THE DISCLAIMER ON THE BOTTOM OF THIS FORM

TION

MANUFACTURER / DISTRIBUTOR:
MARATHON OIL COMPANY
539 SOUTH MAIN STREET
FINDLAY, OH
45840
EMERGENCY PHONE NUMBERS:
(419) 422-2121 (MARATHON)
(800) 424-9300 (CHEMTREC)

-C4; RAW NATURAL

CAS NO: 8006-14-2
PRODUCT CODE:

S

ELTING POINT
.A. F

SPECIFIC GRAVITY(H2O=1)
.37-.5 LIQ

APOR DENSITY(AIR=1)
.55-0.62

VAPOR PRESSURE
N.A.

AT CONC.
S

ODOR: MERCAPTAN ODOR

HAZARD DATA

N TEMP
F

EXPLOSIVE LIMITS (% BY VOLUME IN AIR)
LOWER/UPPER: 3.2/14.0

MEDIA SUCH AS HALON, CO2 OR DRY CHEMICAL
SHOULD BE ATTEMPTED ONLY BY THOSE WHO

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LOW FIRE TO BURN OUT. EXTINGUISHING THE
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PRODUCT NAME: NATURAL GAS
MARATHON MSDS NO: 217MAR001

SECTION 5 - POTENTIAL HEALTH EFFECTS (CON'T)

EMERGENCY FIRST AID PROCEDURES

EYE:

CALL A PHYSICIAN IF SYMPTOMS OR IRRITATION OCCUR.

SKIN:

CALL A PHYSICIAN IF SYMPTOMS OR IRRITATION OCCUR.

INHALATION:

MOVE PERSON TO FRESH AIR. IF NOT BREATHING OR IF NO HEARTBEAT, GIVE ARTIFICIAL RESPIRATION OR CARDIOPULMONARY RESUSCITATION (CPR). IMMEDIATELY CALL A PHYSICIAN.

INGESTION:

INGESTION NOT LIKELY.

SECTION 6 - SPECIAL PROTECTION INFORMATION

VENTILATION:

LOCAL OR GENERAL EXHAUST REQUIRED IF USED IN AN ENCLOSED AREA IN ORDER TO KEEP CONCENTRATIONS BELOW THE LOWER EXPLOSIVE LIMIT.

RESPIRATORY PROTECTION:

USE ATMOSPHERE SUPPLIED RESPIRATORS IN THE EVENT OF OXYGEN DEFICIENCY. SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED FOR FIRE FIGHTING.

EYE PROTECTION:

GOGGLES OR FACESHIELD MAY BE NEEDED WHEN HANDLING PRESSURIZED GASES.

OTHER PROTECTIVE EQUIPMENT:

USE EXPLOSION-PROOF EQUIPMENT.

PRODUCT NAME: NATURAL GAS
MARATHON MSDS NO: 217MAR001

SECTION 7 - SPILL OR LEAK PROCEDURES

ENVIRONMENTAL EFFECTS:

MOST COMPONENTS OF NATURAL GAS ARE LIGHTER THAN AIR AND SHOULD DISSIPATE RAPIDLY IN UNCONFINED AREAS.

STEPS TO BE TAKEN IN CASE OF SPILL, LEAK OR RELEASE:

KEEP PUBLIC AWAY. SHUT OFF SOURCE IF POSSIBLE TO DO SO WITHOUT HAZARD. ADVISE LOCAL AND STATE EMERGENCY SERVICES AGENCIES, IF APPROPRIATE.

WASTE DISPOSAL METHOD:

PREFERRED METHOD OF DISPOSAL IS BURNING AS A VAPOR IN A PROPERLY DESIGNED FLARE. SPECIAL CARE MUST BE TAKEN TO ENSURE COMPLETE DISSIPATION OF GAS BELOW LOWER EXPLOSIVE LIMIT.

SECTION 8 - HANDLING AND STORAGE PRECAUTIONS

PRODUCT SHOULD BE HANDLED AND STORED IN ACCORDANCE WITH INDUSTRY ACCEPTED PRACTICES. IN THE ABSENCE OF SPECIFIC LOCAL CODE REQUIREMENTS, NFPA OR OSHA REQUIREMENTS SHOULD BE FOLLOWED. USE APPROPRIATE GROUNDING AND BONDING PRACTICES. STORE IN PROPERLY CLOSED CONTAINERS THAT ARE APPROPRIATELY LABELED. DO NOT EXPOSE TO HEAT, OPEN FLAME, STRONG OXIDIZERS OR OTHER SOURCES OF IGNITION.

SECTION 9 - HAZARD WARNING

DANGER!

EXTREMELY FLAMMABLE
GAS UNDER PRESSURE

SECTION 10 - COMMENTS

PRODUCT NAME: NATURAL GAS
MARATHON MSDS NO: 217MAR001

SECTION 11 - REGULATORY INFORMATION

SARA TITLE III/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 - SECTIONS 302, 304, 311, 312 AND 313.

THE FOLLOWING REGULATIONS APPLY TO THIS PRODUCT:

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS:

40 CFR PART 370 (52 FR 38344 - OCTOBER 15, 1987).

DEPENDING ON LOCAL, STATE AND FEDERAL REGULATIONS, MATERIAL SAFETY DATA SHEETS (MSDS'S) OR LISTS OF MSDS'S (PRODUCT NAMES) MAY BE REQUIRED TO BE SUBMITTED TO THE STATE EMERGENCY RESPONSE COMMISSION, LOCAL EMERGENCY PLANNING COMMITTEE AND LOCAL FIRE DEPARTMENT IF YOU HAVE:

10,000 POUNDS OR MORE OF AN OSHA HAZARDOUS SUBSTANCE* OR
500 POUNDS OR THE THRESHOLD PLANNING QUANTITY WHICHEVER IS LESS, OF AN EXTREMELY HAZARDOUS SUBSTANCE.

* REPORTABLE QUANTITY LEVELS CAN VARY FROM STATE TO STATE AND YEAR TO YEAR DEPENDING ON APPLICABLE STATE AND/OR FEDERAL REGULATIONS.

THIS PRODUCT IS COVERED UNDER THE CRITERIA DEFINED IN OSHA'S HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200 (52 FR 31852 - AUGUST 24, 1987) AND SHOULD BE REPORTED UNDER THE FOLLOWING EPA HAZARD CATEGORIES:

	IMMEDIATE (ACUTE) HEALTH HAZARD
	DELAYED (CHRONIC) HEALTH HAZARD
XX	FIRE HAZARD
XX	SUDDEN RELEASE OF PRESSURE HAZARD
	REACTIVE HAZARD

DEPARTMENT OF TRANSPORTATION:

49 CFR 172.101 AS REVISED ON OCTOBER 1, 1988.

PROPER SHIPPING NAME -- HYDROCARBON GAS, NONLIQUIFIED
DOT CLASSIFICATION -- FLAMMABLE GAS
DOT IDENTIFICATION NUMBER -- UN 1964

SECTION 12 - REGULATIONS/COMMENTS CONTINUED

INFORMATION SUPPLIED BY: COORDINATOR TOXICOLOGY AND PRODUCT SAFETY
CRAIG M. PARKER PHONE: (419)421-3070

MSDS DATE: 05/16/90 DATE OF PREVIOUS MSDS: 08/21/89

*** DISCLAIMER ***

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Marathon Oil Company

PRODUCT NAME: NATURAL GAS - DRY
MARATHON MSDS NO: 196MAR001

THE FOLLOWING INFORMATION IS FURNISHED SUBJECT TO THE DISCLAIMER ON THE BOTTOM OF THIS FOR

SECTION 1 - PRODUCT IDENTIFICATION

PRODUCT NAME: NATURAL GAS - DRY

SYNONYMS:
GAS PLANT NATURAL GAS; NATURAL GAS - DRY;

MANUFACTURER / DISTRIBUTOR:
MARATHON OIL COMPANY
539 SOUTH MAIN STREET
FINDLAY, OH
45840
EMERGENCY PHONE NUMBERS:
(419) 422-2121 (MARATHON)
(800) 424-9300 (CHEMTREC)

CHEMICAL FAMILY: NATURAL GAS
CHEMICAL FORMULA: MIXTURE

CAS NO: 68410-63-9
PRODUCT CODE:

SECTION 2 - PHYSICAL PROPERTIES

BOILING POINT	MELTING POINT	SPECIFIC GRAVITY(H2O=1)
-259TO-43 F	N.A. F	.37-.50LIQ
% SOLUBILITY IN WATER	VAPOR DENSITY(AIR=1)	VAPOR PRESSURE
SLIGHT	0.55-0.62	N.A.

PH INFORMATION: PH: N.A. AT CONC.
APPEARANCE: COLORLESS GAS ODOR: MERCAPTAN ODOR

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	AUTOIGNITION TEMP	EXPLOSIVE LIMITS (% BY VOLUME IN AIR)
N.A. F	N.D.A. F	LOWER/UPPER: 3.2/14.0

EXTINGUISHING MEDIA:

CLASS B FIRE EXTINGUISHING MEDIA SUCH AS HALON, CO2 OR DRY CHEMICAL CAN BE USED. FIRE FIGHTING SHOULD BE ATTEMPTED ONLY BY THOSE WHO ARE ADEQUATELY TRAINED.

SPECIAL FIRE FIGHTING PROCEDURES:

STOP THE FLOW OF GAS AND ALLOW FIRE TO BURN OUT. EXTINGUISHING THE FLAME BEFORE SHUTTING OFF THE SUPPLY CAN CAUSE THE FORMATION OF EXPLOSIVE MIXTURES. IN SOME CASES IT MAY BE PREFERRED TO ALLOW THE FLAME TO CONTINUE TO BURN. KEEP THE SURROUNDING AREA COOL WITH WATER SPRAY AND PREVENT FURTHER IGNITION OF COMBUSTIBLE MATERIAL.

PRODUCT NAME: NATURAL GAS - DRY
MARATHON MSDS NO: 196MAR001

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA (CON'T)

STABILITY: THE MATERIAL IS STABLE AT 70 F, 760MM PRESSURE
CONDITIONS TO AVOID:
SOURCES OF HEAT OR IGNITION

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE, CARBON DIOXIDE

INCOMPATIBLE MATERIALS:
STRONG OXIDIZERS (E.G. CHLORINE), MINERAL ACIDS

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION 4 - PRODUCT COMPOSITION AND EXPOSURE LIMITS

EXPOSURE LIMITS FOR PRODUCT:		TLV			SOURCE
NATURAL GAS - DRY		NONE ESTABLISHED			
COMPONENTS:	PERCENT RANGE	TLV			SOURCE
METHANE	50.00- 95.00	0.00		( )	
ETHANE	1.00- 20.00	0.00		( )	
PROPANE	.10- 12.00	0.00		( )	
		1000.00	PPM	(8 HR TWA)	OSHA
CARBON DIOXIDE	.50- 5.00	5000.00	PPM	(8 HR TWA)	ACGIH
		30000.00	PPM	(STEL)	ACGIH
		10000.00	PPM	(8 HR TWA)	OSHA
		30000.00	PPM	(STEL)	OSHA
NITROGEN	.10- 18.00	0.00		( )	

COMPLEX COMBINATION OF HYDROCARBONS (PREDOMINANTLY C1 THROUGH C4) SEPARATED FROM NATURAL GAS. CONSISTS PREDOMINANTLY OF METHANE AND ETHANE.
***
METHANE, ETHANE AND PROPANE ARE SIMPLE ASPHYXIANTS BY ACGIH, OXYGEN LIMITING FACTOR. NITROGEN IS AN INERT GAS.

PRODUCT NAME: NATURAL GAS - DRY
MARATHON MSDS NO: 196MAR001

SECTION 5 - POTENTIAL HEALTH EFFECTS

EYE:

NATURAL GAS IS GENERALLY NON-IRRITATING TO EYES. PRESSURIZED GAS CAN CAUSE MECHANICAL INJURY TO THE EYE.

SKIN:

NATURAL GAS IS GENERALLY NON-IRRITATING TO SKIN.

INHALATION:

NATURAL GAS ACTS AS AN ANESTHETIC AT HIGH CONCENTRATIONS, PRODUCING DIZZINESS, HEADACHE, INCOORDINATION AND NARCOSIS; EXTREMELY HIGH CONCENTRATIONS CAN CAUSE ASPHYXIATION BY EXCLUSION OF OXYGEN.

INGESTION:

INGESTION NOT LIKELY.

ADDITIONAL TOXICITY INFORMATION:

AT EXTREMELY HIGH CONCENTRATIONS AND EXCESSIVE EXPOSURE CONDITIONS, COMPONENTS OF NATURAL GAS MAY PRODUCE CARDIAC SENSITIZATION.

EMERGENCY FIRST AID PROCEDURES

EYE:

CALL A PHYSICIAN IF SYMPTOMS OR IRRITATION OCCUR.

SKIN:

CALL A PHYSICIAN IF SYMPTOMS OR IRRITATION OCCUR.

INHALATION:

MOVE PERSON TO FRESH AIR. IF NOT BREATHING OR IF NO HEARTBEAT, GIVE ARTIFICIAL RESPIRATION OR CARDIOPULMONARY RESUSCITATION (CPR). IMMEDIATELY CALL A PHYSICIAN.

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SECTION 6 - SPECIAL PROTECTION INFORMATION

VENTILATION:

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PRODUCT NAME: NATURAL GAS - DRY
MARATHON MSDS NO: 196MAR001

SECTION 6 - SPECIAL PROTECTION INFORMATION (CON'T)

RESPIRATORY PROTECTION:

USE ATMOSPHERE SUPPLIED RESPIRATORS IN THE EVENT OF OXYGEN DEFICIENCY. SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED FOR FIRE FIGHTING.

EYE PROTECTION:

GOGGLES OR FACESHIELD MAY BE NEEDED WHEN HANDLING PRESSURIZED GASES.

OTHER PROTECTIVE EQUIPMENT:

USE EXPLOSION-PROOF EQUIPMENT.

SECTION 7 - SPILL OR LEAK PROCEDURES

ENVIRONMENTAL EFFECTS:

MOST COMPONENTS OF NATURAL GAS ARE LIGHTER THAN AIR AND SHOULD DISSIPATE RAPIDLY IN UNCONFINED AREAS.

STEPS TO BE TAKEN IN CASE OF SPILL, LEAK OR RELEASE:

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SECTION 9 - HAZARD WARNING

DANGER!

EXTREMELY FLAMMABLE
GAS UNDER PRESSURE

PRODUCT NAME: NATURAL GAS - DRY
MARATHON MSDS NO: 196MAR001

SECTION 10 - COMMENTS

SECTION 11 - REGULATORY INFORMATION

SARA TITLE III/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 - SECTIONS 302, 304, 311, 312 AND 313.

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10,000 POUNDS OR MORE OF AN OSHA HAZARDOUS SUBSTANCE* OR
500 POUNDS OR THE THRESHOLD PLANNING QUANTITY WHICHEVER IS LESS, OF AN EXTREMELY HAZARDOUS SUBSTANCE.

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	IMMEDIATE (ACUTE) HEALTH HAZARD
	DELAYED (CHRONIC) HEALTH HAZARD
XX	FIRE HAZARD
XX	SUDDEN RELEASE OF PRESSURE HAZARD
	REACTIVE HAZARD

DEPARTMENT OF TRANSPORTATION:

49 CFR 172.101 AS REVISED ON OCTOBER 1, 1988.

PROPER SHIPPING NAME -- HYDROCARBON GAS, NONLIQUIFIED
DOT CLASSIFICATION -- FLAMMABLE GAS
DOT IDENTIFICATION NUMBER -- UN 1964

SECTION 12 - REGULATIONS/COMMENTS CONTINUED

INFORMATION SUPPLIED BY: COORDINATOR TOXICOLOGY AND PRODUCT SAFETY
CRAIG M. PARKER PHONE: (419)421-3070

MSDS DATE: 05/16/90 DATE OF PREVIOUS MSDS: 08/21/89

PRODUCT NAME: NATURAL GAS - DRY
MARATHON MSDS NO: 196MAR001

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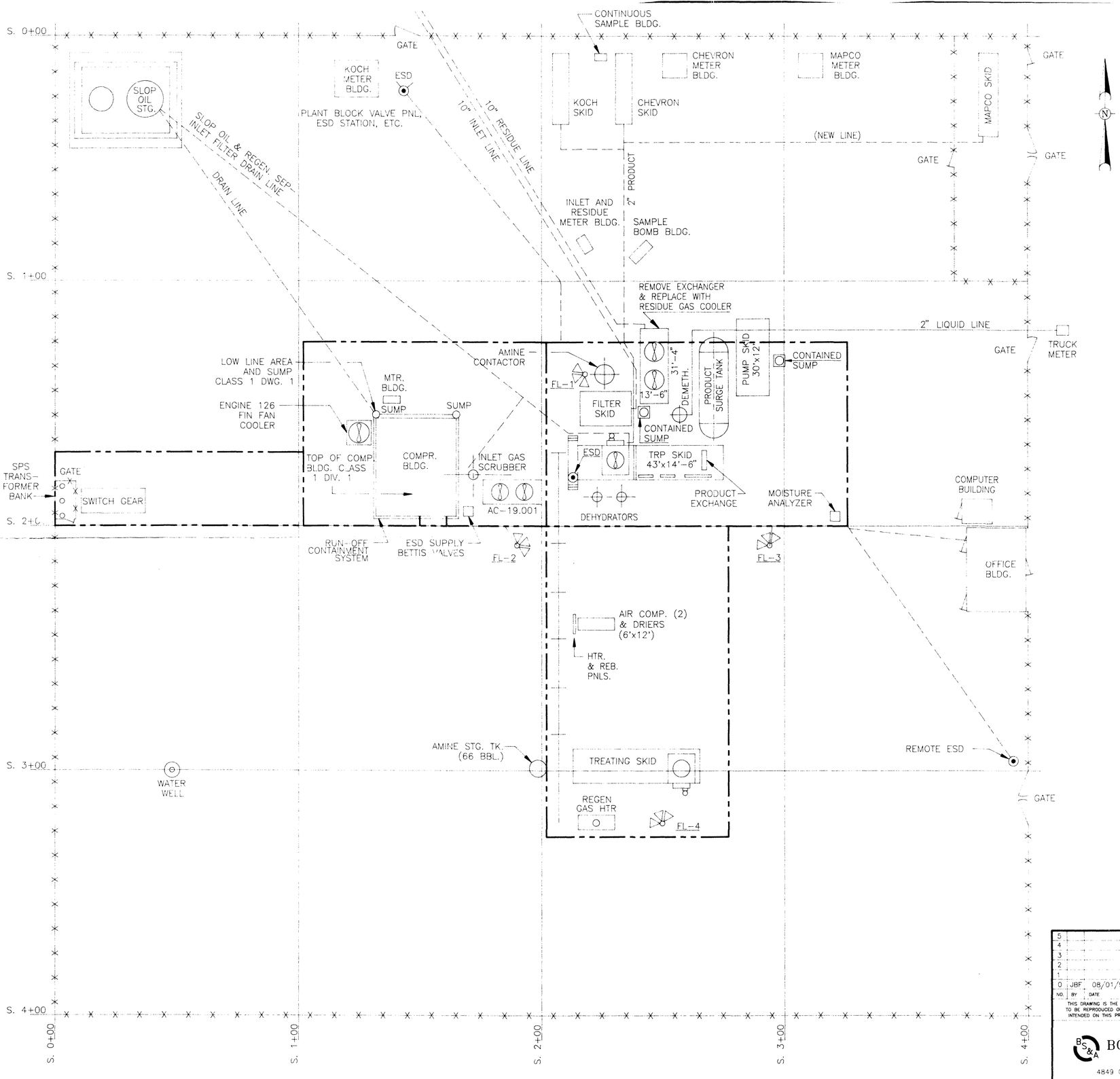

NOTES:

1. AREA CLASSIFICATION:
   CLASS 1 GROUP D DIV. 2 – PROCESS AREA & COMPRS.
   NON--HAZARDOUS – SWGR, HEATER AREA, OFFICE.

NO.	BY	DATE	REVISION	APPD	DATE
5					
4					
3					
2					
1					
0	JBF	08/01/94	REDRAWN BY BS&A	RSJ	08/05/94

BS&A BOB SHORT & ASSOC., INC.
4849 GREENVILLE AVE. SUITE 1670 DALLAS, TEXAS 75206

MINERALS, INC.
(HADSON CORPORATION)
HOBBS' PLANT
PLOT PLAN

DESIGN ENGINEER: DICK JONES	DRAWN BY: J. B. FREDERICKSON	DATE: 07/94
PROJECT ENGINEER: DICK JONES	CHECKED BY: J. C. ALLEN	07/94
ISSUED FOR CONSTRUCTION DATE:	SCALE: 1" = 20'-0"	
JOB NO.: 94-06	DWG. NO.: 9406-D-2001-0	
CAD FILE NO.: 9406-D-2001-1	SHEET: 1 OF 1	