

GW - 348

REPORTS

YEAR(S):

1989

GW-348

**CHACO CHEMICAL CO.
HEALTH & SAFETY
MANUAL**

This safety and health program is written for the employees of CHACO CHEMICAL COMPANY, INC.

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SAFETY AND HEALTH MANUAL

Duties and Responsibilities of Sales Reps, Sales and Service Reps, Service Reps, Tech Service Chemist:

1. Attend a safety meeting at least once each quarter and provide a written record. (Sales and Sales and Service Reps that are supervisors: It is your responsibility to put on a quarterly safety meeting for your people.)
2. Drive in a safe and careful manner.
3. Wear seat belts in all company vehicles. It is also requested that you wear seat belts in all other vehicles.
4. Wear safety helmets and eye protection when needed.
5. Abide by all safety rules on all customers' properties.
6. Safety equipment in cars (fire extinguisher, first aid kit, hard hat, rubber gloves, snake bite kit, eye protection--goggles or glasses, and a portable eye wash kit) must be maintained in good shape.
7. Dispose of all samples and solvents in an EPA-accepted manner.
8. Maintain a clean car trunk to minimize fire hazards.
9. Put and use a valve on gasoline gun.
10. Maintain MSD sheets on all products sold and samples carried.
11. Use hard hats, eye protection and rubber gloves when catching samples.
12. Inspect automobiles for safety defects--tires, lights, windshield, etc.
13. Do not open or close valves on customers' leases without permission, and unless you are absolutely sure you know where the line leads to and what the results will be.
14. Be alert to the possibility of H₂S gas in the area at all times.

15. Practice safety on and off the job.
16. Know the local emergency numbers for fire, police and medical services.
17. Make sure any laboratories and mobile laboratories have a copy of the Sand Springs safety rules and practices.
18. The CHEMICAL EMERGENCY RESPONSE numbers will be posted in cars, trucks, offices and homes:

1-915-550-7027

1-505-326-3050

SAFETY AND HEALTH MANUAL

Area Office, Farmington, New Mexico:

1. No electrical extension cords will be used in the office as permanent wiring.

2. No electric circuits will be overloaded.

3. All electrical equipment will be turned off and unplugged from the wall receptical before cleaning or repairing.

4. No chemical samples or glass containers will be stored except in cabinets with doors on them or rails around them.

5. All employees will know where the building fire extinguishers are located.

6. All employees will report accidents on and off the job.

7. All employees will report all illnesses.

8. All employees will drive safely.

9. All employees will wear seat belts in all company vehicles, and it is requested they do so in all personal vehicles.

10. A first aid kit will be kept up-to-date in the office.

11. All employees will know the emergency number for fire, police and medical services.

12. An escape route from this office will be drawn and posted on the door.

13. All employees will practice safety and good health on and off the job.

14. The supervisor in this office will conduct quarterly safety meetings.

15. The supervisor in the office will make routine inspections of the office to insure safe practices are in place.

16. CHEMICAL EMERGENCY RESPONSE numbers will be posted in all offices:

1-915-550-7027

1-505-326-3050

SAFETY AND HEALTH MANUAL

Duties and Responsibilities of Corrosion Technicians and Delivery Truck Drivers:

1. Attend a safety meeting at least once each quarter.
2. Drive in a safe and careful manner.
3. Wear seat belts in all company vehicles. It is also requested that seat belts be worn in all other vehicles.
4. Wear safety helmets, eye goggles, face mask and rubber gloves when treating wells.
5. Abide by all safety rules on customers' leases.
6. Safety equipment in trucks (fire extinguisher, first aid kit, hard hat, rubber gloves, snake bite kit, eye protection--goggles or face mask, and eye wash kit) must be maintained in good shape.
7. Dispose of all chemical and/or oil and brine spills in an EPA-accepted manner.
8. Maintain a clean truck to minimize fire hazards.
9. Maintain MSD sheets and bills of lading on all products carried on truck.
10. Maintain proper labeling on trucks.
11. Inspect trucks for safety defects daily--tires, lights, windshields, etc.
12. Be absolutely sure one knows where the valves on customers' leases lead before opening and closing.
13. Be alert to the possibility of H₂S gas at all times.
14. Use wheel chocks when treating wells.
15. Practice safety on and off the job.
16. Check all high pressure hoses twice a year.
17. Test high pressure relief valves twice a year.

18. Open high pressure valves very slowly.
19. Make sure all bulk storage tanks are diked and the dikes are maintained.
20. Know the local emergency numbers for fire, police and medical services.
21. Carry a clean change of clothes in truck in case of chemical spill on clothing.
22. Use proper equipment to handle drums.
23. Be sure static lines are connected during loading and unloading.
24. Inspect truck weekly, fill out required form and give to supervisor.
25. Inspect treater truck high pressure equipment twice each year, fill out required form and give to supervisor.
26. All treater truck drivers will be provided a Chem-Link OFC Divison treater truck manual.
27. Have CHEMICAL EMERGENCY RESPONSE numbers in all trucks:

1-915-550-7027

1-505-326-3050

Date: January, 1 2005

Subject: Spill Prevention Plan - Chemical Bulk Tanks

From/Location:

Anthony Wiggins

To/Location:

Chaco Chemical

In case of a chemical spill or leak in your bulk storage tanks, you should put sand on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste materials to pick up and dispose of the remains.

This plan should be kept in an office that is closest to the bulk tanks and readily accessible to all.


J. H. Wagner
Registered Professional Engineer

FIRE BRIGADE

Local authorities (fire department and police) have toured warehouse facilities and are aware that MSD sheets are available for the material being stored in these warehouses. Also, appropriate emergency telephone numbers were given to these authorities along with a copy of our emergency/disaster plan. Inspection of warehouses and a review of the emergency/disaster plan will be done annually.

It is the responsibility of all individuals in charge of warehouses to keep the warehouses in compliance and get the annual inspections.

A copy of the warehouse spill prevention plan is enclosed.

All personnel will receive proper training in the use of fire extinguishers.

The telephone numbers of the local authorities should be posted in the warehouses (fire, police).

1-915-550-7027

1-505-326-3050

SAFETY AND HEALTH MANUAL

Duties and Responsibilities of Sales Reps, Sales and Service Reps, Service Reps, Tech Service Chemist:

1. Attend a safety meeting at least once each quarter and provide a written record. (Sales and Sales and Service Reps that are supervisors: It is your responsibility to put on a quarterly safety meeting for your people.)
2. Drive in a safe and careful manner.
3. Wear seat belts in all company vehicles. It is also requested that you wear seat belts in all other vehicles.
4. Wear safety helmets and eye protection when needed.
5. Abide by all safety rules on all customers' properties.
6. Safety equipment in cars (fire extinguisher, first aid kit, hard hat, rubber gloves, snake bite kit, eye protection--goggles or glasses, and a portable eye wash kit) must be maintained in good shape.
7. Dispose of all samples and solvents in an EPA-accepted manner.
8. Maintain a clean car trunk to minimize fire hazards.
9. Put and use a valve on gasoline gun.
10. Maintain MSD sheets on all products sold and samples carried.
11. Use hard hats, eye protection and rubber gloves when catching samples.
12. Inspect automobiles for safety defects--tires, lights, windshield, etc.
13. Do not open or close valves on customers' leases without permission, and unless you are absolutely sure you know where the line leads to and what the results will be.
14. Be alert to the possibility of H₂S gas in the area at all times.

15. Practice safety on and off the job.
16. Know the local emergency numbers for fire, police and medical services.
17. Make sure any laboratories and mobile laboratories have a copy of the Sand Springs safety rules and practices.
18. The CHEMICAL EMERGENCY RESPONSE numbers will be posted in cars, trucks, offices and homes:

1-800-424-9300

215-353-8300

SAFETY AND HEALTH MANUAL

Duties and Responsibilities of Corrosion Technicians and Delivery Truck Drivers:

1. Attend a safety meeting at least once each quarter.
2. Drive in a safe and careful manner.
3. Wear seat belts in all company vehicles. It is also requested that seat belts be worn in all other vehicles.
4. Wear safety helmets, eye goggles, face mask and rubber gloves when treating wells.
5. Abide by all safety rules on customers' leases.
6. Safety equipment in trucks (fire extinguisher, first aid kit, hard hat, rubber gloves, snake bite kit, eye protection--goggles or face mask, and eye wash kit) must be maintained in good shape.
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8. Maintain a clean truck to minimize fire hazards.
9. Maintain MSD sheets and bills of lading on all products carried on truck.
10. Maintain proper labeling on trucks.
11. Inspect trucks for safety defects daily--tires, lights, windshields, etc.
12. Be absolutely sure one knows where the valves on customers' leases lead before opening and closing.
13. Be alert to the possibility of H₂S gas at all times.
14. Use wheel chocks when treating wells.
15. Practice safety on and off the job.
16. Check all high pressure hoses twice a year.
17. Test high pressure relief valves twice a year.

18. Open high pressure valves very slowly.
19. Make sure all bulk storage tanks are diked and the dikes are maintained.
20. Know the local emergency numbers for fire, police and medical services.
21. Carry a clean change of clothes in truck in case of chemical spill on clothing.
22. Use proper equipment to handle drums.
23. Be sure static lines are connected during loading and unloading.
24. Inspect truck weekly, fill out required form and give to supervisor.
25. Inspect treater truck high pressure equipment twice each year, fill out required form and give to supervisor.
26. All treater truck drivers will be provided a Chem-Link OFC Divison treater truck manual.
27. Have CHEMICAL EMERGENCY RESPONSE numbers in all trucks:

1-800-424-9300

215-353-8300

SAFETY AND HEALTH MANUAL

Warehouses, Mid-Continent Region:

1. A spill prevention plan will hang in all warehouses.
2. Fire extinguishers will be available.
3. MSD sheets will be in each warehouse, or in the office closest to the warehouse.
4. Local authorities will be notified of each warehouse and an inspection requested.
5. Warehouses will be kept clean from trash and paper to reduce fire hazard.
6. Eye wash kit, first aid kit, eye protection and rubber gloves will be available.
7. Frequent checks will be made of all drums for leaks and swelling.
8. Local emergency numbers for fire, police and medical services will be posted.
9. Proper equipment will be used to handle drums.
10. CHEMICAL EMERGENCY RESPONSE numbers will be posted:

1-800-424-9300

215-353-8300

DEPARTMENT SAFETY MEETINGS

Each employee is required to attend a safety meeting each quarter. The safety meetings will be held for and by ChemLink personnel, or the employees may attend a safety meeting held by ARCO Oil and Gas Company.

It is every employee's responsibility to attend this meeting and give a written notice to his supervisor that he or she has attended.

EMERGENCY/DISASTER CONTROL PLAN

The emergency/disaster control plans are posted in all warehouses.

All personnel that have offices outside their homes will use the CHACO emergency control plan. If none exists, then an escape route will be drawn and posted on the office door. Employees that office in their homes will use the home escape plan that they provide for their families.

All employees will have the numbers of the local emergency authorities visible at their telephones.

All employees will have the CHEMICAL EMERGENCY RESPONSE numbers visible at their telephones.

The bulk tank disaster control plan is enclosed.

Date: January 2, 2005

Subject: Spill Prevention Plan - Chemical Bulk Tanks

From/Location: A.T. ARCHULETA

To/Location: CHACO CHEMICAL EMPLOYEES

In case of a chemical spill or leak in your bulk storage tanks, you should put sand on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste materials to pick up and dispose of the remains.

This plan should be kept in an office that is closest to the bulk tanks and readily accessible to all.


J. M. Wagner
Registered Professional Engineer

FIRE BRIGADE

Local authorities (fire department and police) have toured warehouse facilities and are aware that MSD sheets are available for the material being stored in these warehouses. Also, appropriate emergency telephone numbers were given to these authorities along with a copy of our emergency/disaster plan. Inspection of warehouses and a review of the emergency/disaster plan will be done annually.

It is the responsibility of all individuals in charge of warehouses to keep the warehouses in compliance and get the annual inspections.

A copy of the warehouse spill prevention plan is enclosed.

All personnel will receive proper training in the use of fire extinguishers.

The telephone numbers of the local authorities should be posted in the warehouses (fire, police).

SPILL PREVENTION PLAN- WAREHOUSE

Date:

Subject:

From/Location:

To/Location:

In case of a chemical leak or spill in your warehouse, you should put Absorb-all on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste material to pick up and dispose of the remains. Should there be no commercial hazardous waste disposal available, the remains are to be shipped to Sand Springs for disposal.

MSD sheets are to be readily available in the warehouse on all products in the warehouse at all times.

This plan will hang in the warehouse in a place accessible to everyone.



J.M. Wagner
Registered Professional Engineer

HOUSEKEEPING

Good housekeeping policies to be used by all PERSONNEL:

1. Offices free of clutter, bottles and samples.
2. Automobiles free from any fire hazards.
3. Mobile labs free of fire hazards and equipment kept in place.
4. Treater trucks free of debris in the cabs and all safety equipment in place.
5. All warehouses kept free of litter and fire hazards.

HAZARD INSPECTIONS

Each supervisor in every area will be responsible for making a quarterly hazard inspection in his area of responsibility. Each supervisor will check all safety equipment (fire extinguishers, goggles, hard hats, gloves, first aid kits, and eye wash kits) monthly and make sure equipment is in good working order. A written report will be filed in the Farmington, N.M. OFFICE.

EMERGENCY EQUIPMENT INSPECTIONS

All fire extinguishers will be checked once each year by a qualified company. The other emergency equipment inspections are taken care of in other parts of the program.

No. 16

OFF-THE-JOB SAFETY

Please practice safety at all times. Encourage your family and friends to practice safety.

SAFE WORK PRACTICES, JSA'S AND TJA'S

Hazardous Jobs - Service Representatives, Sales and Service Representatives, Sales Representatives, Technical Service Representatives, Account Representatives and Tech Service Chemists:

1. All employees will practice defensive driving at all times. Wearing of seat belts is mandatory.

2. All employees will abide by the safety regulations for mobile labs.

3. All employees will carry coveralls, eye goggles and rubber gloves to use when handling chemicals.

4. All employees will be schooled in the proper manner to handle all chemical, brine or oil spills.

5. All employees will use safe practices when they are performing routine lab tests, bottle tests, water analyses, etc.

6. All employees in the Rocky Mountain District and Canada will carry clothing and survival gear in case they are caught in a winter storm.

7. All employees will be extremely careful to watch for the presence of H₂S gas, and should know the alarm systems the production companies have in place.

PERSONAL PROTECTIVE EQUIPMENT USE

All personnel are required to carry and use:

- a. hard hats
- b. eye goggles or face shields
- c. rubber gloves
- d. eye wash kits
- e. first aid kits
- f. snake bite kits

The corrosion technicians are provided uniforms and are required to wear steel-toed shoes.

The service representatives, sales and service representatives, sales representatives, tech service representatives, tech sales representatives, tech account representatives and tech service chemists are provided coveralls, and should use surgical disposable gloves when running routine lab tests.

All safety equipment and clothing is approved for purchase and use by the OFC safety coordinator.

WALK-THROUGH AREA REVIEW

The walk-through area is covered in other parts of the safety program except:

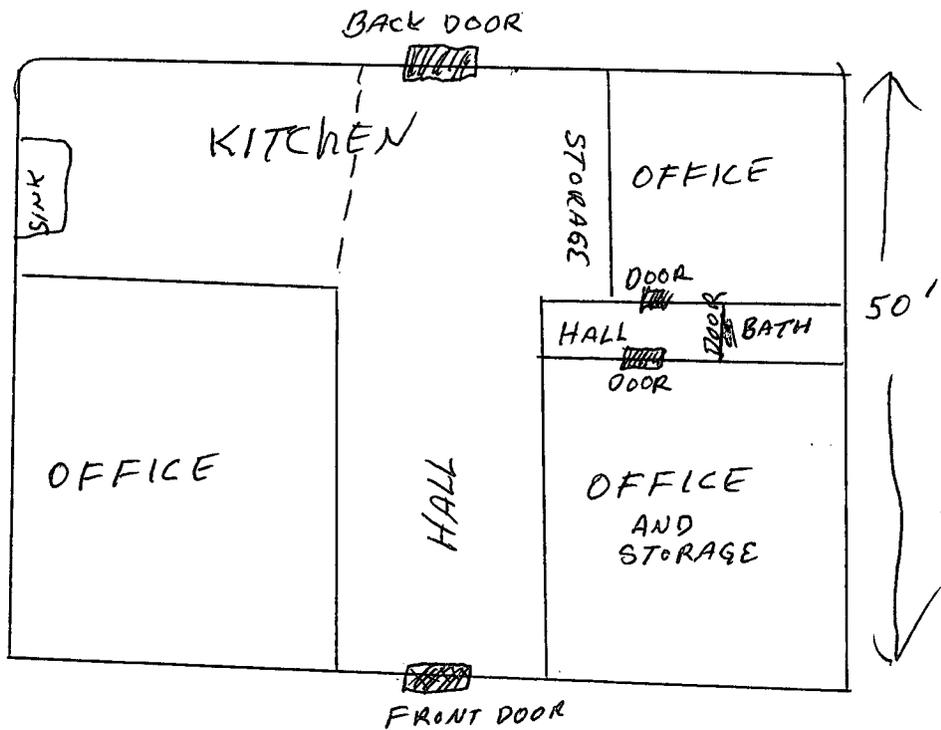
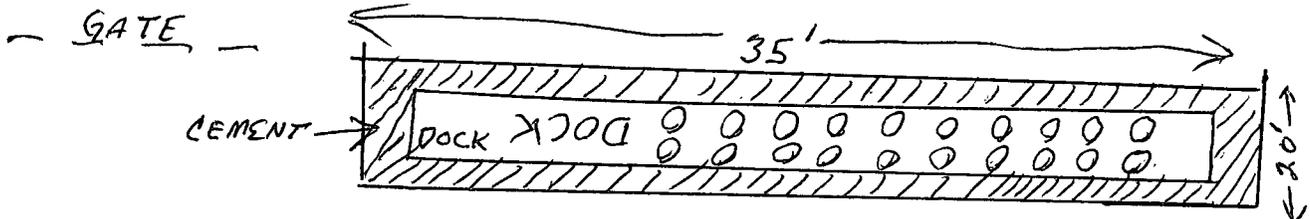
1. Bulk tanks--all bulk tanks are to be diked with dikes big enough to handle twice the volume in the tanks. The proper NFPA hazard signs will be put on the tanks and the solvent warning signs will be put on all tanks.
2. Keifer storage shed--a fire extinguisher will be mounted at the door, and a source of water will be maintained to wash eyes and skin in case of a spill.

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CHACO CHEMICAL CO
P.O. BOX 3526
FARMINGTON, N.M. 87499
WAREHOUSE NOTEBOOK
MSDS
FOR FARMINGTON, N.M.
WAREHOUSE

NAME OF BUILDING CHACO CHEMICAL 205 E ELM ST.
CHEMICAL AND STORAGE PH 505-326 3050
OWNER A.T. ARCHULETA 1502 N RAMDSEN AV.
PH 325-3648

CHAIN LINK FENCE



PARKING

CHAIN LINK FENCE

RECEIVED DEC 1 1980

CHEMICAL NAME Scay-0x^RII

SECTION VI - TOXICOLOGY (Product)

ACUTE ORAL LD 50 0.41 g/kg (rat)	CARCINOGENIC Hydrazine is a suspect carcinogen
ACUTE DERMAL LD 50 0.42 g/kg (rabbit)	MUTAGENIC Positive
ACUTE INHALATION LC 50 >a nominal concentration of 20,600 ppm of inspired air for 1 hr (rat)	EYE IRRITATION Irritant
	PRIMARY SKIN IRRITATION Irritant
PRINCIPAL ROUTES OF ABSORPTION Dermal, oral, inhalation.	
EFFECTS OF ACUTE EXPOSURE Temporary blindness, dizziness, nausea, neurological changes. Damage to liver, lungs, kidneys, blood and blood forming organs.	
EFFECTS OF CHRONIC EXPOSURE Hydrazine has been shown to be carcinogenic to laboratory animals. Damage to liver, lungs, kidneys, blood and blood forming organs, dermatitis, and allergic sensitization to the skin.	

SECTION VII - SPILL OR LEAKAGE PROCEDURES (Control Procedures)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
 Wear NIOSH/MSHA approved self-contained breathing apparatus. Follow OSHA regulations for respirator use. (See 29 CFR 1910.134). Wear goggles, coveralls, and PVC or butyl rubber gloves, boots, and apron. Wash all contaminated clothing before reuse. Destroy any contaminated leather articles. Flush with large amounts of water and drain into a catch basin. Transfer into approved DOT container and seal. Neutralize any remaining material with dilute hypochlorite solution and wash down with water.

WASTE DISPOSAL METHOD
 Treat or dispose of according to regulations under the Resource Conservation and Recovery Act as administered by the USEPA or appropriate State Agency.
 In the event of a massive spill use the emergency Phone number on the front of this sheet.

SECTION VIII - REACTIVITY DATA

STABLE <input checked="" type="checkbox"/> UNSTABLE <input type="checkbox"/> AT _____ °C _____ °F	HAZARDOUS POLYMERIZATION <input type="checkbox"/>	MAY OCCUR <input type="checkbox"/>
CONDITIONS TO AVOID Concentration of material by evaporation.	WILL NOT OCCUR <input type="checkbox"/>	
INCOMPATIBILITY (Material To Avoid)	Will react with oxygen, oxidants, many metal oxides and certain metal salts in their aqueous solutions.	
HAZARDOUS DECOMPOSITION PRODUCTS		

SECTION IX - PHYSICAL DATA

MELTING POINT -87 OF	VAPOR PRESSURE	VOLATILES
BOILING POINT 229OF	SOLUBILITY IN WATER complete	EVAPORATION RATE
SPECIFIC GRAVITY (H ₂ O = 1) 1.019	pH	VAPOR DENSITY (Air = 1)

INFORMATION FURNISHED BY: C. J. Michaels DATE April 16, 1979

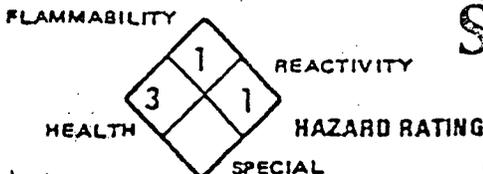
Department of Environmental Hygiene and Toxicology

olin CORPORATION
 120 Long Ridge Road, Stamford, Connecticut 06904
 EMERGENCY PHONE (203) 356-2345



EMERGENCY PHONE (203) 356-2345
 Olin Corporation, 120 Long Ridge Road
 Hamford, Conn. 06904

ORIGINAL SAFETY DATA



C 236701

SECTION I - IDENTIFICATION

CHEMICAL NAME & SYNONYMS 35% Catalyzed Hydrazine Solution		
CHEMICAL FAMILY	FORMULA N ₂ H ₄ .H ₂ O	TRADE NAME SCAV-OX ^(R) II
DESCRIPTION Clear colorless to pink liquid		CAS NO. 302-01-2

2367

SECTION II - NORMAL HANDLING PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE Do not get in eyes, on skin, or on clothing. Do not take internally. Avoid breathing mist or vapors. Destroy any contaminated leather articles. Store in a well ventilated area away from oxidizing materials and acids. Avoid exposure to direct sunlight or high temperatures.	
CORROSIVE ACTION ON MATERIALS (Metals, Plastic, Rubber, Etc.)	
PROTECTIVE EQUIPMENT Eyes Goggles Gloves Polyvinyl chloride or butyl rubber Other Coveralls, boots, and PVC or butyl rubber apron.	VENTILATION REQUIREMENTS As required to keep airborne concentrations of hydrazine below TLV.

SECTION III - HAZARDOUS INGREDIENTS

BASIC MATERIAL	APPROX. %	OSHA PEL	LD 50	LC 50	SIGNIFICANT EFFECTS
Hydrazine	35	1 ppm	91 mg/kg dermal rabbits	570 ppm/4 hrs/	carcinogenic in laboratory animals rats

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT METHOD None	OSHA CLASSIFICATION Class IIIB Combustible liquid	FLAMMABLE EXPLOSIVE LIMITS	LOWER NA	UPPER NA
EXTINGUISHING MEDIA Water. Hydrazine solution concentrated by fire exposure can liberate hydrazine vapor (explosive limits hydrazine 4.7-100%).				
SPECIAL FIRE HAZARD & FIRE FIGHTING PROCEDURES Use NIOSH/MSHA approved self-contained breathing apparatus where this material is involved in a fire.				

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE Hydrazine (skin) 0.1 ppm TWA 0.1 ppm STEL (ACGIH).	
SYMPTOMS OF OVER EXPOSURE Dizziness, nausea, skin, eye and mucous membrane irritation, central nervous system stimulation, may cause temporary blindness.	
EMERGENCY FIRST-AID PROCEDURES	
SKIN	Wash thoroughly with water for 15 minutes. Call a physician.
EYES	Wash thoroughly with water for 15 minutes, Call a physician.
INGESTION	Drink water, induce vomiting by sticking finger down throat. Call a physician.
INHALATION	Remove victim to fresh air. Call a physician.

ORIGINAL SAFETY DATA OASD INV. 006-01-2

8

MATERIAL SAFETY DATA SHEET

SDS NUMBER: 2571
 NUMBER: INC 2571
 UCT NAME: INC 2571 Paraffin Solvent / Dispersant
 NUMBER: - -0
 CHEMICAL NAME: Mixture of Surfactants

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
 Odessa, TX 79763

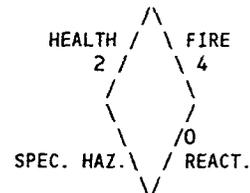
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 03/01/94

HMS RATINGS:

HEALTH: 2
 FIRE: 4
 REACTIVITY: 0
 PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OSHA PEL	ACGIH TLV	OTHER LIMITS	
		NTP	IARC	PART/Z	313			RECOMMENDED	PERCENT
138-86-3	Terpenes	?	?	?	?	NI	NI	15-20%	
8030-30-6	Naphtha, solvent	?	?	?	?	100	NI	30-35%	

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	180 °F.	SPECIFIC GRAVITY (H2O = 1)	0.92300
VAPOR PRESSURE (mm Hg.)	12.4	MELTING POINT	NI
VAPOR DENSITY (AIR = 1)	2.1	EVAPORATION RATE (Butyl Acetate = 1)	Appreci

SOLUBILITY IN WATER: Dispersible at 60° F.

APPEARANCE AND ODOR: Amber liquid, Aromatic Odor

OTHER INFORMATION:

Viscosity Units = N/A pH = N/A
 Freezing Point < 10° F. Dry Point = Unknown

Density (Lb./Gal.) = 7.691

DANGER

Physical Hazards:-
 Flammable Liquid

Generic Name:- Mixture of Surfactants, Isopropanol, Terpenes

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- FLAMMABLE LIQUID, n.o.s.

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- N/App.

This product contains no SARA Section 313 Listed Chemicals

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 72 ° F.

FLAMMABLE LIMITS: LEL: 2 % UEL: 12 %

EXTINGUISHING MEDIA:

Dry Chemical
 CO2
 Water Spray
 Water Fog

MATERIAL SAFETY DATA SHEET

(1)

METHANOL

MSDS
HCROO1
Rev. Da



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.
This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accordance with the MSDS requirements of that rule.

I. General

Trade Name METHANOL	Telephone Numbers EMERGENCY 800/424-9300 CHEMTREC 215/353-8300 ARCO CHEMICAL CUSTOMER SERVICE 800/321-7000 INFO ONLY
Other Names METHYL ALCOHOL, WOOD ALCOHOL	
Chemical Family ALIPHATIC ALCOHOL	DOT Hazardous Materials Proper Shipping Name METHYL ALCOHOL
Generic Name N/P	DOT Hazard Class FLAMMABLE LIQUID
CAS No. SEE SECTION IX	Company ID No. E000142300
	UN/NA ID No. UN 1230

II. DANGER Summary of Hazards SEE SUPPLEMENT BEGINNING ON PAGE 7

PHYSICAL HAZARDS:	EXTREMELY FLAMMABLE-MAY BURN WITH INVISIBLE FLAME
ACUTE HEALTH EFFECTS: (SHORT-TERM)	MODERATE INHALATION HAZARD MODERATE EYE IRRITANT MODERATE SKIN ABSORPTION HAZARD MODERATE INGESTION HAZARD. SEE SUPPLEMENT SLIGHT SKIN IRRITANT
CHRONIC HEALTH EFFECTS: (LONG-TERM)	SWALLOWING AS LITTLE AS ONE TO FOUR OUNCES OF METHANOL HAS BEEN REPORTED TO CAUSE DEATH OR SERIOUS IRREVERSIBLE INJURY SUCH AS BLINDNESS. SEE SUPPLEMENT

III. Fire and Explosion

Flash Point (Method) AP 50° F (CC)	Autoignition Temperature (Method) AP 725° F	Flammable Limits (% Vol. in Air) At Normal Atmospheric Temperature and Pressure Lower AP 6 Upper AP 36
-----------------------------------------------	-------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------

Fire and Explosion Hazards RELEASES FLAMMABLE VAPORS BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, CAN BURN IN 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 CO2 FOAM FOR ALCOHOLS	WATERSPRAY WATER FOG
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Special Firefighting Procedures A METHANOL FIRE MAY NOT BE VISIBLE TO THE NAKED EYE. DO NOT ENTER FIRE AREA W/O PROPER PROTECTION. SEE SECTION X - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/ RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/ INJURIES. APPLY AQUEOUS EXTINGUISHING MEDIA CAREFULLY TO AVOID FROTHING AND LIMIT EXPOSURE OF NEARBY EQUIPMENT. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

IV. Health Hazards

SEE SUPPLEMENT
BEGINNING ON PAGE 7

Summary of Acute Hazards MODERATE HEALTH HAZARD - SEE BELOW FOR ROUTE-SPECIFIC DETAILS.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	Primary Route(s)
Inhalation	OVEREXPOSURE MAY CAUSE COUGHING, SHORTNESS OF BREATH, DIZZINESS, INTOXICATION AND COLLAPSE.	<input checked="" type="checkbox"/>
Eye Contact	MAY CAUSE MODERATE IRRITATION, INCLUDING BURNING SENSATION, TEARING, REDNESS OR SWELLING.	<input checked="" type="checkbox"/>
Skin Absorption	EXPOSURE TO THIS MATERIAL CAN RESULT IN ABSORPTION THROUGH SKIN CAUSING HEALTH HAZARD.	<input checked="" type="checkbox"/>
Skin Irritation	MAY PRODUCE SKIN IRRITATION.	<input type="checkbox"/>
Ingestion	SEE SUPPLEMENT	<input checked="" type="checkbox"/>
Summary of Chronic Hazards and Special Health Effects	SEE SUPPLEMENT SEE SUPPLEMENT	

V. Protective Equipment and Other Control Measures

Respiratory	DO NOT USE AIR-PURIFYING RESPIRATOR. ONLY NIOSH/MSHA APPROVED SUPPLIED AIR OR SELF-CONTAINED BREATHING APPARATUS OPERATED IN POSITIVE PRESSURE MODE ARE SATISFACTORY.
Eye	EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN.
Skin	WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.
Engineering Controls	GENERAL ROOM OR LOCAL EXHAUST VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S).
Other Hygienic and Work Practices	EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE. USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE CONTAMINATED CLOTHING/ WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING SOAP AND WATER.

VI. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time
METHYL ALCOHOL - SKIN	ACGIH	1984	TWA	200 PPM	8 HRS
			STEL	250 PPM	15 MIN
	OSHA	1971	TWA	200 PPM	8 HRS



XIV.

Supplement

ACUTE AND CHRONIC HEALTH EFFECTS

SWALLOWING AS LITTLE AS 1 TO 4 OUNCES OF METHANOL HAS BEEN REPORTED TO CAUSE DEATH OR SERIOUS IRREVERSIBLE INJURY SUCH AS BLINDNESS IN HUMANS. STUDIES IN EXPERIMENTAL ANIMALS INDICATE THAT THE METABOLISM OF METHANOL TO FORMIC ACID RESULTS IN METABOLIC ACIDOSIS AND REVERSIBLE OR IRREVERSIBLE DAMAGE TO THE OPTIC NERVE. SEE THE MEDICAL TREATMENT SECTION OF THIS DATA SHEET FOR INFORMATION ON TREATING METHANOL POISONING.

A RECENT ARTICLE HAS REPORTED EFFECTS OF EXPOSURE TO METHANOL VAPORS (AM. IND. HYG. ASSOC. J. 45(1): 57-55, 1984). IN THIS REPORT TEACHERS AIDES EXPOSED TO METHANOL VAPORS (365-3080 PPM) IN DIRECT-PROCESS SPIRIT DUPLICATING OPERATIONS REPORTED SIGNIFICANTLY MORE OF THE FOLLOWING COMPLAINTS THAN A COMPARISON GROUP: BLURRED VISION, HEADACHE, DIZZINESS, AND NAUSEA.

SPECIAL HEALTH EFFECTS

INGESTION OF THIS PRODUCT, EVEN IN SMALL AMOUNTS, CAN CAUSE BLINDNESS AND DEATH. ONSET OF SYMPTOMS MAY BE DELAYED FOR 18-24 HOURS: TREATMENT PRIOR TO ONSET OF OBVIOUS SYMPTOMS MAY BE LIFE-SAVING. METHANOL IS RAPIDLY ABSORBED AND EMESIS SHOULD BE INITIATED EARLY TO BE EFFECTIVE, WITHIN 30 MINUTES OF INGESTION, IF POSSIBLE. ADMINISTER SYRUP OF IPECAC. AFTER THE DOSE IS GIVEN, ENCOURAGE PATIENT TO TAKE 6-8 OUNCES OF CLEAR NON-CARBONATED FLUID. DOSE MAY BE REPEATED ONCE IF EMESIS DOES NOT OCCUR WITHIN 20-30 MINUTES. ADMINISTRATION OF AN AQUEOUS SLURRY OF ACTIVATED CHARCOAL WITH MAGNESIUM CIRTATE OR SORBITOL AS A CATHARTIC HAS BEEN REPORTED HELPFUL.

ETHANOL INHIBITS THE FORMATION OF TOXIC METABOLITES. IF ETHANOL THERAPY IS INDICATED, ADMINISTER A LOADING DOSE OF 7.6-10 ML OF 10% ETOH IN D5W OVER 30-60 MINUTES. MAINTENANCE DOSE IS 1.4 ML/KG/HR OF 10% ETOH, TO ACHIEVE A 100-130 MG/DL BLOOD ETOH LEVEL DURING ETHANOL THERAPY. (IF CHARCOAL IS ADMINISTERED, ETHANOL SHOULD BE ADMINISTERED INTRAVENOUSLY AND NOT ORALLY.)
MAINTAIN CONTACT WITH POISON CONTROL CENTER DURING ALL ASPECTS OF DIAGNOSIS AND TREATMENT.

(2)

SECTION I - PRODUCT IDENTIFICATION

Manufacturer: JETCO CHEMICALS, INC. Information Phone: 903-872-3011
P. O. BOX 1898 Emergency Phone: 903-874-9500
HWY 31 EAST CHEMTREC Phone: 800-424-9300
CORSICANA TX 75151

Product Class: Demulsifier | Hazard Ratings: Health - 1
Trade Name : JET BREAK 176 | none -> extreme Fire - 2
Product Code : BRK176.2 | 0 ---> 4 Reactivity - 1
C.A.S. Number: Mixture | Personal Protection - B
Shipping Name: FLAMMABLE LIQUID, N.O.S. (CONTAINS AROMATIC NAPHTHA AND
Shipping Name: ISOPROPYL ALCOHOL) UN1993

SECTION II - HAZARDOUS INGREDIENTS

Ingredients	CAS #	Weight %	Exposure Limits		VP mm HG
			ACGIH/TLV	OSHA/PEL	
ISOPROPYL ALCOHOL (IPA)	67-63-0	1-5	400 ppm	400 ppm	33
		STEL=	500	500	

ALL Ingredients in this product are listed in the T.S.C.A. Inventory.

* -> These items are listed on the SARA TITLE III Section 313 inventory

SECTION III - PHYSICAL DATA

Boiling Range: 149 Deg. F Vapor Density: Heavier than Air.
Evap. Rate: Slower than n-Butyl Acetate Liquid Density: Lighter than Water.
Volatiles volume: N/DA % Wgt per gallon: 7.76 Pounds.
Spec. Gravity: 0.93

Appearance: Light Amber Liquid
V.O.C.: N/DA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: 1B Flash Point: 62 F LEL: N/DA

-EXTINGUISHING MEDIA:
Dry chemical, carbon dioxide, water spray, foam, or water fog.

-SPECIAL FIREFIGHTING PROCEDURES:
Appropriate breathing apparatus should be worn when fighting fires. Decomposition products possible. Water may be ineffective in fighting fires due to low flash point. Heat may build pressure/rupture closed container, spreading fire. Use water spray/fog for cooling.

-UNUSUAL FIRE & EXPLOSION HAZARDS:
Releases flammable vapors at normal ambient temperatures which can burn in open or explode if confined. Flammable vapors are heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Water dilution may not suffice to raise flash point.

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SECTION V - HEALTH HAZARD DATA

-CHRONIC HEALTH EFFECTS:

No information available.

-EFFECTS OF OVEREXPOSURE:

INHALATION: May cause symptoms of depression, headache, dizziness, loss of appetite, weakness, lack of coordination, and severe irritation of mucous membranes and lungs. Concentrated exposure may also cause symptoms of lack of oxygen leading to collapse and possible death.

SKIN ABSORPTION: No significant signs or symptoms of skin absorption expected.

SKIN IRRITATION: May cause skin irritation, blistering, and/or dermatitis in some individuals.

INGESTION: May cause nausea, collapse, coma, and possible death.

EYE CONTACT: May cause severe eye irritation, burning, tearing, and redness.

CHRONIC HEALTH EFFECTS: No information available.

-FIRST AID:

INHALATION: Remove to fresh air. Give oxygen and artificial respiration as needed. Obtain medical attention promptly.

EYE CONTACT: Flush eyes with low-pressure water for at least 15 minutes and obtain medical attention immediately. Prompt action is essential.

SKIN CONTACT: Wash affected area with soap and water. Remove contaminated clothing, including shoes, and clean thoroughly before reuse. Seek medical attention if irritation persists.

INGESTION: If conscious, give at least two glasses of water. Do not induce vomiting. Obtain medical aid immediately.

=====
SECTION VI - REACTIVITY DATA

STABILITY: [] Unstable [x] Stable

HAZARDOUS POLYMERIZATION: [] May occur [x] Will not occur

-INCOMPATIBILITY:

Avoid strong oxidizing agents.

-CONDITIONS TO AVOID:

Heat, sparks, open flame, and/or strong oxidants.

-HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon dioxide, carbon monoxide, and/or nitrogen oxides.

=====
SECTION VII - SPILL OR LEAK PROCEDURES

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Flammable. Release can cause fire/explosion/
human health hazard/be toxic to aquatic life. Evacuate/limit
access. Notify fire and environmental authorities in the event
of large spills. Equip responders with proper protection. Stop
release, prevent flow to sewers/public waters. Eliminate all
ignition sources. Blanket with firefighting foam. Restrict
water use for clean-up. Impound/recover large land spills.
Soak up small spills with inert solids such as clay or
diatomaceous earth. Place in suitable disposal containers.
Report per regulatory requirements.

(cont.)

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SECTION VII - SPILL OR LEAK PROCEDURES (cont.)

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: (cont.)

-WASTE DISPOSAL METHOD:

Contaminated soil/water/product may be RCRA/OSHA hazardous waste due to potentially low flash point. Landfill at permitted sites. Use registered transporters. Incinerate concentrated liquids in systems compatible with liquid wastes where permitted under federal, state and local regulations. Consult waste disposal authorities.

-SPILL REPORTABLE QUANTITY:

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SECTION VIII - SPECIAL PROTECTION INFORMATION

-RESPIRATORY PROTECTION:

At general use temperatures, an organic vapor cartridge respirator should be suitable. If exposure may exceed established standards, use of NIOSH/MSHA approved respiratory equipment operated in compliance with the OSHA Standard for Respiratory Protection (29 CFR 1910.134) is required.

-VENTILATION:

Local exhaust ventilation may be required to meet exposure standards in addition to good room ventilation.

-PROTECTIVE GLOVES:

Impervious protective gloves, boots, and head protection should be worn. Equipment should be cleaned thoroughly after each use.

-EYE PROTECTION:

Eye protection, including both chemical splash goggles and face shield, must be worn when splashing, spraying, or other eye contact is possible.

-OTHER PROTECTIVE EQUIPMENT:

Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, smoking, or using toilet facilities. Promptly remove soiled clothing; washing thoroughly before reuse. Shower after work using plenty of soap and water.

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SECTION IX - SPECIAL PRECAUTIONS

-PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Store in tightly sealed drums or in properly ventilated tanks away from heat, sparks, open flames, and strong oxidants. Use only non-sparking tools. Store drums with bung in up position. Carefully vent internal pressure before beginning transfer. Electrical equipment should conform to national electric code. Handle empty containers with care; vapor residue may be flammable. Vapor space above liquid may be flammable unless blanketed with inert gas.

=====

SECTION IX - SPECIAL PRECAUTIONS (cont.)

-OTHER PRECAUTIONS:

Equipment exposed to this material should be thoroughly drained, water-washed, and purged prior to maintenance operations.

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SECTION X - DISCLAIMER

-DISCLAIMER:

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).



ARCO Chemical Company requests Customer to study this Data Sheet and become aware of Product hazards. To promote safe handling Customer should (1) notify its employees, agents and contractors of the information on this Data Sheet, and an Product hazards and safety information, (2) furnish a copy of this Data Sheet to each of its customers for the Product and (3) request such customers to notify their employees and customers for the Product of the information on this Data Sheet and an Product hazards and safety information.

Section I - General	Manufacturer's name	ARCO CHEMICAL COMPANY		Material name	ArcoTreat TBC-100
	Manufacturer's address	9100 W. 21st. Street Sand Springs, OK 74063		Emergency telephone (24 hour)	918-745-1029
Name (brand-trade) and synonyms			Chemical family		
N/A			Emulsion Breaker		
Section II - Summary of hazardous information	Summary				
	TLV	DANGER: EXTREMELY FLAMMABLE - Keep away from heat, sparks, and open flame.			
300 ppm (Estimated)	CAUTION: MODERATE SKIN, EYE, AND INHALATION HAZARD - Avoid prolonged or repeated skin contact. Avoid breathing vapors. Avoid eye contact.				
Section III - Physical and reactivity data	Boiling point (°F)	Evaporation rate (ratio of time)	Other		
	150°F	(Ether = 1) >1	N/A		
Vapor pressure (mm Hg at 70° F) 48.9 (Calc.)	Incompatibility (materials to avoid) Strong acids, alkalis, and strong oxidizer such as liquid chlorine and oxygen.				
Vapor density (air = 1 at 60-99° F) 2.3 (Calc.)	Stability Conditions to avoid (X) Stable () Unstable Heat, open flame, and sparks				
Specific gravity (H ₂ O = 1 at 39.2° F) 0.902	Hazardous polymerization may		Appearance and odor		
Volatil characteristics	() Occur (X) Not occur		Brown liquid; alcohol odor		
Appreciable	Hazardous decomposition products				
Solubility in water	Incomplete combustion may produce carbon monoxide and oxides of sulfur.				
Appreciable	Flash point (°F) 62°F		Flammable limits at normal	Lower flammable limit	Upper flammable limit
Section IV - Fire and explosion data	(method used) (D-56)		atmos. temp. and pressure	2	36.5
Autoignition temp. (° F)		Extinguishing media			
750°F (Approx.)		Carbon dioxide, dry chemical, or alcohol type foam			
Special fire fighting procedures					
For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of the normal products of combustion or oxygen deficiencies.					
Unusual fire and explosion hazards					
EXTREMELY FLAMMABLE. This material releases flammable vapors at normal atmospheric temperatures and pressures; vapors when mixed in certain proportions with air (see Flammable Limits) can burn or be explosive in confined spaces if exposed to a source of ignition.					
Section V - First aid and emergency procedures	Note to physician				
	If swallowed, induce vomiting.				
Eye contact	- Flush eyes with plenty of low pressure water.				
Skin contact	- Immediately wash skin with soap and water. Remove contaminated clothing and thoroughly clean before reuse.				
Inhalation	- Immediately remove from contaminated area for fresh air.				
Ingestion	- Induce vomiting by sticking finger down throat. Immediately obtain medical attention.				

Section VI - Health hazard data Primary hazard
Inhalation of vapors of this material may result in toxic effects.

Route of exposure	Affected	Signs and symptoms
Eye contact	X	This material may cause eye irritation upon direct contact. This material may cause skin irritation upon direct contact. Prolonged exposure to excess vapor concentrations of this material may cause signs and symptoms of central nervous system depression such as headache, dizziness, loss of appetite, weakness and loss of coordination. Ingestion in large quantities will cause poisoning.
Skin irritation	X	
Inhalation	X	
Ingestion	X	
Skin absorption		

Effects of overexposure
Ingestion or inhalation of large quantities of vapor may cause headache, fatigue, nausea, visual impairment or complete blindness and respiratory failure.

Section VII - Spill or leak procedure Precautions if material is spilled or released
Eliminate all sources of ignition in vicinity of the spill or released vapor.

Waste disposal methods
Soak up spill with sand or earth and shovel into container. Dispose of in approved dump site or incinerator. The contaminated area should be flushed with water being certain not to contaminate storm drain or water supplies.

Section VIII - Special protection information Ventilation
Use only in well ventilated area.

Eye protection
Eye protection, such as chemical type goggles or face mask, should be worn whenever splashing, spraying, or other eye contact is likely.

Skin protection
Avoid prolonged or repeated skin contact, and use good personal hygiene.

Respiratory protection
When exposure above the established standard is likely, a respiratory protection program which complies with OSHA General Industry Standard 1910.134 (e) and respiratory equipment approved by NIOSH/MESA should be implemented.

Other protection
N/A

Section IX - Handling and storage EXTREMELY FLAMMABLE. Keep container closed when not in use. Store away from heat, open flame, or direct sunlight. Keep out of reach of children. Containers should be decontaminated and all residual contents removed before disposal.

General comments
All electrical equipment in areas where material is stored and/or handled should be installed in accordance with applicable requirements of the National Electric Code, N.F.P.A.

Date issued
Reviewed March, 1981

Disclaimer of Liability
As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

ARCO Chemical Company requests Customer to study this Data Sheet and become aware of Product hazards. To promote safe handling Customer should (1) notify its employees, agents and contractors of the information on this Data Sheet, and an Product hazards and safety information, (2) furnish a copy of this Data Sheet to each of its customers for the Product and (3) request such customers to notify their employees and customers for the Product of the information on this Data Sheet and an Product hazards and safety information.

Section X - Supplement

FOR PRODUCTS CONTAINING HIGH BOILING AROMATIC HYDROCARBONS

Information given below should be used in conjunction with that provided in the MSDS to which it is attached.

Reference: Page 1

WARNING: MAY BE HARMFUL TO SKIN. Avoid skin contact. Avoid breathing mists or vapor. This product contains high boiling aromatic hydrocarbons of a type which have produced skin tumors in experimental animals. Prolonged or repeated skin contact may cause irritation or more serious skin disorders. (See Section VI, Health Hazard Data on Page 2.)

Section V - First Aid and Emergency Procedure:

- Eye Contact: Flush with copious amounts of low-pressure water.
- Skin Contact: Promptly wash the contaminated skin with soap or mild detergent and water. Remove contaminated clothes and launder before reuse.
- Inhalation: Immediately remove from contaminated area to fresh air.
- Ingestion: If swallowed, DO NOT induce vomiting. Get medical attention immediately.

Reference: Page 2

Section VI - Health Hazard Data:

- Primary Hazard: Prolonged or repeated skin contact may cause irritation or more serious skin disorders.
- Skin Irritation: Skin irritation leading to dermatitis or more serious skin disorders may occur on prolonged or repeated skin contact.
- Effect of Over-exposure: Experiments have shown that solvents of the type contained in this product have caused tumors on the skin or experimental animals. This solvent contains high boiling aromatic hydrocarbons and some such aromatic hydrocarbons have been suspected as a cause of skin cancer in humans under conditions of poor personal hygiene and prolonged or repeated contact.

Date issued

September, 1980

Disclaimer of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

Section X - Supplement

Reference: Page 2 (continued)

Section VII - Precautions if material is spilled or released:

For small spills, sue sand, earth, sawdust and place in appropriate container. For large spills, dike or impound. Immediately notify U. S. Coast Guard National Response Center (800-424-8802) of any spill that could reach waterways, including intermittent dry creeks and wetlands.

Waste Disposal Methods:

Use approved waste disposal contractor or dispose by controlled incineration in compliance with Federal, State, or local regulations.

Section VIII - Special Protection Information

- Ventilation: Special ventilation may be required for conditions of handling at elevated temperatures.
- Eye Protection: Eye protection is recommended under normal conditions of use.
- Skin Protection: If skin contact is likely during the handling of this material, appropriate impervious clothing, gloves, and/or boots must be worn and appropriate facial protection utilized.
- Respiratory Protection: Respiratory protection approved by NIOSH/MESA should be worn where excessive vapor or mist are produced by product usage.

Date issued
 September, 1980

SECTION I - PRODUCT IDENTIFICATION

Manufacturer: JETCO CHEMICALS, INC. Information Phone: 903-872-3011
P. O. BOX 1898 Emergency Phone: 903-874-9500
HWY 31 EAST CHEMTREC Phone: 800-424-9300
CORNICANA TX 75151

Product Class: Foaming Agent Hazard Ratings: Health - 2
Trade Name : JET FOAM S-255 none -> extreme Fire - 1
Product Code : FOAMS255.2 0 ---> 4 Reactivity - 0
C.A.S. Number: Mixture Personal Protection - B
Shipping Name: FLAMMABLE LIQUID, N.O.S. (CONTAINS METHANOL) UN1993

SECTION II - HAZARDOUS INGREDIENTS

Table with 7 columns: Ingredients, CAS #, Weight %, Exposure Limits (ACGIH/TLV, OSHA/PEL), and VP mm.HG. Includes entries for METHANOL and 1-T-BUTOXY-2-PROPANOL.

ALL Ingredients in this product are listed in the T.S.C.A. Inventory.

* -> These items are listed on the SARA TITLE III Section 313 inventory

SECTION III - PHYSICAL DATA

Boiling Range: 149 Deg. F Vapor Density: Heavier than Air.
Evap. Rate: Slower than n-Butyl Acetate Liquid Density: Lighter than Water.
Volatiles volume: N/DA Wgt per gallon: 8.198 Pounds.
Spec. Gravity: 0.98
Appearance: Light Yellow Liquid
V.O.C.: N/DA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: 1C Flash Point: 76 F LEL: N/DA

-EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, water spray, foam, or water fog.

-SPECIAL FIREFIGHTING PROCEDURES:

Appropriate breathing apparatus should be worn when fighting fires. Decomposition products possible. Water may be ineffective in fighting fires due to low flash point. Heat may build pressure/rupture closed container, spreading fire. Use water spray/fog for cooling.

-UNUSUAL FIRE & EXPLOSION HAZARDS:

Releases flammable vapors at normal ambient temperatures which can burn in open or explode if confined. Flammable vapors are heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Water dilution may not suffice to raise flash point.

SECTION V - HEALTH HAZARD DATA

-CHRONIC HEALTH EFFECTS:

No information available.

-EFFECTS OF OVEREXPOSURE:

INHALATION: May cause symptoms of depression, headache, dizziness, loss of appetite, weakness, lack of coordination, and severe irritation of mucous membranes and lungs. Concentrated exposure may also cause symptoms of lack of oxygen leading to collapse and possible death.

SKIN ABSORPTION: No significant signs or symptoms of skin absorption expected.

SKIN IRRITATION: May cause skin irritation, blistering, and/or dermatitis in some individuals.

INGESTION: May cause nausea, collapse, coma, and possible death.

EYE CONTACT: May cause severe eye irritation, burning, tearing, and redness.

CHRONIC-HEALTH EFFECTS: No information available.

-FIRST AID:

INHALATION: Remove to fresh air. Give oxygen and artificial respiration as needed. Obtain medical attention promptly.

EYE CONTACT: Flush eyes with low-pressure water for at least 15 minutes and obtain medical attention immediately. Prompt action is essential.

SKIN CONTACT: Wash affected area with soap and water. Remove contaminated clothing, including shoes, and clean thoroughly before reuse. Seek medical attention if irritation persists.

INGESTION: If conscious, give at least two glasses of water. Induce vomiting. Obtain medical aid immediately.

SECTION VI - REACTIVITY DATA

STABILITY: [] Unstable [x] Stable

HAZARDOUS POLYMERIZATION: [] May occur [x] Will not occur

-INCOMPATIBILITY:

Avoid strong oxidizing agents.

-CONDITIONS TO AVOID:

Heat, sparks, open flame, and/or strong oxidants.

-HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon dioxide, carbon monoxide, and/or nitrogen oxides.

SECTION VII - SPILL OR LEAK PROCEDURES

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Flammable. Release can cause fire/explosion/
human health hazard/be toxic to aquatic life. Evacuate/limit
access. Notify fire and environmental authorities in the event
of large spills. Equip responders with proper protection. Stop
release, prevent flow to sewers/public waters. Eliminate all
ignition sources. Blanket with firefighting foam. Restrict
water use for clean-up. Impound/recover large land spills.
Soak up small spills with inert solids such as clay or
(cont.)

SECTION VII - SPILL OR LEAK PROCEDURES (cont.)

- STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: (cont.)
diatomaceous earth. Place in suitable disposal containers.
Report per regulatory requirements.
- WASTE DISPOSAL METHOD:
Contaminated soil/water/product may be RCRA/OSHA hazardous waste due to potentially low flash point. Landfill at permitted sites. Use registered transporters. Incinerate concentrated liquids in systems compatible with liquid wastes where permitted under federal, state and local regulations. Consult waste disposal authorities.
- SPILL REPORTABLE QUANTITY:

SECTION VIII - SPECIAL PROTECTION INFORMATION

- RESPIRATORY PROTECTION:
At general use temperatures, an organic vapor cartridge respirator should be suitable. If exposure may exceed established standards, use of NIOSH/MSHA approved respiratory equipment operated in compliance with the OSHA Standard for Respiratory Protection (29 CFR 1910.134) is required.
- VENTILATION:
Local exhaust ventilation may be required to meet exposure standards in addition to good room ventilation.
- PROTECTIVE GLOVES:
Impervious protective gloves, boots, and head protection should be worn. Equipment should be cleaned thoroughly after each use.
- EYE PROTECTION:
Eye protection, including both chemical splash goggles and face shield, must be worn when splashing, spraying, or other eye contact is possible.
- OTHER PROTECTIVE EQUIPMENT:
Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, smoking, or using toilet facilities. Promptly remove soiled clothing; washing thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION IX - SPECIAL PRECAUTIONS

- PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:
Store in tightly sealed drums or in properly ventilated tanks away from heat, sparks, open flames, and strong oxidants. Use only non-sparking tools. Store drums with bung in up position. Carefully vent internal pressure before beginning transfer. Electrical equipment should conform to national electric code. Handle empty containers with care; vapor residue may be flammable. Vapor space above liquid may be flammable unless blanketed with inert gas.

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SECTION IX - SPECIAL PRECAUTIONS (cont.)

-OTHER PRECAUTIONS:

Equipment exposed to this material should be thoroughly drained,
water-washed, and purged prior to maintenance operations.

=====

SECTION X - DISCLAIMER

-DISCLAIMER:

The submission of this MSDS may be required by law, but this is
not an assertion that the substance is hazardous when used in
accordance with proper safety practices and normal handling
procedures. Data supplied is for use only in connection with
occupational safety and health.

This MSDS has been prepared in accordance with the requirements
of the OSHA Hazard Communication Standard (29 CFR 1200).

OFC(R) WT-675 WATER TREATING COMPOUND

MSDS ID: 6-005492

4 - PHYSICAL AND CHEMICAL DATA (continued)

VISCOSITY UNITS, TEMP. (BROOK)
 2000 16F
 VAPOR PRESSURE
 AP 44.3 MM HG AT 70F
 VAPOR SP GR (AIR=1 AT 60 - 90F)
 AP .9
 SOLUBILITY IN WATER
 COMPLETE
 STABILITY
 STABLE
 HAZARDOUS POLYMERIZATION
 NOT EXPECTED TO OCCUR
 APPEARANCE AND ODOR
 AMBER LIQUID; ALCOHOL ODOR
 CONDITIONS AND MATERIALS TO AVOID
 HEAT, OPEN FLAME AND ELEVATED PRESSURE. DO NOT USE MILD STEEL, ALUMINUM, OR BRASS FOR TRANSPORTATION, HANDLING, OR STORAGE.
 STRONG OXIDIZING AGENTS
 HAZARDOUS DECOMPOSITION PRODUCTS
 WHEN HEATED TO DECOMPOSITION, MAY EMIT CARBON MONOXIDE, CARBON DIOXIDE, FORMALDEHYDE, AND COMPOUNDS OF NITROGEN.

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
ISOPROPYL ALCOHOL	ACGIH	1985	TLV	400 PPM	8 HRS
			STEL	500 PPM	15 MIN
	OSHA	1971	PEL	400 PPM	8 HRS
METHYL ALCOHOL-SKIN	ACGIH	1985	TLV	200 PPM	8 HRS
			STEL	250 PPM	15 MIN
METHYL ALCOHOL	OSHA	1971	PEL	200 PPM	8 HRS

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(TCC)
 AP 62F
 AUTOIGNITION TEMP. METHOD=
 878F
 FLAMMABLE LIMITS (% VOLUME IN AIR)
 AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
 LOWER: 6.0 UPPER: 36.5
 FIRE AND EXPLOSION HAZARDS
 RELEASES FLAMMABLE VAPORS BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR, MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE.
 EXTINGUISHING MEDIA
 DRY CHEMICAL
 CO2
 WATER SPRAY
 ALCOHOL
 WATER FOG
 SPECIAL FIREFIGHTING PROCEDURES
 DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS. SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. WATER MAY BE INEFFECTIVE IN FIREFIGHTING DUE TO LOW FLASH POINT. USE WATER SPRAY/FOG FOR COOLING. EVEN IF MATERIAL IS WATER SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

OFC(R) WT-675 WATER TREATING COMPOUND
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7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA IS KNOWN TO EXIST.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY AFFECT THE CENTRAL NERVOUS SYSTEM AND/OR AGGRAVATE PRE-EXISTING DISORDERS. PROLONGED OBSERVATION MAY BE INDICATED.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

EITHER LOCAL EXHAUST OR GENERAL ROOM VENTILATION IS USUALLY REQUIRED.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. INDUCE VOMITING. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EMERGENCY MEDICAL TREATMENT PROCEDURES

METHANOL INGESTION IS LIFE-THREATENING. INDUCE VOMITING WITH SYRUP OF IPECAC. FOLLOW EMESIS WITH MODERATE AMOUNTS OF WATER ORALLY. SYMPTOM ONSET MAY BE DELAYED. ETHANOL THERAPY MAY BE INDICATED.

OFC(R) WT-675 WATER TREATING COMPOUND

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10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

EXTREMELY FLAMMABLE LIQUID. RELEASE CAUSES IMMEDIATE FIRE/EXPLOSION HAZARD. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). WASTE MAY BE DESIGNATED D001 UNDER RCRA LISTING DUE TO PRESENCE OF ISOPROPYL ALCOHOL. LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

10

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE "EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.

DECONTAMINATION PROCEDURES

EQUIPMENT CONTAINING THIS MATERIAL SHOULD BE ISOLATED AND THOROUGHLY DRAINED, WASHED AND PURGED PRIOR TO MAINTENANCE/REPAIR OPERATIONS. WEAR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN
SIGNAL WORD

DANGER

PHYSICAL HAZARDS

EXTREMELY FLAMMABLE
CORROSIVE TO METALS

HEALTH HAZARDS

SEVERE EYE IRRITANT
SKIN IRRITANT
INGESTION HAZARD
MAY CAUSE LONG-TERM ADVERSE HEALTH EFFECTS

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
SPILL/LEAK CAN CAUSE FIRE/EXPLOSION.
DO NOT STORE IN ALUMINUM/COPPER/BRASS/MILD STEEL.
DO NOT GET IN EYES.
AVOID CONTACT WITH SKIN.
DO NOT BREATHE VAPOR.
USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
DO NOT TAKE INTERNALLY.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
WASH THOROUGHLY AFTER HANDLING.

13 - SUPPLEMENT

CHRONIC HEALTH HAZARDS-SECTION 2 AND 7

ONE OF THE COMPONENTS OF THIS PRODUCT (ISOPROPYL ALCOHOL) HAS BEEN REPORTED IN ONE STUDY TO BE FETOTOXIC AT LEVELS OF 2.5% IN DRINKING WATER. NO TERATOGENIC EFFECTS WERE, OR HAVE BEEN, REPORTED. THERE ARE NO

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13 - SUPPLEMENT (continued)

REPORTS OF ADVERSE REPRODUCTIVE EFFECTS IN HUMANS EXPOSED TO THIS
CHEMICAL.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ = EQUAL	AP = APPROXIMATELY
LT = LESS THAN	GT = GREATER THAN
TR = TRACE	UK = UNKNOWN
N/AP = NOT APPLICABLE	N/P = NO APPLICABLE INFORMATION FOUND
N/DA = NO DATA AVAILABLE	

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM
SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE
ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY,
EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE
PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS
AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM
LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY
CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE
PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION
MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE
OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

JETCO CHEMICALS

6

MATERIAL SAFETY DATA SHEET

JET COTE 553

1. GENERAL INFORMATION

JETCO CHEMICALS, INC.
P.O. BOX 1898
CORSICANA, TX. 75151

EMERGENCY NUMBER : 214-874-9500
CHEMTREC NUMBER: 800-424-9300
FOR OTHER INFO. CALL: 214-872-3011

TRADE NAME: JET COTE 553

GENERIC NAME: SCALE INHIBITOR

D. O. T. REQUIREMENTS:

NOT REGULATED

SHIPPING NAME: JET COTE 553

2. SUMMARY OF HAZARDS

PHYSICAL HAZARDS:

ACUTE HEALTH EFFECT:

DANGER!
CAUTION!
CAUTION!
CAUTION!

EXTREME INGESTION HAZARD
MODERATE EYE IRRITANT
MODERATE INHALATION HAZARD
MODERATE SKIN IRRITANT

CHRONIC HEALTH EFFECT:

NO INFORMATION AVAILABLE.

3. COMPONENTS & EXPOSURE LIMITS

COMPONENT NAME	% COMPONENT	CAS NUMBER	SOURCE	VALUE/UNITS	TYPE	DATE	TIME
ETHYLENE GLYCOL	20 - 30	107-21-1	ACGIH	50 ppm	TLV	1987	8 HRS

4. PHYSICAL & CHEMICAL DATA

ODOR: MUSTY

VAPOR DENSITY: GT 1
(AIR = 1.0)

SOLUBILITY
IN WATER : COMPLETE

APPEARANCE: CLEAR LIGHT YELLOW LIQUID

SPECIFIC GRAVITY: 1.189 @ 15/15 C
(WATER = 1.0)

REACTIVITY
IN WATER : NONREACTIVE

BOILING POINT: AP 212 F

VAPOR PRESSURE: N/DA

5. REACTIVITY DATA

STABILITY: STABLE

MATERIALS TO AVOID: STRONG OXIDIZING AGENTS

HAZARDOUS
POLYMERIZATION: NOT EXPECTED

CONDITIONS TO AVOID: NONE EXPECTED

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN

6. FIRE AND EXPLOSION DATA

FLASH POINT: ABOVE 200 F

FLAMMABLE LIMITS: LOWER: N/DA
(% VOLUME IN AIR)

AUTOIGNITION TEMP.: N/AP

UPPER: N/DA

EXTINGUISHING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY, FOAM OR WATER FOG

SPECIAL FIRE FIGHTING PROCEDURES:

Self contained breathing apparatus should be worn when fighting fires. Decomposition products possible. Water may be ineffective in fighting fire due to low flash point. Heat may build pressure/rupture closed container. Use water spray/fog for cooling. Fire fighters should remain upwind of fires.

UNUSUAL FIRE AND EXPLOSION INFORMATION:

None expected.

7. HEALTH HAZARDS

ROUTE OF EXPOSURE	PRIMARY ROUTE	SIGNS & SYMPTOMS
INHALATION:	[X]	May cause symptoms of depression, headache, dizziness, loss of appetite, weakness and lack of coordination
SKIN ABSORPTION:	[X]	Symptoms and effects similar to ingestion can occur, especially in infants.
SKIN IRRITATION:	[X]	May cause skin irritation, blistering and/or dermatitis upon direct contact.
INGESTION:	[X]	Drunkenness, nausea, vomiting, severe stomach pain, dimmed vision progressing to coma and possible death may occur.
EYE CONTACT:	[X]	May cause mild eye irritation, burning, tearing, and redness.
CHRONIC HEALTH EFFECTS:		No information available.

8. PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION:

At general use temperature, an organic vapor cartridge respirator is usually suitable. If exposure may exceed the PEL/TLV, use of a NIOSH/MSHA approved supplied air respirator operated in a positive pressure mode as specified in OSHA guidelines for chemical hazards is required.

EYE PROTECTION:

Eye protection, including chemical splash goggles or face shield, should be worn when splashing, spraying or other eye contact is possible. Contact lenses should not be worn.

SKIN PROTECTION:

Impervious protective gloves, boots, and head protection should be worn. Equipment should be cleaned thoroughly after each use.

ENGINEERING CONTROLS:

Local exhaust ventilation may be required to meet exposure standard(s) in addition to general room ventilation.

OTHER HYGIENE AND WORK PRACTICES:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing; washing thoroughly before reuse. Shower after work using plenty of soap and water.

9. EMERGENCY FIRST AID

INHALATION:

Remove to fresh air. Give oxygen or artificial respiration as needed. Obtain medical attention promptly.

EYE CONTACT:

Flush eyes with low pressure water for at least 15 minutes and obtain medical attention immediately. Prompt action is essential.

SKIN CONTACT:

Wash affected area with soap & water. Remove contaminated clothing, including shoes, and clean thoroughly before reuse. Seek medical attention.

INGESTION:

If conscious, give at least two glasses of water to dilute. Induce vomiting. Obtain medical aid immediately!

10. SPILL & DISPOSAL

PRECAUTIONS IF MATERIAL
IS SPILLED OR RELEASED:

Release can be human health hazard/be toxic to aquatic life. Evacuate/limit access. Notify fire and environmental authorities. Equip responders with proper protection. Stop release, prevent flow to sewers/public waters. Restrict water use for cleanup. Impound/recover large land spill. Soak up small spill with inert solids, use suitable

disposal

containers. Report per regulatory requirements.

WASTE DISPOSAL METHOD:

Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potential for eye irritation and water pollution. Landfill solids at permitted sites. Use registered transporters. Incinerate concentrated liquids in systems compatible with liquid wastes where permitted under Federal, State and local regulations. Consult waste disposal authorities.

SPILL REPORTABLE QUANTITY:

National Response Center 800-424-8802

NOTE: ETHYLENE GLYCOL IS A "SARA" TITLE III REGULATED CHEMICAL.

11. ADDITIONAL PRECAUTIONS

HANDLING AND
STORAGE PROCEDURE:

Store in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents. Use only non-sparking tools. Store drums with bung in up position. Carefully vent internal pressure before beginning transfer. Electrical equipment should conform to national electric code. Handle "empty" containers with care/vapor residue may be combustible. Vapor space above liquid may be combustible/explosive unless blanketed with inert gas.

DECONTAMINATION
PROCEDURE:

Equipment exposed to this material should be thoroughly drained, washed and purged prior to maintenance operations.

12. SUPPLEMENT

NOTE ----- QUALIFIERS AND CODES USED IN THIS MSDS.

EQ	= EQUAL	AP	= APPROXIMATELY
LT	= LESS THAN	GT	= GREATER THAN
TR	= TRACE	UK	= UNKNOWN
N/AP	= NOT APPLICABLE	N/P	= NO APPLICABLE INFORMATION FOUND
N/DA	= NO DATA AVAILABLE		

13. DISCLAIMER

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness.

The conditions or methods of handling, storage, use and disposal of the products are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of in any way connected with the handling, storage, use or disposal of the product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

Prepared by: R.W. PIKE
Date: 8-14-90

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

USUAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.
Strong Alkalies.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause severe eye irritation.

Skin absorption:-

Exposure to a small quantity of this material can result in rapid absorption through the skin, causing a significant health hazard.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a severe skin irritant.

Ingestion:-

No data available. Ingestion of this material may result in aspiration into the lungs causing chemical pneumonia.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Irritant to nasal passages.

Severe Ingestion Hazard.

Will rapidly absorb through the skin causing significant health hazard.

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure.

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible.

SECTION VI - HEALTH HAZARD DATA (Continued)

USUAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric Lavage recommended.

Vigorous anti-inflammatory/steroid treatment may be required at first evidence of pulmonary/upper airway edema.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- EXTREMELY FLAMMABLE LIQUID. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. On water, may biodegrade. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potentially low flash point (see 40 CFR 261 and 29 CFR 1910). Waste may be designated D001 under RCRA listing due to presence of Isopropyl Alcohol. Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids, Avoid flameouts. Assure emissions comply with applicable regulations. Dilute Aqueous waste may biodegrade. Avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Other local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due

SECTION VIII - CONTROL MEASURES (Continued)

• spraying liquid or airborne particles. Contact Lenses must not be worn.

• Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

EXTREMELY FLAMMABLE.

High Skin Contact Hazard.

May cause long-term adverse health effects.

Skin contact penetrant.

Mucous membrane irritant.

High ingestion hazard - Chemical pneumonia.

Severe eye irritant.

Isopropanol has been reported in one animal study to be fetotoxic at levels of 2.5% in drinking water. No teratogenic effects were, or have been, reported. There are no reports of adverse reproductive effects in humans exposed to this chemical.

OTHER PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of, or in any way connected with the handling, storage, use, or disposal of the product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).I

(7)

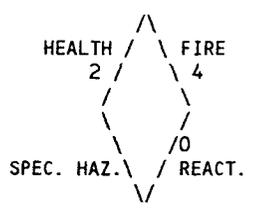
MATERIAL SAFETY DATA SHEET

PRODUCT NUMBER: 2560 (1560)
PART NUMBER: INC 2560
PRODUCT NAME: INC 2560 Paraffin Solvent / Dispersant
NUMBER: - -0
CHEMICAL NAME: Mixture of Solvents and Surfactants

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.
ADDRESS: 3803 Mankins
Odessa, TX 79763
EMERGENCY TELEPHONE NUMBER: (915)550-7027
INFORMATION TELEPHONE NUMBER: (915)550-7027
DATE PREPARED: 03/01/94

HMIS RATINGS:
HEALTH: 2
FIRE: 4
REACTIVITY: 0
PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OTHER LIMITS		
		NTP	IARC	PART/2	313	OSHA PEL	ACGIH TLV	RECOMMENDED PERCENT
108-10-1	Methyl isobutyl ketone	?	?	?	Y	50 ppm.	50 ppm.	Propriet.
8030-30-6	Naphtha, solvent	?	?	?	Y	100 ppm.	NI	Propriet.
108-88-3	Toluene	?	?	?	Y	100 ppm.	100 ppm.	Propriet.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	180 °F.	SPECIFIC GRAVITY (H2O = 1)	0.92300
VAPOR PRESSURE (mm Hg.)	23	MELTING POINT	NI
RELATIVE DENSITY (AIR = 1)	3.3	EVAPORATION RATE (Butyl Acetate = 1)	Moderat

SOLUBILITY IN WATER: Slightly Dispersible at 60° F.

APPEARANCE AND ODOR: Dark Amber Liquid, Aromatic Odor

OTHER INFORMATION:
Viscosity Units = N/A pH = N/A
Freezing Point < 10° F. Dry Point = Unknown

Density (Lb./Gal.) = 7.147

DANGER
Physical Hazards:-
Flammable Liquid

Generic Name:- Mixture of Surfactants, Solvents

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- FLAMMABLE LIQUID, n.o.s.

DOT Hazard Class:- 3

DOT Packing Group:- II

DOT/CERCLA RQ:- 2,900 Lbs. (Toluene)

This product contains chemicals which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. The corresponding CAS numbers and percent by weight are listed above.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 59 ° F.	FLAMMABLE LIMITS: LEL: 1 %	UEL: 12 %
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EXTINGUISHING MEDIA:
Dry Chemical
CO2
Water Spray

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

ter Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES:

Releases vapors at normal ambient temperatures. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air. May travel long distances along the ground before igniting/flashing back to vapor source. Diluting with water may not suffice to raise flash point above ambient temperatures.

SECTION V - REACTIVITY DATA

STABILITY:

Stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents, such as Hydrogen Peroxide, Bromine, and Chromic Acid.

Strong Alkalies.

Heat, sparks, open flames.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause severe eye irritation.

Skin absorption:-

Exposure to a small quantity of this material can result in rapid absorption through the skin, causing a significant health hazard.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a severe skin irritant.

Ingestion:-

No data available. Ingestion of this material may result in aspiration into the lungs causing chemical pneumonia.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.

Irritant to Skin.

Irritant to nasal passages.

Severe Ingestion Hazard.

Will rapidly absorb through the skin causing significant health hazard.

SIGNS AND SYMPTOMS OF EXPOSURE:

Eye Contact:-

Irritation or redness of the skin may develop after exposure.

Skin Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

SECTION VI - HEALTH HAZARD DATA (Continued)

Inhalation:-
Coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

This material or its emissions may affect the central nervous system and/or aggravate pre-existing disorders. Prolonged observation may be indicated.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, as risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention immediately. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to rinse eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric Lavage recommended.

Vigorous anti-inflammatory/steroid treatment may be required at first evidence of pulmonary/upper airway edema.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent, or other absorbent material, and transfer to hood.

LARGE SPILL:- EXTREMELY FLAMMABLE LIQUID. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. On water, may biodegrade. If run-off occurs, notify proper authorities as required, that a spill has occurred.

WASTE DISPOSAL METHOD:

Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potentially low flash point (see 40 CFR 261 and 29 CFR 1910). Landfill solids at permitted sites. Use registered transporters. Burn concentrated liquids, Avoid flameouts. Assure emissions comply with applicable regulations.

Dilute Aqueous waste may biodegrade.

Avoid overloading/poisoning plant biomass.

Assure effluent complies with applicable regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:-

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 Occupational Health Guidelines for chemical hazard.

Eye Protection:-

Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to spraying liquid or airborne particles. Contact lenses must not be worn.

Skin Protection:-

Impervious protective suit with gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

Other Hygienic Practices:-

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Shower after work using plenty of soap and water.

Other Work Practices:-

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Promptly remove soiled clothing / wash thoroughly before reuse.

SECTION IX - ADDITIONAL INFORMATION

ADDITIONAL MANUFACTURER WARNINGS:

EXTREMELY FLAMMABLE.

High Skin Contact Hazard.

May cause long-term adverse health effects.

Skin contact penetrant.

Mucous membrane irritant.

High ingestion hazard - Chemical pneumonia.

Severe eye irritant.

PRECAUTIONS AND COMMENTS:

Disclaimers:-

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of, or in any way connected with the handling, storage, use, or disposal of the product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).I

OFC(R) CL-922 CLEANER

MS ID: 6-002148

1 - GENERAL INFORMATION

BAKER PERFORMANCE CHEMICALS, INC.
 A Baker Hughes company
 3920 ESSEX LANE, P.O. BOX 27714
 HOUSTON, TEXAS 77227-7714

800-424-9300 ChemTrec
 800-231-3606 Emergency
 713-599-7400 Information

GENERIC NAME

DATE REVISED: 08-21-90

DOT PROPER SHIPPING NAME
 COMBUSTIBLE LIQUID, N.O.S.
 (ISOPROPANOL)
 DOT HAZARD CLASS
 COMBUSTIBLE LIQUID

UN/NA NUMBER
 NA 1993

2 - SUMMARY OF HAZARDS

WARNING

PHYSICAL HAZARDS: MODERATELY COMBUSTIBLE LIQUID.

ACUTE HEALTH EFFECTS:
 (SHORT TERM)

NO DATA FOUND; SUSPECT EYE CONTACT HAZARD.
 NO DATA FOUND; SUSPECT INHALATION HAZARD.
 NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD.
 NO DATA FOUND; SUSPECT INGESTION HAZARD.
 NO DATA FOUND; NO EXPECTED SKIN ABSORPTION HAZARD

CHRONIC HEALTH EFFECTS:
 (LONG TERM)

THIS PRODUCT CONTAINS A DETERGENT COMPONENT WHICH
 IF CONTACTED REPEATEDLY MAY CAUSE DERMATITIS.

3 - COMPONENTS

COMPONENT NAME	CAS NUMBER
TRADE SECRET 2148-01# ISOPROPYL ALCOHOL	67-63-0
TRADE SECRET 2148-02# TRADE SECRET 2148-03#	
WATER	7732-18-5

THIS PRODUCT CONTAINS NO SARA SECTION 313 LISTED CHEMIC
 US TSCA INVENTORY: ALL COMPONENTS ARE INCLUDED ON THE

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT 180F	PH N/AP
FREEZING POINT N/AP	DRY POINT N/AP
SPECIFIC GRAVITY (H2O=1 AT 39.2F) 1.09	VOLATILE CHARACTERISTICS APPRECIABLE
VISCOSITY UNITS, TEMP. N/AP	SOLUBILITY IN WATER COMPLETE
VAPOR PRESSURE 17.5 MM HG AT 70F	STABILITY STABLE
VAPOR SP GR (AIR=1 AT 60 - 90F) .7	HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR
APPEARANCE AND ODOR LIGHT AMBER LIQUID; NO DISTINCT ODOR	

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 - PHYSICAL AND CHEMICAL DATA (continued)

CONDITIONS AND MATERIALS TO AVOID
 HEAT SPARKS AND OPEN FLAME
 STRONG ACIDS AND STRONG OXIDIZING AGENTS
 HAZARDOUS DECOMPOSITION PRODUCTS
 INCOMPLETE COMBUSTION MAY RESULT IN OXIDES OF PHOSPHOROUS, SULFUR, NITROGEN A
 POSSIBLY AQUEOUS AMMONIA

 5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
ISOPROPYL ALCOHOL	ACGIH	1985	TLV	400 PPM	8 HRS
			STEL	500 PPM	15 MIN
ISOPROPYL ALCOHOL	OSHA	1984	PEL	400 PPM	8 HRS

 6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(TCC) AUTOIGNITION TEMP. METHOD=
 105F AP 750F

FLAMMABLE LIMITS (% VOLUME IN AIR)

AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
 LOWER: 2.0 UPPER: 12.0

FIRE AND EXPLOSION HAZARDS

WHEN HEATED ABOVE FLASH POINT, RELEASES VAPORS. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. FINE SPRAYS/MIST MAY BE COMBUSTIBLE AT TEMPERATURES BELOW NORMAL FLASH POINT.

EXTINGUISHING MEDIA

DRY CHEMICAL
 CO2
 WATER SPRAY

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. USE WATER SPRAY/FOG FOR COOLING.AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID MAY FLOAT ON WATER. ALTHOUGH SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

 7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA IS KNOWN TO EXIST, THIS MATERIAL IS NOT EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

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7 - HEALTH HAZARDS (continued)

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY AGGRAVATE KIDNEY, URETHRA, AND/OR BLADDER DISEASE.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE PER THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

NO SPECIAL VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S) BEYOND THAT NEEDED FOR NORMAL COMFORT CONTROL.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

IF EXPOSED, TREAT SKIN AND EYE BURNS OR IRRITANTS CONVENTIONALLY AFTER DECONTAMINATION.

IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE IS RECOMMENDED. HEMODIALYSIS MAY BE INDICATED FOR MORE COMPLETE ELIMINATION.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

FLAMMABLE LIQUID. RELEASE CAN CAUSE FIRE/EXPLOSION/HUMAN HEALTH HAZARD; CONTAMINATE WATER SUPPLIES; BE TOXIC TO AQUATIC LIFE. EVACUATE/LIMIT ACCESS. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIREFIGHTING FOAM. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, CONTAIN/

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13 - SUPPLEMENT (continued)

N/AP = NOT APPLICABLE
N/DA = NO DATA AVAILABLE

N/P = NO APPLICABLE INFORMATION FOUND

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

OFC_(R) WC-449 WATER CLARIFIER

MSDS ID: 4-005442

- PHYSICAL AND CHEMICAL DATA (continued)

APPEARANCE AND ODOR
 PALE AMBER LIQUID/ALCOHOL ODOR
 CONDITIONS AND MATERIALS TO AVOID
 HEAT AND OPEN FLAME
 STRONG OXIDIZING AGENTS, STRONG ALKALIES CORROSIVE TO MILD STEEL, ALUMINUM, BRAS
 HAZARDOUS DECOMPOSITION PRODUCTS
 BURNING TO DECOMPOSITION MAY PRODUCE CARBON MONOXIDE AND/OR OXIDES OF NOTROGE
 POSSIBLE HYDROCHLORIC ACID

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
TRADE SECRET 5439-02	ACGIH	1987	TWA	1 MG/M3	8 HRS
			STEL	2 MG/M3	15 MIN
METHANOL	ACGIH	1987	TWA	200 PPM	8 HRS
			STEL	250 PPM	15 MIN
TRADE SECRET 5439-03	ACGIH	1987	TWA	10 PPM	8 HRS
			STEL	15 PPM	15 MIN
TRADE SECRET 5439-04	ACGIH	1987	TWA	3 PPM	8 HRS
			STEL	6 PPM	15 MIN

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(D-56) AUTOIGNITION TEMP. METHOD=
 AP 92F AP 878F
 FLAMMABLE LIMITS (% VOLUME IN AIR)
 AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
 LOWER: 6.0 UPPER: 36.5

FIRE AND EXPLOSION HAZARDS
 RELEASES VAPORS AT NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. DILUTING WITH WATER MAY NOT SUFFICE TO RAISE FLASH POINT ABOVE AMBIENT TEMPERATURES.

EXTINGUISHING MEDIA
 DRY CHEMICAL
 CO2
 WATER SPRAY
 FOAM

SPECIAL FIREFIGHTING PROCEDURES
 DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID MAY FLOAT ON WATER. ALTHOUGH SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

Section VI - Health hazard data		Primary hazard Inhalation of vapors of this material may result in toxic effects.
Route of exposure	Affected	Signs and symptoms
Eye contact	X	This material may cause eye irritation upon direct contact.
Skin irritation	X	This material may cause skin irritation upon direct contact.
Inhalation	X	Prolonged exposure to excess vapor concentrations of this material may cause signs and symptoms of central nervous system depression such as headache, dizziness, loss of appetite, weakness and loss of coordination.
Ingestion	X	
Skin absorption		Ingestion may cause toxic effects.

Effects of overexposure

Ingestion or inhalation of large quantities of vapor may cause headache, fatigue, nausea, visual impairment or complete blindness and respiratory failure.

Section VII - Spill or leak procedure

Precautions if material is spilled or released

Eliminate all sources of ignition in vicinity of the spill or released vapor.

Waste disposal methods

Soak up spill with sand or earth and shovel into container. Dispose of in approved dump site or incinerator. The contaminated area should be flushed with water being certain not to contaminate storm drain or water supplies.

Section VIII - Special protection information

Ventilation

Use only in well ventilated area.

Eye protection

Eye protection, such as chemical type goggles or face mask, should be worn whenever ~~splashing, spraying, or other eye contact is likely.~~

Skin protection

~~Avoid prolonged or repeated skin contact, and use good personal hygiene.~~

Respiratory protection

When exposure above the established standard is likely, a respiratory protection program which complies with OSHA General Industry Standard 1910.134 (e) and ~~respiratory equipment approved by NIOSH/MESA should be implemented.~~

Other protection

N/A

Section IX - Handling and storage

MODERATELY COMBUSTIBLE - Keep container closed when not in use. Store away from heat, open flame, or direct sunlight. Keep out of reach of children. Containers should be decontaminated and all residual contents removed before disposal.

General comments

All electrical equipment in areas where material is stored and/or handled should be installed in accordance with applicable requirements of ~~the National Electric Code, N.F.P.A.~~

Date issued

Revised December, 1981

Disclaimer of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

ARCO Chemical Company requests Customer to study this Data Sheet and become aware of Product hazards. To promote safe handling Customer should (1) notify its employees, agents and contractors of the information on this Data Sheet, and any Product hazards and safety information, (2) furnish a copy of this Data Sheet to each of its customers for the Product and (3) request such customers to notify their employees and customers for the Product of the information on this Data Sheet and any Product hazards and safety information.

Section I - General		Manufacturer's name ARCO CHEMICAL COMPANY		Material name ArcoSol P-571 (SS)	
Manufacturer's address 9100 W. 21st Street Sand Springs, OK 74063				Emergency telephone (24 hour) 215/353-8300	
Name (brand-trade) and synonyms N/A			Chemical family Industrial Solvent - Dispersant		
Section II - Summary of hazardous information		Summary CAUTION: MODERATELY COMBUSTIBLE - Keep away from heat, sparks, and open flame. WARNING: HIGH SKIN, EYE, AND INHALATION HAZARD - Avoid skin and eye contact and prolonged or repeated inhalation of vapors.			
TLV 100 ppm (Estimated)					
Section III - Physical and reactivity data		Boiling point (°F) 220° F	Evaporation rate (ratio of time) (Ether = 1) >1	Other N/A	
Vapor pressure (mm Hg at 70° F) 2.0 (Calc.)		Incompatibility (materials to avoid) Strong oxidizing agent, strong alkalies			
Vapor density (air = 1 at 60-99° F) 3.8 (Calc.)		Stability Conditions to avoid (X) Stable () Unstable Heat and open flame			
Specific gravity (H ₂ O = 1 at 39.2° F) 0.945		Hazardous polymerization may occur () Occur (X) Not occur		Appearance and odor Dark amber and aromatic odor	
Volatile characteristics Slight		Hazardous decomposition products Incomplete combustion may produce carbon monoxide and oxides and/or compounds of nitrogen and sulfur.			
Solubility in water Moderate					
Section IV - Fire and explosion data		Flash point (°F) 107° F (method used) (D-56)	Flammable limits at normal atmos. temp. and pressure (% by volume in air)	Lower flammable limit 1.1	Upper flammable limit 7.0
Autoignition temp. (° F) 867° F (Approx.)		Extinguishing media Carbon dioxide, dry chemical and alcohol type foam			
Special fire fighting procedures For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, such as self-contained breathing apparatus. See Section III, Hazardous Decomposition Products for unusual decomposition products.					
Unusual fire and explosion hazards MODERATELY COMBUSTIBLE - When heated above the flashpoint, it releases flammable vapors which when mixed with air (see Flammable Limits) can burn or be explosive. Fine mists or sprays of this material may be flammable at temperatures below the normal flashpoint.					
Section V - First aid and emergency procedures		Note to physician Do not induce vomiting.			
Eye contact		Flush eyes with plenty of low-pressure water. (At least 15 minutes) Obtain			
Skin contact		medical attention immediately. Prompt action is essential.			
Inhalation		- Wash affected area with soap and water; remove contaminated clothing, including shoes, and clean thoroughly before reuse; seek medical attention immediately.			
Ingestion		- Immediately remove from contaminated area for fresh air. Keep individual quiet. In the event of respiratory distress, give oxygen or artificial respiration.			
		- Do not induce vomiting. Aspiration into lungs may cause chemical pneumonia.			

OFC^(R) WC-449 WATER CLARIFIER

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- HEALTH HAZARDS (continued)

INHALATION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.

SKIN IRRITATION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY AFFECT REPRODUCTIVE/GENETIC TISSUE.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

WEAR NIOSH APPROVED ORGANIC AMINES MASK.

EYE PROTECTION

EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN.

SKIN PROTECTION

WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

GENERAL ROOM OR LOCAL EXHAUST VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S).

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

METHANOL INGESTION IS LIFE-THREATENING. INDUCE VOMITING WITH SYRUP OF IPECAC. FOLLOW EMESIS WITH MODERATE AMOUNTS OF WATER ORALLY. SYMPTOM ONSET MAY BE DELAYED. ETHANOL THERAPY MAY BE INDICATED.

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10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED
FLAMMABLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIRE-FIGHTING FOAM. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE (SEE 40 CFR 261 AND 29 CFR 1910). IF SPENT SOLVENT INTENDED FOR DISPOSAL, MAY BE DESIGNATED F005; IF SPILL CLEANUP RESIDUE, U154 UNDER RCRA LISTINGS. LAND-FILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS IN SYSTEMS DESIGNED FOR LOW FLASH POINT MATERIAL. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

MATERIAL IS FLAMMABLE! KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. STORE AWAY FROM HEAT, SPARKS, OPEN FLAMES AND STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORAGE IN CLOSED GLASS, STAINLESS STEEL, PLASTIC OR EPOXY LINED VESSELS IS RECOMMENDED. DO NOT USE ALUMINUM OR IRON IN FEED OR STORAGE SYSTEMS.

DECONTAMINATION PROCEDURES

ISOLATE, VENT, DRAIN, WASH, AND PURGE EQUIPMENT BEFORE MAINTENANCE. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR EXPLOSIVENESS AND OXYGEN DEFICIENCIES. IF ANY RESIDUAL PRODUCT MAY BE PRESENT, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN. SEE PROTECTIVE EQUIPMENT SECTION 8 FOR PROPER RESPIRATORY PROTECTION.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

WARNING

PHYSICAL HAZARDS

HIGHLY FLAMMABLE

HEALTH HAZARDS

INGESTION AND INHALATION HAZARD
SKIN AND EYE IRRITANT

PRECAUTIONARY MEASURES

POISON (W/SKULL AND CROSSBONES SYMBOL)
DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
DO NOT STORE NEAR COMBUSTIBLE MATERIALS.
AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.
AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.
USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
WASH THOROUGHLY AFTER HANDLING.
DO NOT TASTE/SWALLOW.
KEEP CONTAINER CLOSED.

13 - SUPPLEMENT

SUPPLEMENT: SECTIONS 2 AND 7 HEALTH HAZARDS

THIS MATERIAL CONTAINS METHANOL, WHICH, WHEN INGESTED, HAS CAUSED ACIDOSIS, OCULAR TOXICITY RANGING FROM DIMINISHED VISUAL CAPACITY TO COMPLETE BLINDNESS, AND DEATH.

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14 - SUPPLEMENT (continued)

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ = EQUAL	AP = APPROXIMATELY
LT = LESS THAN	GT = GREATER THAN
TR = TRACE	UK = UNKNOWN
N/AP = NOT APPLICABLE	N/P = NO APPLICABLE INFORMATION FOUND
N/DA = NO DATA AVAILABLE	

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

=====
SECTION V - HEALTH HAZARD DATA

-CHRONIC HEALTH EFFECTS:

No information available.

-EFFECTS OF OVEREXPOSURE:

INHALATION: May cause symptoms of depression, headache, dizziness, loss of appetite, weakness, lack of coordination, and severe irritation of mucous membranes and lungs. Concentrated exposure may also cause symptoms of lack of oxygen leading to collapse and possible death.

SKIN ABSORPTION: No significant signs or symptoms of skin absorption expected.

SKIN IRRITATION: May cause skin irritation, blistering, and/or dermatitis in some individuals.

INGESTION: May cause nausea, collapse, coma, and possible death.

EYE CONTACT: May cause severe eye irritation, burning, tearing, and redness.

-FIRST AID:

INHALATION: Remove to fresh air. Give oxygen and artificial respiration as needed. Obtain medical attention promptly.

EYE CONTACT: Flush eyes with low-pressure water for at least 15 minutes and obtain medical attention immediately. Prompt action is essential.

SKIN CONTACT: Wash affected area with soap and water. Remove contaminated clothing, including shoes, and clean thoroughly before reuse. Seek medical attention if irritation persists.

INGESTION: If conscious, give at least two glasses of water. Do not induce vomiting. Obtain medical aid immediately.

=====
SECTION VI - REACTIVITY DATA

STABILITY: [] Unstable [x] Stable

HAZARDOUS POLYMERIZATION: [] May occur [x] Will not occur

-INCOMPATIBILITY:

Avoid strong oxidizing agents.

-CONDITIONS TO AVOID:

Heat, sparks, open flame, and/or strong oxidants.

-HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon dioxide, carbon monoxide, and/or nitrogen oxides.
=====

SECTION VII - SPILL OR LEAK PROCEDURES

-STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Flammable/corrosive liquid. Release can cause fire/explosion/human health hazard/be toxic to aquatic life. Evacuate/limit access. Notify fire and environmental authorities in the event of large spills. Equip responders with proper protection. Stop release, prevent flow to sewers/public waters. Eliminate all ignition sources. Blanket with firefighting foam. Restrict water use for clean-up. Impound/recover large land spills. Soak up small spills with inert solids such as clay or diatomaceous earth. Place in suitable disposal containers. Report per regulatory requirements.

SECTION I - PRODUCT IDENTIFICATION

Manufacturer: JETCO CHEMICALS, INC. Information Phone: 903-872-3011
P. O. BOX 1898 Emergency Phone: 903-874-9500
CHEMTREC Phone: 800-424-9300

CORSICANA TX 75151

Product Class: Encapsulated Scale/Corr. Inhib Hazard Ratings: Health - 2
Trade Name : JET CAP SC501 none -> extreme Fire - 0
Product Code : CAPSC501.2 0 ---> 4 Reactivity - 1
C.A.S. Number: Mixture Personal Protection - B
Shipping Name: CORROSIVE LIQUID, N.O.S. (CONTAINS HYDROCHLORIC ACID) UN1760

SECTION II - HAZARDOUS INGREDIENTS

Table with 6 columns: Ingredients, CAS #, Weight %, Exposure Limits ACGIH/TLV, Exposure Limits OSHA/PEL, VP mm HG. Row 1: HYDROCHLORIC ACID, 7647-01-0, 1-5, C 5 ppm, C5 ppm, N/AV.

HCL is a SARA 313 listed chemical

*** ALL Ingredients in this product are listed in the T.S.C.A. Inventory.

* -> These items are listed on the SARA TITLE III Section 313 inventory

SECTION III - PHYSICAL DATA

Boiling Range: 212 Deg. F Vapor Density: Heavier than Air.
Evap. Rate: Slower than n-Butyl Acetate Liquid Density: Heavier than Water.
Volatiles volume: 0.9 % Wgt per gallon: 9.163 Pounds.
Spec. Gravity: 1.10

Appearance: Capsules in Brine

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: Flash Point: > 200 F LEL:

-EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, water spray, foam, or water fog.

-SPECIAL FIREFIGHTING PROCEDURES:

Appropriate breathing apparatus should be worn when fighting fires. Decomposition products possible. Water may be ineffective in fighting fires due to low flash point. Heat may build pressure/rupture closed container, spreading fire. Use water spray/fog for cooling.

-UNUSUAL FIRE & EXPLOSION HAZARDS:

May release flammable vapors at elevated temperatures which can burn in open or explode if confined. When heated, corrosive vapors may be generated. May travel long distances along the ground before igniting/flashing back to vapor source. Water dilution may not suffice to raise the flash point.

=====

SECTION VII - SPILL OR LEAK PROCEDURES (cont.)

-WASTE DISPOSAL METHOD:

Contaminated soil/water/product may be RCRA/OSHA hazardous waste due to potentially low flash point. Landfill at permitted sites. Use registered transporters. Incinerate concentrated liquids in systems compatible with liquid wastes where permitted under federal, state and local regulations. Consult waste disposal authorities.

-SPILL REPORTABLE QUANTITY:

=====

SECTION VIII - SPECIAL PROTECTION INFORMATION

-RESPIRATORY PROTECTION:

If exposure may exceed established standards, use of NIOSH/MSHA approved respiratory equipment operated in compliance with the OSHA Standard for Respiratory Protection (29 CFR 1910.134) is required.

-VENTILATION:

Local exhaust ventilation may be required to meet exposure standards in addition to good room ventilation.

-PROTECTIVE GLOVES:

Impervious protective suit with gloves, boots, and full head gear protection must be worn. Equipment should be cleaned thoroughly after each use.

-EYE PROTECTION:

Eye protection, including both chemical splash goggles and face shield, must be worn when splashing, spraying, or other eye contact is possible.

-OTHER PROTECTIVE EQUIPMENT:

Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing; washing thoroughly before reuse. Shower after work using plenty of soap and water.

=====

SECTION IX - SPECIAL PRECAUTIONS

-PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Store in tightly sealed drums or in properly ventilated tanks away from heat, sparks, open flames, and strong oxidants. Use only non-sparking tools. Store drums with bung in up position. Carefully vent internal pressure before beginning transfer. Electrical equipment should conform to national electric code. Handle empty containers with care; vapor residue may be flammable. Vapor space above liquid may be flammable/explosive unless blanketed with inert gas.

=====

SECTION IX - SPECIAL PRECAUTIONS (cont.)

-OTHER PRECAUTIONS:

Equipment exposed to this material should be thoroughly drained, water-washed, and purged prior to maintenance operations.

=====

SECTION X - DISCLAIMER

-DISCLAIMER:

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1200).

(22)

MATERIAL SAFETY DATA SHEET

NUMBER: 852
NUMBER: INC 852
PRODUCT NAME: INC 852 Emulsion Breaker
CAS NUMBER: - -0
CHEMICAL NAME: Mixture of Surfactants

SECTION I

MANUFACTURER: / VENDOR: InterChem, Inc.

ADDRESS: 3803 Mankins
Odessa, TX 79763

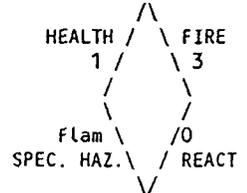
EMERGENCY TELEPHONE NUMBER: (915)550-7027

INFORMATION TELEPHONE NUMBER: (915)550-7027

DATE PREPARED: 08/01/94

HMS R RATINGS:

HEALTH: 1
FIRE: 3
REACTIVITY: 0
PERSONAL PROTECTION:



SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

CAS NUMBER	HAZARDOUS COMPONENT	SUB- SARA				OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED PERCENT
		NTP	IARC	PART/Z	313			
67-63-0	Isopropanol	?	?	?	?	100ppm/day NI		Propriet
91-20-3	Naphthalene	?	?	?	Y	10 ppm. 15 ppm ST		0.2 % Vol

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT	181 F.	SPECIFIC GRAVITY (H2O = 1)	0.96000
VAPOR PRESSURE (mm Hg.)	4.4	MELTING POINT	NI
REL DENSITY (AIR = 1)	NI	EVAPORATION RATE (Butyl Acetate = 1)	NI

SOLUBILITY IN WATER: Dispersible at 60 F.

APPEARANCE AND ODOR: Dark amber Liquid, Alcohol odor

OTHER INFORMATION:
Viscosity Units = N /A pH = App. 8.0
Freezing Point =N /A Dry Point = N/A

Density (Lb./Gal.) = 7.998

DANGER
Physical Hazards:-
Flammable Liquid

Generic Name:- Emulsion Breaker (Mixture of Phenolic Derivatives)

UN/NA Number:- UN 1993

DOT Response Number:- 27

DOT Proper Shipping Name:- Flammable Liquid, n.o.s.
(Isopropanol)

DOT Hazard Class:- 3

DOT Packing Group:- III

DOT/CERCLA RQ:- 100 Lbs. (Naphthalene)

This product contains chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 (the corresponding CAS numbers and percent by weight are also provided).

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 80 F. FLAMMABLE LIMITS: LEL: 2 % UEL: 13 %

EXTINGUISHING MEDIA:
Dry Chemical
CO2

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (Continued)

ter Fog

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter fire area without proper protection - see section V - decomposition products possible.

Fight fire from safe distance / protected location.

Heat may build pressure / rupture closed containers, spreading fire, increasing risk of burns / injuries.

Use water spray / fog for cooling.

Notify authorities if liquid enters sewer / public waters.

UNUSUAL FIRE FIGHTING PROCEDURES: NONE

SECTION V - REACTIVITY DATA

STABILITY:

Product is stable under normal conditions.

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong Oxidizing agents such as Hydrogen Peroxide, Bromine, and Chromic Acid.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Incomplete combustion may release poisonous carbon monoxide and oxides and/or compounds of nitrogen and sulfur.

HAZARDOUS POLYMERIZATION:

Not expected to occur.

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY:

Inhalation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

Eye contact:- Primary Route

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation.

Skin absorption:-

No appropriate human or animal health effects data are known to exist.

Skin irritation:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a skin irritant.

Ingestion:-

Although no appropriate human or animal health effects data are known to exist, this material is expected to be an ingestion hazard.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Acute Health Effects:- (Short Term)

Irritant to Eyes.
Irritant to Skin.
Severe Ingestion Hazard.
Inhalation Hazard

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact:-

Irritation or redness of the skin may develop after exposure. This liquid can defat the skin, producing a dermatitis characterized by drying and defatting.

Eye Contact:-

Severe eye irritation may develop on exposure.

Ingestion:-

Severe irritation and burning of the linings of the mouth, throat, and stomach may develop.

Inhalation:-

Coughing and shortness of breath may result. More severe symptoms are also possible.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NI

SECTION VI - HEALTH HAZARD DATA (Continued)

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation:-

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

Eye Contact:-

In case of eye contact, immediately rinse with clean water for 20 to 30 minutes. Retract eyelids often. Obtain emergency medical attention.

Skin Contact:-

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first. Obtain emergency medical attention.

Ingestion:-

If large quantity swallowed, give lukewarm water (pint) if victim is completely conscious and alert. Do not induce vomiting, risk of damage to lungs exceeds poisoning risk. Obtain emergency medical attention. Gastric lavage recommended.

Emergency Medical Treatment Procedures:-

Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Continue to flush eyes with clean water for 20 to 30 minutes, retracting eyelids often. Contact ophthalmologist immediately.

Treat burns or allergic reactions conventionally after decontamination. Do not induce vomiting. Gastric Lavage recommended.

OTHER HEALTH WARNINGS:

The toxicological and carcinogenic properties of this material have not been fully investigated. Handle accordingly, avoiding contact.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Equip responders with proper protection (see section VIII). SMALL SPILL:- Absorb liquid on paper, vermiculite, floor absorbent or other absorbent material, and transfer to hood.

LARGE SPILL:- Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area if possible to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent or other absorbent material and shoveled into containers.

Prevent run-off into sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that spill has occurred.

WASTE DISPOSAL METHOD:

Comply with Federal / State / Local regulations for disposal.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

For transport, handling, and storage, use polyethylene, plastic, lined steel or stainless steel.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and solid), all hazard precautions given in the data sheet must be observed.

OTHER PRECAUTIONS:

Wash Thoroughly after handling.

Do not get it eyes, on skin, or clothing.

Do not breathe dust, vapor, mist, or gas.

Keep Container closed when not in use.

Empty container may contain hazardous residues.

SECTION VIII - CONTROL MEASURES

VENTILATION REQUIREMENTS:

Either local exhaust or general room ventilation is usually required.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:- If workplace exposure limit(s) of product or any component is exceeded, a NIOSH/MSHA approved air supply respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your safety equipment supplier). Engineering or administrative control should be implemented to reduce exposure.

Ventilation:- Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Protective Gloves:- Wear resistant gloves such as: Nitrile Rubber.

Eye Protection:- Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other types of safety glasses. (Consult your safety equipment supplier).

Other Protective Equipment:- To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

MATERIAL SAFETY DATA SHEET

Printed 11-19-1990

Page 1

OFC (R) C-107 (SS) CORROSION INHIBITOR

ID: 6-005046

1 - GENERAL INFORMATION

CHEMLINK PETROLEUM
9101 W 21ST STREET
SAND SPRINGS, OK 74063
800/424-9300 ChemTrec
800/444-8969 Emergency
918/245-2224 Information

GENERIC NAME

DATE REVISED: 04-30-90

DOT PROPER SHIPPING NAME
FLAMMABLE LIQUID, N.O.S.
(ISOPROPANOL, XYLENE)
DOT HAZARD CLASS
FLAMMABLE LIQUID

UN/NA NUMBER
UN 1993

2 - SUMMARY OF HAZARDS

DANGER
PHYSICAL HAZARDS:

EXTREMELY FLAMMABLE LIQUID

ACUTE HEALTH EFFECTS:
(SHORT TERM)

NO DATA FOUND; SUSPECT INHALATION HAZARD
NO DATA FOUND; SUSPECT EYE CONTACT HAZARD
NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD
NO DATA FOUND; SUSPECT ASPIRATION HAZARD
NO DATA ON SKIN ABSORPTION FOUND

CHRONIC HEALTH EFFECTS:
(LONG TERM)

NO INFORMATION IS AVAILABLE ON CHRONIC HEALTH
HAZARDS. HOWEVER, REPEATED SKIN CONTACT SHOULD
BE AVOIDED AS THIS PRODUCT MAY CONTAIN POLYNUC-
LEAR AROMATIC HYDROCARBONS WHICH HAVE BEEN
REPORTED TO INDUCE TUMORS IN LAB ANIMALS.
SEE SUPPLEMENT.

3 - COMPONENTS

Table with 3 columns: COMPONENT NAME, CAS NUMBER, % COMPOSITION BY (WT.). Rows include HEAVY AROMATIC SOLVENT, *N-BUTYL ALCOHOL, WATER, ISOPROPYL ALCOHOL, *XYLENE.

* THIS IS A SARA SECTION 313 LISTED CHEMICAL
US TSCA INVENTORY: ALL COMPONENTS ARE INCLUDED ON THE US TSCA INVENTORY

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT
AP 300F
FREEZING POINT
N/DA
SPECIFIC GRAVITY (H2O=1 AT 39.2F)
AP .95

PH
N/AP
DRY POINT
N/DA
VOLATILE CHARACTERISTICS
MODERATE



OFC(R) C-107 (SS) CORROSION INHIBITOR

ID: 6-095046

4 - PHYSICAL AND CHEMICAL DATA (continued)

VISCOSITY UNITS, TEMP. N/DA	SOLUBILITY IN WATER MODERATE
VAPOR PRESSURE AP 13.0 MM HG AT 70F	STABILITY STABLE
VAPOR SP GR (AIR=1 AT 60 - 90F) AP 1.9	HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR
APPEARANCE AND ODOR DARK BROWN LIQUID; SLIGHT ALCOHOL ODOR	
CONDITIONS AND MATERIALS TO AVOID HEAT, SPARKS, OPEN FLAME STRONG OXIDIZING AGENTS	
HAZARDOUS DECOMPOSITION PRODUCTS WHEN HEATED TO DECOMPOSITION, MAY GENERATE CARBON MONOXIDE AS WELL AS OXIDES AND/OR COMPOUNDS OF NITROGEN.	

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
XYLENE	OSHA	1971	PEL	100 PPM	8 HRS
	ACGIH	1985	TLV	100 PPM	8 HRS
			STEL	150 PPM	15 MIN
ISOPROPANOL	OSHA	1971	PEL	400 PPM	8 HRS
	ACGIH	1985	TLV	400 PPM	8 HRS
			STEL	500 PPM	15 MIN
BUTYL ALCOHOL	OSHA	1971	PEL	100 PPM	8 HRS
BUTYL ALCOHOL - SKIN	ACGIH	1985	CEILING	50 PPM	

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(TCC) AUTOIGNITION TEMP. METHOD=
 AP 61F AP 750F

FLAMMABLE LIMITS (% VOLUME IN AIR)
 AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
 LOWER: AP 2.0 UPPER: AP 12.0

FIRE AND EXPLOSION HAZARDS
 RELEASES VAPORS AT NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND
 EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED.
 FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG
 GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE.

EXTINGUISHING MEDIA
 DRY CHEMICAL
 CO2
 WATER SPRAY
 ALCOHOL
 WATER FOG

SPECIAL FIREFIGHTING PROCEDURES
 DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPO-
 SITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION.
 HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREAS-
 ING RISK OF BURNS/INJURIES. DO NOT USE SOLID WATER STREAM/MAY SPREAD FIRE.
 USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING
 LIQUID WILL FLOAT ON WATER. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/
 PUBLIC WATERS.



OFC(R) C-107 (SS) CORROSION INHIBITOR
 ID: 6-005046

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE SEVERE EYE IRRITATION.

SKIN ABSORPTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA IS KNOWN TO EXIST, THIS MATERIAL IS NOT EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SEVERE SKIN IRRITANT.

INGESTION

NO DATA AVAILABLE. INGESTION OF THIS MATERIAL MAY RESULT IN ASPIRATION INTO THE LUNGS CAUSING CHEMICAL PNEUMONIA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY CAUSE DAMAGE TO KIDNEY AND LIVER AND/OR AGGRAVATE EXISTING DISORDERS.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE PER THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

IMPERVIOUS PROTECTIVE SUIT WITH GLOVES, BOOTS, AND FULL HEAD AND FACE PROTECTION MUST BE WORN. THE EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

PROVIDE LOCAL EXHAUST OR GENERAL ROOM VENTILATION TO MINIMIZE EXPOSURE TO VAPORS. ELECTRICAL SYSTEMS SHOULD CONFORM TO NATIONAL ELECTRIC CODE.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITTING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

OFC(R) C-107 (SS) CORROSION INHIBITOR
MSDS ID: 6-005046

9 - EMERGENCY AND FIRST AID (continued)

EMERGENCY MEDICAL TREATMENT PROCEDURES

VIGOROUS ANTI-INFLAMMATORY/STEROID TREATMENT MAY BE REQUIRED AT FIRST EVIDENCE OF PULMONARY/UPPER AIRWAY EDEMA. IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE IS RECOMMENDED. HEMODIALYSIS MAY BE INDICATED FOR MORE COMPLETE ELIMINATION.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

FLAMMABLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIRE-FIGHTING FOAM. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SDIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE "EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.

DECONTAMINATION PROCEDURES

ISOLATE, VENT, DRAIN, WASH, AND PURGE EQUIPMENT BEFORE MAINTENANCE. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR EXPLOSIVENESS AND OXYGEN DEFICIENCIES. IF ANY RESIDUAL PRODUCT MAY BE PRESENT, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN. SEE PROTECTIVE EQUIPMENT SECTION 8 FOR PROPER RESPIRATORY PROTECTION.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

DANGER

PHYSICAL HAZARDS

EXTREMELY FLAMMABLE

HEALTH HAZARDS

SEVERE SKIN AND EYE IRRITANT
HIGH INGESTION HAZARD-CHEMICAL PNEUMONIA
INHALATION HAZARD

SIMILAR MATERIAL INDUCES TUMORS IN LAB ANIMALS

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

STORE IN TIGHTLY CLOSED CONTAINERS.

AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.

DO NOT BREATHE VAPOR.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.

DO NOT TAKE INTERNALLY.

WASH THOROUGHLY AFTER HANDLING.

OFC(R) C-107 (SS) CORROSION INHIBITOR

ID: 6-005046

13 - SUPPLEMENT

ACUTE AND CHRONIC HEALTH EFFECTS

REGARDING POTENTIAL CHRONIC HEALTH HAZARDS WHICH MAY RESULT FROM LONG-TERM, REPEATED CONTACT, THIS MATERIAL MAY CONTAIN POLYNUCLEAR AROMATIC HYDROCARBONS (PNA'S). STUDIES HAVE SHOWN THAT THE REPEATED PAINTING OF PNA'S ON THE SKIN OF EXPERIMENTAL ANIMALS OVER A SUSTAINED PERIOD OF TIME RESULTS IN THE INDUCTION OF TUMORS. INDIVIDUALS SHOULD AVOID SKIN CONTACT AND SHOULD WASH AFFECTED AREAS IMMEDIATELY IF CONTACT OCCURS.

PROLONGED, REPEATED EXPOSURES TO HIGH LEVELS OF XYLENE CAN INDUCE CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DEPRESSION, DIZZINESS, NUMBNESS, TREMORS, IMPAIRED MEMORY, HEADACHE, NAUSEA AND LACK OF APPETITE. MODERATE LIVER ENLARGEMENT, KIDNEY INVOLVEMENT AND EVEN DEATH IS POSSIBLE IF EXPOSURE IS NOT CONTROLLED.

ISOPROPANOL HAS BEEN REPORTED IN ONE STUDY TO BE FETOTOXIC AT LEVELS OF 2.5% IN DRINKING WATER. NO TERATOGENIC EFFECTS WERE OR HAVE BEEN REPORTED. THERE ARE NO REPORTS OF ADVERSE REPRODUCTIVE EFFECTS IN HUMANS EXPOSED TO THIS CHEMICAL.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

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AP = APPROXIMATELY

LT = LESS THAN

GT = GREATER THAN

TR = TRACE

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OFC (R) C-107 (SS) CORROSION INHIBITOR

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9 - EMERGENCY AND FIRST AID (continued)

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WASH THOROUGHLY AFTER HANDLING.

OFC(R) C-107 (SS) CORROSION INHIBITOR

MSDS ID: 6-005046

13 - SUPPLEMENT

ACUTE AND CHRONIC HEALTH EFFECTS

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TEMPORARY

MSDS 2225

Material Name

ArcoHib S-225

Section VI - Health Hazard Data

Primary Hazard

Material may cause eye irritation upon direct contact.

Route of Exposure	Affected
Eye Contact	x
Skin Irritation	x
Inhalation	x
Ingestion	x
Skin Absorption	

Signs and Symptoms

Material may cause eye irritation upon direct contact.
 This material may cause skin irritation upon direct contact.
 Prolonged exposure to excess vapor concentrations of this material may cause signs and symptoms of central nervous system depression such as headache, dizziness, loss of appetite, weakness, and loss of coordination.
 Ingestion may cause toxic effects.

Effects of Overexposure

Ingestion or inhalation of large quantities of vapor may cause headache, fatigue nausea, visual impairment or complete blindness, and respiratory failure.

Section VII - Spill or Leak Procedure

Precautions if Material Is Spilled or Released

Eliminate all sources of ignition in vicinity of the spill or release vapor.

Waste Disposal Methods

Soak up spill with sand or earth and shovel into container. Dispose of in approved dump site or incinerator. The contaminated area should be flushed with water being certain not to contaminate storm drain or water supplies.

Section VIII - Special Protection Information

Ventilation

Normally not required.

Eye Protection

Eye protection, such as chemical type goggles or face mask, should be worn whenever splashing, spraying, or other eye contact is likely.

Skin Protection

Avoid prolonged or repeated skin contact, and use good personal hygiene.

Respiratory Protection

When exposure above the established standard is likely, a respiratory protection program which complies with OSHA General Industry Standard 1910.134 (e) and respiratory equipment approved by NIOSH/MESA should be implemented.

Other Protection

N/A

Section IX - Special Precautions

Handling and Storage

Keep container closed when not in use. Store away from heat, open flame, or direct sunlight. Keep out of reach of children. Containers should be decontaminated and all residual contents removed before disposal. SLIGHTLY COMBUSTIBLE.

General Comments

All electrical equipment in areas where material is stored and/or handled should be installed in accordance with applicable requirements of the National Electric Code, N.F.P.A.

Date Issued

October, 1978

Disclaimer of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.

Atlantic Richfield Company

Material Safety Data Sheet

TEMPORARY

MSDS 2225

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Material Name	ArcoHib S-225
Specification Code	N/A
Emergency Telephone (24 hour)	918/588-8418

Section I - General

Manufacturer's Name	ARCO/Chemical Company
Manufacturer's Address	Div. of Atlantic Richfield Co. 9100 West 21st Street Sand Springs, Oklahoma 74063
Name (Brand-Trade) and Synonyms	N/A
Chemical Family	Scale Inhibitor

Section II - Summary of Hazardous Information

Summary	CAUTION: MODERATE SKIN, EYE AND INHALATION HAZARD - Avoid prolonged or repeated skin contact. Avoid breathing vapors. Avoid eye contact.
TLV (estimated)	100 ppm

Section III - Physical and Reactivity Data

Boiling Point (°F)	>212° F.	Evaporation Rate (ratio of time)	(Ether = 1) >1	Other	pH = 8.5 - 9.5
Vapor Pressure (mm Hg at 70° F) (calc)	14.2	Incompatibility (materials to avoid)	Strong acids, alkalis and strong oxidizing agents.		
Vapor Density (air = 1 at 60-99° F) (calc)	0.79	Stability	Conditions to Avoid		
Specific Gravity (air = 1 at 39.2° F)	1.080	Hazardous Polymerization May Occur	() Occur	(x) Not Occur	Appearance and Odor
Volatiles Characteristics	Moderate	Hazardous Decomposition Products	Incomplete combustion may result in oxides of phosphorous, sulfur, nitrogen and possibly aqua ammonia.		
Solubility in Water	Complete				

Section IV - Fire and Explosion Data

Flash Point (°F) (method used) (D56)	>200	Flammable Limits at Normal Atmos. Temp. and Pressure (% by volume in air)	Lower Flammable Limit	Upper Flammable Limit
Autoignition Temp. (°F)	N/A*	Extinguishing Media	Water Spray	

Special Fire Fighting Procedures For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, such as self-contained breathing apparatus. See Section III, Hazardous Decomposition Products for unusual decomposition products.

Unusual Fire and Explosion Hazards MODERATELY COMBUSTIBLE. When heated above the flashpoint, it releases flammable vapors which when mixed with air (see Flammable Limits) can burn or be explosive. Fine mists or sprays of this material may be flammable at temperatures below the normal flashpoint.
*Solvent system is primarily water.

Section V - First Aid and Emergency Procedures

Note to Physician
If swallowed, induce vomiting.

Eye Contact	Flush eyes with plenty of low pressure water.
Skin Contact	Immediately wash skin with soap and plenty of water. Remove contaminated clothing and thoroughly clean before reuse.
Inhalation	Immediately remove from contaminated area for fresh air.
Ingestion	Induce vomiting by sticking finger down throat. Immediately obtain medical attention.

OFC (P) SC-303 SCALE/CORROSION INHIBITOR
 MSDS ID: 6-005501

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1 - GENERAL INFORMATION

CHEMLINK PETROLEUM
 9100 W. 21ST STREET
 SAND SPRINGS, OK 74063

800/424-9300 ChemTrec
 800/232-1616 Emergency
 800/722-5660 In Oklahoma
 918/493-4347 Out Cont. US

GENERIC NAME DATE REVISED: 10/19/87

DOT PROPER SHIPPING NAME UN/NA NUMBER
 FLAMMABLE LIQUID, N.O.S. UN 1993
 DOT HAZARD CLASS
 FLAMMABLE LIQUID

NFPA CLASSIFICATION: HEALTH:(2) FLAMMABILITY:(4) REACTIVITY:(1)
 SPECIFIC HAZARD:(N/AP)
 DOT/CERCLA RQ: N/AP

2 - SUMMARY OF HAZARDS

DANGER
 PHYSICAL HAZARDS: EXTREMELY FLAMMABLE LIQUID

ACUTE HEALTH EFFECTS: NO DATA FOUND; SUSPECT INHALATION HAZARD
 (SHORT-TERM) NO DATA FOUND; SUSPECT EYE CONTACT HAZARD
 NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD
 NO DATA FOUND; SUSPECT ASPIRATION HAZARD
 NO DATA ON SKIN ABSORPTION FOUND

CHRONIC HEALTH EFFECTS: NO INFORMATION IS AVAILABLE ON CHRONIC HEALTH
 (LONG-TERM) HAZARDS. HOWEVER, REPEATED SKIN CONTACT SHOULD
 BE AVOIDED AS THIS MATERIAL MAY CONTAIN POLY-
 NUCLEAR AROMATIC HYDROCARBONS (PNA'S) WHICH HAVE
 BEEN REPORTED TO INDUCE TUMORS IN LAB ANIMALS.
 SEE SUPPLEMENT.

3 - COMPONENTS

COMPONENT NAME	CAS NUMBER	% COMPOSITION BY (WT.)
TRADE SECRET 5501-01#		
TRADE SECRET 5501-02#		
ISOPROPYL ALCOHOL	67-63-0	
*ETHYLENE GLYCOL	107-21-1	< 5
*METHANOL	67-56-1	< 5
HEAVY AROMATIC SOLVENT	64742-94-5	
CARCINOGEN AS LISTED BY IARC		
WATER	7732-18-5	

* THIS IS A SARA SECTION 313 LISTED CHEMICAL

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT	PH
N/DA	AP 6.5 TO 7.5
FREEZING POINT	DRY POINT
N/DA	N/DA

OFC(r) SC-303 SCALE/CORROSION INHIBITOR

MSDS ID: 6-005501

4 - PHYSICAL AND CHEMICAL DATA (continued)

SPECIFIC GRAVITY (H2O=1 AT 39.2F) AP .943 AT 60F	VOLATILE CHARACTERISTICS APPRECIABLE
VISCOSITY UNITS, TEMP. (BROOK) LT 100 77F	SOLUBILITY IN WATER APPRECIABLE
VAPOR PRESSURE AP 27.4 MM HG AT 70F	STABILITY STABLE
VAPOR SP GR (AIR=1 AT 60 - 90F) AP 1.3	HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR
APPEARANCE AND ODOR DARK AMBER LIQUID, ALCOHOL ODOR	
CONDITIONS AND MATERIALS TO AVOID HEAT, SPARKS, OPEN FLAME	
STRONG OXIDIZERS	
HAZARDOUS DECOMPOSITION PRODUCTS INCOMPLETE COMBUSTION COULD PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, AND OXIDES OR COMPOUNDS OF SULFUR AND NITROGEN	

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
ISOPROPANOL	OSHA	1971	PEL	400 PPM	8 HRS
	ACGIH	1987	TWA	400 PPM	8 HRS
			STEL	500 PPM	15 MIN
ETHYLENE GLYCOL (VAPOR)	ACGIH	1987	CEILING	50 PPM	
METHANOL	OSHA	1971	PEL	200 PPM	8 HRS
	ACGIH	1987	TWA	200 PPM	8 HRS
			STEL	250 PPM	15 MIN

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(TCC) AUTOIGNITION TEMP. METHOD=
AP 53F N/DA

FLAMMABLE LIMITS (% VOLUME IN AIR)
LOWER: N/DA UPPER: N/DA

FIRE AND EXPLOSION HAZARDS

RELEASES FLAMMABLE VAPORS BELOW NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. DILUTING WITH WATER MAY NOT SUFFICE TO RAISE FLASH POINT ABOVE AMBIENT TEMPERATURES.

EXTINGUISHING MEDIA

DRY CHEMICAL
CO2
FOAM

USE WATER SPRAY/WATER FOG FOR COOLING

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. WATER MAY BE INEFFECTIVE IN FIREFIGHTING DUE TO LOW FLASH POINT. USE WATER SPRAY/FOG FOR COOLING. EVEN IF MATERIAL IS WATER SOLUBLE, MAY NOT BE PRACTICAL TO EXTINGUISH FIRE BY WATER DILUTION. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

OFC(R) SC-303 SCALE/CORROSION INHIBITOR
MSDS ID: 6-005501

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE SEVERE EYE IRRITATION.

SKIN ABSORPTION

NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST.

SKIN IRRITATION -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SEVERE SKIN IRRITANT.

INGESTION

NO DATA AVAILABLE. INGESTION OF THIS MATERIAL MAY RESULT IN ASPIRATION INTO THE LUNGS CAUSING CHEMICAL PNEUMONIA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

THIS MATERIAL OR ITS EMISSIONS MAY CAUSE DAMAGE TO KIDNEY AND LIVER AND/OR AGGRAVATE EXISTING DISORDERS.

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE AS SPECIFIED IN THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION

EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.

SKIN PROTECTION

IMPERVIOUS PROTECTIVE SUIT WITH GLOVES, BOOTS, AND FULL HEAD AND FACE PROTECTION MUST BE WORN. THE EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

BOTH LOCAL EXHAUST AND GENERAL ROOM VENTILATION ARE USUALLY REQUIRED.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION

IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

INGESTION

IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EMERGENCY MEDICAL TREATMENT PROCEDURES

VIGOROUS ANTI-INFLAMMATORY/STEROID TREATMENT MAY BE REQUIRED AT FIRST EVIDENCE OF PULMONARY/UPPER AIRWAY EDEMA.

IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE AND CATHARTIC

OFC(R) SC-303 SCALE/CORROSION INHIBITOR

MSDS ID: 6-005501

9 - EMERGENCY AND FIRST AID (continued)

INDICATED.

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED
EXTREMELY FLAMMABLE LIQUID. RELEASE CAUSES IMMEDIATE FIRE/EXPLOSION HAZARD. EXTINGUISH ALL IGNITION SOURCES. IMPOUND/RECOVER LARGE LAND SPILL; SOAK UP SMALL SPILL. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS
CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS IN SYSTEMS COMPATIBLE WITH WATER SOLUBLE WASTES. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES
STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE "EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.

DECONTAMINATION PROCEDURES
WHEN CLEANING OR REPAIRING EQUIPMENT CONTAMINATED WITH THIS MATERIAL, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN TO PREVENT ANY CONTACT. A POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS AND/OR A SUPPLIED AIR RESPIRATOR SHOULD BE USED.

12 - LABEL INFORMATION

USE STATEMENT
FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD
DANGER

PHYSICAL HAZARDS
EXTREMELY FLAMMABLE

HEALTH HAZARDS
INHALATION HAZARD
SEVERE SKIN AND EYE IRRITANT
HIGH INGESTION HAZARD-CHEMICAL PNEUMONIA
SIMILAR MATERIAL INDUCES TUMORS IN LAB ANIMALS

PRECAUTIONARY MEASURES
DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
KEEP CONTAINER CLOSED WHEN NOT IN USE.
DO NOT GET IN EYES.
AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.
AVOID CONTACT WITH SKIN.
USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
WASH THOROUGHLY AFTER HANDLING.
DO NOT TASTE/SWALLOW.
DO NOT TAKE INTERNALLY.

OFC(R) SC-303 SCALE/CORROSION INHIBITOR

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13 - SUPPLEMENT

HEALTH HAZARDS - SECTIONS 2 AND 7

REGARDING POTENTIAL CHRONIC HEALTH HAZARDS WHICH MAY RESULT FROM LONG-TERM, REPEATED CONTACT, THIS MATERIAL MAY CONTAIN POLYNUCLEAR AROMATIC HYDROCARBONS (PNA'S). STUDIES HAVE SHOWN THAT THE REPEATED PAINTING OF PNA'S ON THE SKIN OF EXPERIMENTAL ANIMALS OVER A SUSTAINED PERIOD RESULTS IN THE INDUCTION OF TUMORS. INDIVIDUALS SHOULD AVOID SKIN CONTACT AND SHOULD WASH AFFECTED AREAS IMMEDIATELY IF CONTACT OCCURS.

ISOPROPRANOL HAS BEEN REPORTED IN ONE ANIMAL STUDY TO BE FETOTOXIC AT LEVELS OF 2.5% IN DRINKING WATER. NO TERATOGENIC EFFECTS WERE, OR HAVE BEEN, REPORTED. THERE ARE NO REPORTS OF ADVERSE REPRODUCTIVE EFFECTS IN HUMANS EXPOSED TO THIS CHEMICAL.

THIS PRODUCT CONTAINS ETHYLENE GLYCOL, WHICH WHEN INGESTED (AND APPROPRIATE THERAPEUTIC MEASURES ARE NOT TAKEN WITHIN A FEW HOURS), MAY CAUSE DAMAGE MAINLY TO KIDNEYS BUT ALSO TO LIVER AND BRAIN. IN THE WORKPLACE, INGESTION IS NOT A NORMAL ROUTE OF EXPOSURE TO ETHYLENE GLYCOL. THUS, ETHYLENE GLYCOL HAS BEEN USED FOR MANY YEARS IN THE WORKPLACE WITHOUT SERIOUS ADVERSE HEALTH EFFECTS.

THIS MATERIAL CONTAINS METHANOL, WHICH WHEN INGESTED, HAS CAUSED ACIDOSIS, OCULAR TOXICITY RANGING FROM DIMINISHED VISUAL CAPACITY TO COMPLETE BLINDNESS, AND DEATH.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ = EQUAL	AP = APPROXIMATELY
LT = LESS THAN	GT = GREATER THAN
TR = TRACE	UK = UNKNOWN
N/AP = NOT APPLICABLE	N/P = NO APPLICABLE INFORMATION FOUND
N/DA = NO DATA AVAILABLE	

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

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MATERIAL SAFETY DATA SHEET

Printed 03-21-1995

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IRONOX(R) CT-9058

Revision Code 2-2-0

IRONOX[®] is a registered trademark of Baker Performance Chemicals Incorporated
MSDS ID: 9657017

1 - SECTION I - IDENTITY

BAKER PERFORMANCE CHEMICALS, INC.
A Baker Hughes Company
3920 ESSEX LANE, P.O. BOX 27714
HOUSTON, TX 77227-7714

EMERGENCY TELEPHONE NUMBERS:
CHEMTREC: 1-800-424-9300
800-231-3606
TELEPHONE NUMBER FOR INFORMATION:
713-599-7400

CHEMICAL NAME: Chemical Identity
Is A Trade Secret

CHEMICAL FAMILY: Proprietary

2 - SECTION II - REGULATORY CLASSIFICATION

ENVIRONMENTAL

RQ= 3622 Gallons
(Methanol)
TPQ= None

SARA S313: Yes
Methanol <17%

OCCUPATIONAL

OSHA Non-Hazardous: No

OSHA Hazardous: Yes
X Acute
NA Chronic
X Fire
NA Pressure
NA Reactive

TRANSPORTATION

Not Regulated: No

Regulated: Yes
Flammable Liquid,
N.O.S., (Contains
Methanol), 3, UN 1993
III

The components of this product are listed on the TSCA inventory.

3 - SECTION III - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENT	CAS #	PEL(OSHA)*			TLV(ACGIH)*		MFG* REC, TWA
		TWA	STEL	A/L	TWA	STEL	
Methanol (Skin) (<17%)	67-56-1	200	250		200	250	

*ppm unless otherwise indicated; (C) denotes ceiling limit

4 - SECTION IV - PHYSICAL & CHEMICAL PROPERTIES

Specific Gravity 20/20: 0.975
(H2O=1)

pH: 4.5 - 5.5 (Neat)
5% of Product;

Density (lbs/gallon): 8.12

Viscosity (Method): Not Determined

Vapor Density (Air=1): >1

Appearance and Odor: Clear light amber liquid with strong sweet odor.

Solubility: Water & brine soluble;
oil soluble

Stability: Stable

Freezing Point: Not Determined

Pour Point: OF

Flash Point (Method): 110F (TCC)

Percent Organic Compound: Proprietary

Boiling Point: Not Determined

Conditions to Avoid: Oxidizers; heat, sparks, or open flame

Vapor Pressure: Not Determined

Haz. Decomp. Prod.: Carbon monoxide; oxides of nitrogen and HCl.

MATERIAL SAFETY DATA SHEET

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RONOX(R) CT-9058

Caution Code 2-2-0

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ID: 9657017

4 - SECTION IV - PHYSICAL & CHEMICAL PROPERTIES (continued)

Hazardous Polymerization: Will not occur

FIRE CONTROL PROCEDURES: Use foam, dry chemical, CO2, water fog or spray. Do not enter a fire area without proper protective equipment, including NIOSH/MSHA approved, self-contained breathing apparatus. Cool exposed containers with water spray. Avoid vapors.

FIRE HAZARDS:

Flammable Liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Vapors can travel to source of ignition and flash back. Never use welding or cutting torch on or near drums, even when empty. Explosion may result. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may form explosive mixture with air.

5 - SECTION V - HEALTH HAZARDS

EFFECTS OF OVEREXPOSURE:

INHALATION: Prolonged or excessive inhalation may cause respiratory tract irritation.

EYE CONTACT: Heavy exposure may cause irritation of the eyes.

SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation.

INGESTION: Substance may be harmful if swallowed.

SKIN ABSORPTION: Harmful if absorbed through the skin.

OTHER INFORMATION:

Methanol is a component of this product and is poisonous by inhalation, skin absorption, and ingestion. Brief contact with the skin may produce mild skin irritation and drying of the skin which can produce dermatitis. Symptoms from prolonged skin contact or inhalation of vapors or mists include headache, dizziness, nausea, vomiting, weakness, vertigo, chills, shooting pains in the extremities, gastric pain, insomnia, acidosis, formic acid in the urine, and eye effects including blindness due to destruction of the optic nerve, coma, and death. Brief eye contact may produce irritation, tearing, or burning of the eye. Ingestion may produce mental sluggishness, nausea, vomiting, eye effects including destruction of the optic nerve (which will impair vision), stomach pain, acidosis, coma, and death. Some symptoms may be delayed from 12 to 18 hours after exposure.

Toxicity Data:

- Oral human LDLo = 143 & 428 mg/kg (RTECS)
Oral rat LD50 = 5,628 mg/kg (RTECS)
Inhalation rat LC50 = 64,000 ppm/4 Hr (RTECS)
Skin rabbit LD50 = 15,800 mg/kg (RTECS)

Standard Draize Testing

- Skin Rabbit - 20 mg/24 hours - Reaction - Moderate (RTECS)
Eye Rabbit - 40 mg - Reaction - Moderate (RTECS)

TARGET ORGANS (29 CFR 1910.1200-APPENDIX A):

- Eye Hazard
Cutaneous Hazard (Skin)
Pulmonary Agent (Lungs)

SECTION VI - EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT: Hold eyelids apart and flush eyes with plenty of water for at

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MATERIAL SAFETY DATA SHEET

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CRONOX(R) CT-9058

Caution Code 2-2-0

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6 - SECTION VI - EMERGENCY & FIRST AID PROCEDURES (continued)

least 15 minutes.
INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
SKIN CONTACT: Remove all contaminated clothing, flush skin with water for 10 minutes. Afterwards, wash the affected area with soap and water and then rinse.
INGESTION: Do not induce vomiting, seek medical attention immediately.

7 - SECTION VII - PROTECTIVE EQUIPMENT RECOMMENDATIONS

VENTILATION: The use of mechanical ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated. Where engineering controls are not feasible, assure use is in an area where there is natural air movement.

RESPIRATORY	CHEMICAL RESISTANT APPAREL	EYE/FACE
X As Needed	X CPE Gloves	X Chemical Splash
Air Supplied (SCBA)	Tyvek Polyethylene	Goggles
X Air Purifying	Suits	Full Face Shield
X Full Face Piece	Neoprene Boots	
Half Face Piece		
X Cartridge or Cannister		
Acid Gas		
X Organic Vapor		
Ammonia		

Under normal operating conditions, no excursions above the regulated (recommended) exposure levels should occur. However, if used at elevated temperatures, lower atmospheric pressure (high altitudes) or any other physical conditions that may increase the inhalation exposure, respiratory protective equipment as described above, should be worn. Also, due to individual susceptibility and sensitivity, before respirators are used, a full medical evaluation should be performed per 29 CFR 1910.134(b)(10).

A thorough review of the job task (job safety analysis) by a competent safety professional should be conducted to determine the appropriate level of protection. See 29 CFR 1910, Subpart I and 29 CFR 1910.133 for further information.

SECTION VIII - SPILL & LEAK PROCEDURES

Don appropriate protective clothing and respiratory protection prior to entering a spill/leak area. Eliminate ignition sources. Approach area upwind if possible. Shut off leak if it can be done safely. Dike and pump large spills into salvage containers. Soak up residue and small spills with absorbent clay, sand, or dirt and place in salvage containers. If RQ (reportable quantity) is exceeded, report to National Spill Response Office 1-800-424-8802. Also, in some jurisdictions, spills or leaks of any hazardous materials are reportable--consult local lead agencies for further information. Continue to observe precautions.

WASTE DISPOSAL METHOD(S): 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 the classification to non-hazardous, or hazardous for reasons other than, or in addition to product characteristics.

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MATERIAL SAFETY DATA SHEET

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TRONOX(R) CT-9058

Revision Code 2-2-0

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8 - SECTION VIII - SPILL & LEAK PROCEDURES (continued)

Dispose of all waste and/or containers in accordance with federal, state and local regulations.

REQUIREMENTS FOR TRANSPORTATION, HANDLING AND STORAGE: Transport, handle and store in accordance with OSHA Regulation 1910.106 and applicable DOT regulations.

Avoid inhalation of vapors or mists. Do not get in eyes, on skin or on clothing. Keep container closed when not in use. Wear suitable protection for eyes and skin when handling. Use with adequate ventilation. Avoid contact with oxidizers. Store in well-ventilated area. Store in cool, dry area. Control ignition source; keep away from heat, sparks and open flame.

NOTE: The information on this MSDS is based on data which is considered to be accurate. BPCI, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

By: Jack Lowell Date: 10/12/94 Supercedes: 09/05/94
Regulatory Information Specialist

10/12/94 - Changes to Sections II, III, V, & VII.

UNOCAL

(27)

UNOCAL CHEMICALS DIVISION
PETROCHEMICALS GROUP

Product Name: XYLENE
Product Code No: 11420

Page 1 of 5
Issue Date: 3/21/89

<p>MANUFACTURER:</p> <p>UNOCAL CHEMICALS DIVISION UNION OIL COMPANY OF CALIFORNIA 1345 N. MEACHAM SCHAUMBURG, ILLINOIS 60196</p> <p>CONTACT FOR FURTHER INFORMATION: MSDS COORDINATOR (312) 619-2644</p>	<p>Transportation Emergencies: Call CHEMTREC (800) 424-9300 Cont. U.S. (202) 483-7616 (Collect) from Alaska & Hawaii</p> <p>Health Emergencies: CALL LOS ANGELES POISON INFORMATION CENTER (24 hrs.) 1-(800)-356-3129</p>
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PRODUCT IDENTIFICATION

PRODUCT NAME: XYLENE

SYNONYMS: AMSCO SOLV 1420
DIMETHYL BENZENE
XYLOL

GENERIC NAME: VOLATILE SOLVENT

CHEMICAL FAMILY: AROMATIC HYDROCARBON

DOT PROPER SHIPPING NAME: XYLENE

ID NUMBER: UN1307

HAZARD CLASSIFICATION: FLAMMABLE LIQUID

CAS NUMBER: 1330-20-7

SECTION I - HAZARDOUS INGREDIENTS/EXPOSURE LIMITS	CAS NO	LIMITS	UNITS	AGENCY	TYPE
XYLENE	1330-20-7	100.0000	PPM	ACGIH	TWA
		150.0000	PPM	ACGIH	STEL
		100.0000	PPM	OSHA	TWA
		300.0000	PPM	CAL OSHA	CEIL
		200.0000	PPM	CAL OSHA	EXCUR
ETHYL BENZENE	100-41-4	100.0000	PPM	ACGIH	TWA
		125.0000	PPM	ACGIH	STEL
		100.0000	PPM	OSHA	TWA
		125.0000	PPM	OSHA	STEL

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA 313 AND 40 CFR 372:

XYLENE CAS# 1330-20-7 99-100 WT%

SECTION II - EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY

Have physician call LOS ANGELES POISON
INFORMATION CENTER (24 hrs.) (800) 356-3129

E CONTACT:

MOVE VICTIM AWAY FROM EXPOSURE AND INTO FRESH AIR. IF IRRITATION OR REDNESS DEVELOPS, FLUSH EYES WITH CLEAN WATER AND SEEK MEDICAL ATTENTION. FOR DIRECT CONTACT, HOLD EYELIDS APART AND FLUSH THE AFFECTED EYE(S) WITH CLEAN WATER FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION.

SKIN CONTACT:

REMOVE CONTAMINATED SHOES AND CLOTHING AND CLEANSE AFFECTED AREA(S) THOROUGHLY BY WASHING WITH MILD SOAP AND WATER. IF IRRITATION OR REDNESS DEVELOPS AND PERSISTS, SEEK MEDICAL ATTENTION.

INHALATION (BREATHING):

IF RESPIRATORY SYMPTOMS OR OTHER SYMPTOMS OF EXPOSURE DEVELOP, MOVE VICTIM AWAY FROM SOURCE OF EXPOSURE AND INTO FRESH AIR. IF SYMPTOMS PERSIST, SEEK IMMEDIATE MEDICAL ATTENTION. IF VICTIM IS NOT BREATHING, IMMEDIATELY BEGIN ARTIFICIAL RESPIRATION. IF BREATHING DIFFICULTIES DEVELOP, OXYGEN SHOULD BE ADMINISTERED BY QUALIFIED PERSONNEL. SEEK IMMEDIATE MEDICAL ATTENTION.

INGESTION (SWALLOWING):

ASPIRATION HAZARD: DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH BECAUSE THIS MATERIAL CAN ENTER THE LUNGS AND CAUSE SEVERE LUNG DAMAGE. IF VICTIM IS DROWSY OR UNCONSCIOUS, PLACE ON THE LEFT SIDE WITH THE HEAD DOWN. IF POSSIBLE, DO NOT LEAVE VICTIM UNATTENDED. SEEK MEDICAL ATTENTION.

SECTION III - HEALTH HAZARDS/ROUTES OF ENTRY

EYE CONTACT:

THIS MATERIAL IS AN EYE IRRITANT. DIRECT CONTACT WITH THE LIQUID OR EXPOSURE TO VAPORS OR MISTS MAY CAUSE STINGING, TEARING, REDNESS AND SWELLING.

SKIN CONTACT:

THIS MATERIAL MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE REDNESS, BURNING, AND DRYING AND CRACKING OF THE SKIN. NO HARMFUL EFFECTS HAVE BEEN DEMONSTRATED IN SKIN ABSORPTION STUDIES. PERSONS WITH PRE-EXISTING SKIN DISORDERS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS MATERIAL.

INHALATION (BREATHING):

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, BREATHING HIGH CONCENTRATIONS OF VAPORS OR MISTS MAY CAUSE IRRITATION OF THE NOSE AND THROAT, AND SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., DROWSINESS, DIZZINESS, LOSS OF COORDINATION AND FATIGUE). RESPIRATORY SYMPTOMS ASSOCIATED WITH PRE-EXISTING LUNG DISORDERS (E.G., ASTHMA-LIKE CONDITIONS) MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.

INGESTION:

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, INGESTION OF EXCESSIVE QUANTITIES MAY CAUSE IRRITATION OF THE DIGESTIVE TRACT, AND SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., DROWSINESS, DIZZINESS, LOSS OF COORDINATION AND FATIGUE). ASPIRATION HAZARD - THIS MATERIAL CAN ENTER LUNGS DURING SWALLOWING OR VOMITING AND CAUSE LUNG INFLAMMATION AND DAMAGE.

SECTION III - HEALTH HAZARDS/ROUTES OF ENTRY

MENTS:

THIS MATERIAL HAS NOT BEEN IDENTIFIED AS A CARCINOGEN BY NTP, IARC OR OSHA. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE (SOMETIMES REFERRED TO AS SOLVENT OR PAINTERS' SYNDROME). INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AN INHALING THIS PRODUCT MAY BE HARMFUL OR FATAL.

SECTION IV - SPECIAL PROTECTION INFORMATION

VENTILATION:

IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MAINTAIN AIRBORNE CONCENTRATIONS BELOW THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I), ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED. WHERE EXPLOSIVE MIXTURES MAY BE PRESENT, SYSTEMS SAFE FOR SUCH LOCATIONS MUST BE USED.

RESPIRATORY PROTECTION:

THE USE OF RESPIRATORY PROTECTION IS ADVISED WHEN CONCENTRATIONS EXCEED THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I). DEPENDING ON THE AIRBORNE CONCENTRATION, USE A RESPIRATOR OR GAS MASK WITH APPROPRIATE CARTRIDGES AND CANNISTERS (NIOSH APPROVED, IF AVAILABLE) OR SUPPLIED AIR EQUIPMENT.

PROTECTIVE GLOVES:

THE USE OF GLOVES IMPERMEABLE TO THE SPECIFIC MATERIAL HANDLED IS ADVISED TO PREVENT SKIN CONTACT AND POSSIBLE IRRITATION.

E PROTECTION:

APPROVED EYE PROTECTION TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY IS RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT:

IT IS SUGGESTED THAT A SOURCE OF CLEAN WATER BE AVAILABLE IN WORK AREA FOR FLUSHING EYES AND SKIN. IMPERVIOUS CLOTHING SHOULD BE WORN AS NEEDED.

SECTION V - REACTIVITY DATA

STABILITY:

STABLE

INCOMPATIBILITY (MATERIALS TO AVOID):

THIS PRODUCT IS INCOMPATIBLE WITH STRONG ACIDS OR BASES, OXIDIZING AGENTS AND SELECTED AMINES.

HAZARDOUS DECOMPOSITION PRODUCTS:

COMBUSTION MAY YIELD CARBON MONOXIDE AND/OR CARBON DIOXIDE.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

SECTION VI - SPILL OR LEAK PROCEDURES

HIGHWAY OR RAILWAY SPILLS
Call CHEMTREC (800) 424-9300 Cont. U.S.
(Collect) (202) 483-7616 from Alaska & Hawaii

PRECAUTIONS IN CASE OF RELEASE OR SPILL:

STAY UPWIND AND AWAY FROM SPILL. KEEP ALL SOURCES OF IGNITION AWAY FROM SPILL. IF SPILL IS INDOORS, VENTILATE AREA OF SPILL. FOAM, ESPECIALLY HIGH EXPANSION FOAM, MAY BE USED TO SUPPRESS VAPORS. KEEP OUT OF DRAINS, SEWERS OR WATERWAYS. USE SAND OR OTHER INERT MATERIAL TO DAM AND CONTAIN SPILL. DO NOT FLUSH AREA WITH WATER. FOR SMALL SPILLS, DO NOT FLUSH WITH WATER; USE ABSORBANT PADS. CONTACT FIRE AUTHORITIES AND APPROPRIATE FEDERAL, STATE OR LOCAL AGENCIES. IF SPILL IN EXCESS OF EPA REPORTABLE QUANTITY IS MADE INTO THE ENVIRONMENT, IMMEDIATELY NOTIFY THE NATIONAL RESPONSE CENTER (PHONE NUMBER: 800-424-8802).

WASTE DISPOSAL METHOD:

DISPOSE OF PRODUCT IN ACCORDANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS.

SECTION VII - STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

KEEP CONTAINERS TIGHTLY CLOSED. KEEP CONTAINERS COOL, DRY, AND AWAY FROM SOURCES OF IGNITION. USE AND STORE THIS PRODUCT WITH ADEQUATE VENTILATION. AVOID INHALATION OF VAPORS AND PERSONAL CONTACT WITH THE PRODUCT. USE GOOD PERSONAL HYGIENE PRACTICE. "EMPTY" CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. "EMPTY" DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY SHIPPED TO THE SUPPLIER OR A DRUM RECONDITIONER. ALL OTHER CONTAINERS SHOULD BE DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS. BEFORE WORKING ON OR IN TANKS WHICH CONTAIN OR HAVE CONTAINED THIS PRODUCT, REFER TO OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ANSI Z39.1, AND OTHER GOVERNMENTAL AND INDUSTRIAL REFERENCES PERTAINING TO CLEANING, REPAIRING, WELDING, OR OTHER CONTEMPLATED OPERATIONS.

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

HAZARD RANKING

NFPA HAZARD CLASS	HEALTH HAZARD: 2	0 = LEAST	HMIS HAZARD CLASS	HEALTH: 2 *
	FLAMMABILITY: 3	1 = SLIGHT		FLAM: 3
	REACTIVITY: 0	2 = MODERATE		REACT: 0
	OTHER: -	3 = HIGH		P.P.E.: -
		4 = EXTREME		

LOWER EXPLOSIVE LIMIT (% VOL.)

1.0

UPPER EXPLOSIVE LIMIT (% VOL.)

7.0

FLASH POINT

81, TCC F

EXTINGUISHING MEDIA:

SMALL FIRES: EXTINGUISH WITH DRY CHEMICAL, CO2 OR FOAM. LARGE FIRES: THE USE OF DRY CHEMICAL OR FOAM IS RECOMMENDED. WATER MAY BE AN INEFFECTIVE EXTINGUISHING AGENT.

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

RE & EXPLOSION HAZARDS:

THIS MATERIAL IS FLAMMABLE AND MAY BE IGNITED BY HEAT, SPARKS, FLAME OR STATIC ELECTRICITY.

FIRE FIGHTING PROCEDURES:

THE USE OF A SCBA IS RECOMMENDED FOR FIRE FIGHTERS. WATER SPRAY MAY BE USEFUL IN MINIMIZING VAPORS AND COOLING CONTAINERS EXPOSED TO HEAT AND FLAME. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES.

SECTION IX - PHYSICAL DATA

<u>APPROX. BOILING POINT</u>	<u>VAPOR DENSITY (AIR = 1)</u>	<u>VAPOR PRESSURE</u>
282 TO 286 F	3.7	6.6 MM HG @ 20C
<u>EVAPORATION RATE (N-BUTYL ACETATE = 1)</u>	<u>% VOLATILE</u>	<u>% SOLUBILITY IN WATER</u>
0.80	100%	NEGLEGIBLE (< 5%)
<u>SPECIFIC GRAVITY (TEMP/TEMP)</u>	<u>APPEARANCE</u>	<u>ODOR</u>
0.870 (60F/60F)	CLEAR, LITTLE IF ANY COLOR	CHARACTERISTIC

SECTION XI - DOCUMENTARY INFORMATION

ISSUE DATE: 3/21/89 PRODUCT CODE NO. 11420

REV. DATE: 1/13/89 PREV. PROD. CODE NO. 1420

MSDS NO: 6314 PREV. MSDS NO: 864

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CLEANLINK CL-9405 INDUSTRIAL CLEANER

MSDS ID: 6-010654

4 - PHYSICAL AND CHEMICAL DATA (continued)

HAZARDOUS DECOMPOSITION PRODUCTS
INCOMPLETE COMBUSTION MAY PRODUCE CARBON MONOXIDE AND/OR CARBON DIOXIDE

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
NO ESTABLISHED STANDARDS					

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=
GT 140F
FLAMMABLE LIMITS (% VOLUME IN AIR)
LOWER: N/DA
FIRE AND EXPLOSION HAZARDS
HEAT FROM FIRE CAN GENERATE FLAMMABLE VAPOR. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE. FINE SPRAYS/MISTS MAY BE COMBUSTIBLE AT TEMPERATURES BELOW NORMAL FLASH POINT.

AUTOIGNITION TEMP. METHOD=
N/DA
UPPER: N/DA

EXTINGUISHING MEDIA
DRY CHEMICAL
CO2
WATER SPRAY
FOAM
WATER
WATER FOG

SPECIAL FIREFIGHTING PROCEDURES
DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. POISONOUS GAS(ES) MAY BE GENERATED WITHOUT WARNING ON RELEASE FROM CONFINEMENT/HIGH TEMPERATURE DECOMPOSITION OR RUPTURE OF CLOSED CONTAINERS/WATER CONTACT, ALL OF WHICH WILL GREATLY INCREASE HAZARDS OF FIREFIGHTING. SEE SECTION 4-DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. NOTIFY AUTHORITIES IMMEDIATELY IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS NOT EXPECTED TO BE AN INHALATION HAZARD.

EYE CONTACT -- PRIMARY ROUTE

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA IS KNOWN TO EXIST, THIS MATERIAL IS NOT EXPECTED TO BE A HEALTH HAZARD BY SKIN ABSORPTION.

SKIN IRRITATION -- PRIMARY ROUTE

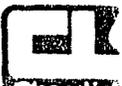
ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

INGESTION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

NO ADDITIONAL MEDICAL INFORMATION FOUND.



CLEANLINK CL-9405 INDUSTRIAL CLEANER
MSDS ID: 6-010654

1 - GENERAL INFORMATION

800/424-9300 ChemTrec
800/444-8969 Emergency
918/245-2224 Information

GENERIC NAME
OXYALKYLATED PHENOL
DOT PROPER SHIPPING NAME
COMBUSTIBLE LIQUID, N.O.S.
DOT HAZARD CLASS
COMBUSTIBLE LIQUID

DATE REVISED: 8-11-89

UN/NA NUMBER
NA 1993

NFPA CLASSIFICATION: HEALTH:(1) FLAMMABILITY:(2) REACTIVITY:(0)
DOT/CERCLA RQ: NONE
SPECIFIC HAZARD:(N/A)

2 - SUMMARY OF HAZARDS

CAUTION
PHYSICAL HAZARDS: MODERATELY COMBUSTIBLE
ACUTE HEALTH HAZARDS: (SHORT-TERM) NO DATA FOUND; SUSPECT MODERATE EYE IRRITANT
NO DATA FOUND; SUSPECT SLIGHT SKIN IRRITANT
NO DATA FOUND; NO EXPECTED SKIN ABSORPTION HAZARD
NO DATA FOUND; SUSPECT SLIGHT INGESTION HAZARD
NO DATA FOUND; NO EXPECTED INHALATION HAZARD
CHRONIC HEALTH HAZARDS: (LONG-TERM) NO DATA IS AVAILABLE WITH WHICH TO ESTIMATE
POSSIBLE TOXICITY FROM LONG-TERM CONTACT WITH
THIS PRODUCT.

3 - COMPONENTS

COMPONENT NAME	CAS NUMBER	% COMPOSITION BY (WT.)
TRADE SECRET 10654-01#		
TRADE SECRET 10654-02#		
TRADE SECRET 10654-03#		
WATER		

THIS PRODUCT CONTAINS NO SARA SECTION 313 LISTED CHEMICAL(S)

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT N/AP	PH 8 TO 9
FREEZING POINT N/AP	DRY POINT N/AP
SPECIFIC GRAVITY (H2O=1 AT 39.2F) AP 0.992	VOLATILE CHARACTERISTICS NEGLECTIBLE
VISCOSITY UNITS, TEMP. N/OA	SOLUBILITY IN WATER COMPLETE
VAPOR PRESSURE LT 17.3 MM HG AT 70F	STABILITY STABLE
VAPOR SP GR (AIR=1 AT 60 - 90F) 0.6	HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR
APPEARANCE AND ODOR BLUE VIOLET LIQUID - NO DISTINCT ODOR	
CONDITIONS AND MATERIALS TO AVOID HEAT AND OPEN FLAME	
STRONG OXIDIZING AGENTS; STRONG ALKALIES	



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MSDS ID: 6-010654

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES**RESPIRATORY PROTECTION**

NO OCCUPATIONAL EXPOSURE STANDARDS HAVE BEEN DEVELOPED FOR THIS MATERIAL. WHERE EXPOSURE THROUGH INHALATION MAY OCCUR FROM USE, NIOSH/MSHA APPROVED RESPIRATORY PROTECTION EQUIPMENT IS RECOMMENDED.

EYE PROTECTION

EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN.

SKIN PROTECTION

DEPENDING ON THE CONDITIONS OF USE, PROTECTIVE GLOVES, APRON, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT SHOULD BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS

LOCAL EXHAUST VENTILATION MAY BE REQUIRED IN ADDITION TO GENERAL ROOM VENTILATION.

OTHER HYGENIC PRACTICES

EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES

USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID**INHALATION**

REMOVE VICTIM TO FRESH AIR IMMEDIATELY. OBTAIN EMERGENCY MEDICAL ATTENTION IF BREATHING DIFFICULTY PERSISTS BEYOND 15 MINUTES.

EYE CONTACT

IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT

REMOVE CONTAMINATED CLOTHING AS NEEDED. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST.

INGESTION

IF LARGE QUANTITY SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES

SEE THE MSDS FOR ALL INFORMATION CONCERNING FIRST AID PROCEDURES.

10 - SPILL AND DISPOSAL**PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED**

MAY CONTAMINATE WATER SUPPLIES/POLLUTE PUBLIC WATERS. SLIPPERY - SPREAD GRANULAR COVER. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE DISPERSION/COLLECT. REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

COMPLY WITH FEDERAL/STATE/LOCAL REGULATIONS FOR DISPOSAL.

11 - ADDITIONAL PRECAUTIONS**HANDLING AND STORAGE PROCEDURES**

STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE REMOVING CLOSURE. CONTAINERS MUST BE CAPPED BEFORE BEING TRANSFERRED. ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE "EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE.

CLEANLINK CL-9405 INDUSTRIAL CLEANER
 MSDS TO: 6-010654

11 - ADDITIONAL PRECAUTIONS (continued)

DECONTAMINATION PROCEDURES

EMPTY CONTAINERS SHOULD BE THOROUGHLY RINSED WITH COPIOUS AMOUNTS OF CLEAN WATER. THE RINSE WATER CAN THEN BE USED FOR MAKEUP WATER FOR ANY NECESSARY DILUTION OF THE CONCENTRATED PRODUCT BEFORE USE, OR IT CAN BE PROPERLY DISCARDED.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY
 KEEP OUT OF REACH OF CHILDREN

SIGNAL WORD

CAUTION

PHYSICAL HAZARDS

MODERATELY COMBUSTIBLE

HEALTH HAZARDS

MODERATE EYE IRRITANT

SKIN IRRITANT

SLIGHT INGESTION HAZARD

PRECAUTIONARY MEASURES

DO NOT GET IN EYES.

AVOID PROLONGED OR REPEATED CONTACT WITH SKIN.

PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.

WASH THOROUGHLY AFTER HANDLING.

DO NOT TASTE/SWALLOW.

13 - SUPPLEMENT

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ = EQUAL

AP = APPROXIMATELY

LT = LESS THAN

GT = GREATER THAN

TR = TRACE

UK = UNKNOWN

N/AP = NOT APPLICABLE

N/P = NO APPLICABLE INFORMATION FOUND

N/DA = NO DATA AVAILABLE

14 - DISCLAIMERS

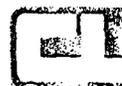
SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).



29

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME FISHER-STEVENS, INC.		EMERGENCY TELEPHONE NO. 512-573-5619
ADDRESS (Number, Street, City, State, and ZIP Code) 120 E. Constitution, Victoria, Texas 77902		
CHEMICAL NAME AND SYNONYMS SURFACTANT COMPOUND/AMINE SALT		TRADE NAME AND SYNONYMS ES
CHEMICAL FAMILY AMINE SALT	FORMULA proprietary	

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS		NA			NA
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
NA					

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	NA	SPECIFIC GRAVITY (H ₂ O=1)	1.07
VAPOR PRESSURE (mm Hg.)	NA	PERCENT VOLATILE BY VOLUME (%)	NA
VAPOR DENSITY (AIR=1)	NA	EVAPORATION RATE (_____ =1)	NA
SOLUBILITY IN WATER	100%		
APPEARANCE AND ODOR RED WAX LIKE /BLAND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	PPMC:+200	FLAMMABLE LIMITS	NA	Lel	Uel
EXTINGUISHING MEDIA DRY CHEMICAL, WATERSPRAY, OR WATERFOG, CO2 FOAM, SAND, EARTH					
SPECIAL FIRE FIGHTING PROCEDURES DO NOT ENTER WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS.					
UNUSUAL FIRE AND EXPLOSION HAZARDS NONE					

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

NDA

EFFECTS OF OVEREXPOSURE

NDA

EMERGENCY AND FIRST AID PROCEDURES

EYES- FLUSH WITH PLENTY OF WATER FOR FIFTEEN MINUTES, CALL PHYSICIAN

SKIN CONTACT- FLUSH WITH PLENTY OF WATER FOR FIFTEEN MINUTES

INHALATION- IF DIFFICULTY IN BREATHING, REMOVE VICTIM TO NON-CONTAMINATED AREA

IF SWALLOWED-CALL A PHYSICIAN GIVE OXYGEN IF LABOR IN BREATHING

SECTION VI - REACTIVITY DATA

STABILITY 0

UNSTABLE

CONDITIONS TO AVOID

NDA

STABLE YES

INCOMPATIBILITY (Materials to avoid)

NDA

HAZARDOUS DECOMPOSITION PRODUCTS

NDA

HAZARDOUS POLYMERIZATION

NDA

MAY OCCUR

WILL NOT OCCUR

CONDITIONS TO AVOID

NDA

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

ABSORB WITH AN INERT INGREDIENT SUCH AS SAND, EARTH, VERMICULITE AND

DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

WASTE DISPOSAL METHOD

BY METHODS CONSISTANT WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

NDA

VENTILATION

LOCAL EXHAUST

SPECIAL

MECHANICAL (General)

MECHANICAL RECOMMENDED OTHER

PROTECTIVE GLOVES

PLASTIC COATED OR RUBBER

EYE PROTECTION

SAFETY GOGGELS OR SPASH SHIELD

OTHER PROTECTIVE EQUIPMENT

PROTECTIVE APRON

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

STORE BETWEEN 50 degrees F and 120 degrees F

KEEP AWAY FROM SPARKS AND EXCESSIVE HEAT/AVOID CONTACT

OTHER PRECAUTIONS



VISLINK® VL-9362 VISCOSIFIERS

MSDS No.
HCRO08838
Rev. Date
09/12/86

VII. Emergency and First Aid

Inhalation	IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.
Eye Contact	IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.
Skin Contact	IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.
Ingestion	IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.
Emergency Medical Treatment Procedures	VIGOROUS ANTI-INFLAMMATORY/STEROID TREATMENT MAY BE REQUIRED AT FIRST EVIDENCE OF PULMONARY/UPPER AIRWAY EDEMA. IF SWALLOWED, DO NOT INDUCE VOMITING. GASTRIC LAVAGE AND CATHARTIC INDICATED.

VIII. Spill and Disposal

Precautions if Material is Spilled or Released

COMBUSTIBLE LIQUID. RELEASE CAN CAUSE FIRE OR EXPLOSION. LIQUID OR VAPOR MAY IGNITE. EVACUATE AND LIMIT ACCESS. EQUIP RESPONDERS WITH PROPER PROTECTION. EXTINGUISH ALL IGNITION SOURCES. STOP RELEASE. PREVENT FLOW TO SEWERS OR PUBLIC WATERS. NOTIFY FIRE AND/OR ENVIRONMENTAL AUTHORITIES. BLANKET WITH FIREFIGHTING FOAM. RESTRICT WATER USE FOR CLEANUP. IMPOUND AND RECOVER LARGE SPILL. SOAK UP SMALL SPILL WITH INERT SOLIDS. USE SUITABLE DISPOSAL CONTAINERS. ON WATER, MATERIAL IS SOLUBLE; MAY FLOAT OR SINK. CONTAIN; MINIMIZE DISPERSION; COLLECT. DISPERSE RESIDUE. REPORT PER REGULATORY REQUIREMENTS.

Waste Disposal Methods

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO POTENTIAL FOR EYE IRRITATION/WATER POLLUTION (SEE 40 CFR 261 AND 29 CFR 1910). LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CONCENTRATED LIQUIDS IN SYSTEMS COMPATIBLE WITH WATER SOLUBLE WASTES. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISONING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

IX. Components (This may not be a complete list of components)

Component Name	CAS No.	Carcinogen##	Composition amount (Wt.) (See Qualification on Page 4)
TRADE SECRET 8838-01#		N/AP	

Specific Chemical Identity is a Trade Secret
##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other

Compositions given are typical values, not specifications.

X. Physical and Chemical Data			
Boiling Point AP 212° F	Viscosity Units, Temp. (Method) N/DA		Dry Point N/DA
Freezing Point N/DA	Vapor Pressure N/DA		Volatile Characteristics MODERATE
Specific Gravity (H ₂ O = 1 at 39.2° F) AP 1.03 TO 1.03 39° F/ 39° F	Vapor Sp. Gr. (Air = 1.0 at 60° - 90° F) N/DA	Solubility in Water APPRECIABLE	pH N/DA
Hazardous Polymerization NOT EXPECTED TO OCCUR	Other Chemical Reactivity N/P	Stability STABLE	
Other Physical and Chemical Properties N/P			
Appearance and Odor VISCIOUS LIQUID WITH HYDROCARBON ODOR			
Conditions to Avoid HEAT & OPEN FLAME			
Materials to Avoid STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG ALKALIES			
Hazardous Decomposition Products COULD DECOMPOSE TO CARBON MONOXIDE, CARBON DIOXIDE AND OXIDES OR COMPOUNDS OF NITROGEN.			
XI. Additional Precautions			
Handling, Storage and Decontamination Procedures	<p>MATERIAL SAMPLING PROCEDURES SHOULD AVOID VAPOR INHALATION AND SKIN/EYE CONTACT AND ONLY BE CONDUCTED WITH PROPER PROTECTIVE EQUIPMENT. USE SPECIAL CARE WHEN HANDLING/TRANSPORTING SAMPLES. STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS WITH VENTS DIRECTED TO LOCATIONS REMOVED FROM POTENTIAL PERSONNEL EXPOSURE. ALL CONTAINERS SHOULD BE LABELLED TO WARN AGAINST EXPOSURE. HANDLE "EMPTY" CONTAINERS WITH CARE/RESIDUE MAY BE COMBUSTIBLE.</p> <p>WHEN CLEANING OR REPAIRING EQUIPMENT CONTAMINATED WITH THIS MATERIAL, TOTAL-ENCAPSULATING IMPERVIOUS PROTECTIVE SUITS, GLOVES, AND BOOTS SHOULD BE WORN TO PREVENT ANY CONTACT. A POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS AND/OR A SUPPLIED AIR RESPIRATOR SHOULD BE USED.</p>		
General Comments	<p>SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.</p>		
<p>--- 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</p>			
Disclaimer of Liability			
<p>The information in this MSDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.</p> <p>The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.</p>			

MATERIAL SAFETY DATA SHEET

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VISLINK® VL-9362 VISCOSIFIERS

MSDS No.
HCRO08838

Rev. Date
09/12/86



CHEMLINK PETROLEUM, INC.
A DIVISION OF PONY INDUSTRIES
9100 W. 21ST STREET
SAND SPRINGS, OK 74063

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product
This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accord with the MSDS requirements of the rule.

I. General

Trade Name VISLINK VL-9362 VISCOSIFIERS		Telephone Numbers EMERGENCY 800/424-9300 CHEMTREC 800/232-1616 EXT. 347 CUSTOMER SERVICE 918/245-2224 INFO ONLY	
Other Names N/P			
Chemical Family POLYACRYLAMIDE SOLUTION	DOT Hazardous Materials Proper Shipping Name NOT REGULATED, N.O.S.		
Generic Name POLYACRYLAMIDE SOLUTION	DOT Hazard Class NOT REGULATED		
CAS No. SEE SECTION IX	Company ID No. E000883800	UN/NA ID No. N/AP	

II. WARNING Summary of Hazards

PHYSICAL HAZARDS:	SLIGHTLY COMBUSTIBLE LIQUID
ACUTE HEALTH EFFECTS: (SHORT TERM)	NO DATA FOUND; SUSPECT INHALATION HAZARD NO DATA FOUND; SUSPECT EYE CONTACT HAZARD NO DATA FOUND; SUSPECT SKIN IRRITATION HAZARD NO DATA FOUND; SUSPECT ASPIRATION HAZARD NO DATA ON SKIN ABSORPTION FOUND
CHRONIC HEALTH EFFECTS: (LONG TERM)	NO INFORMATION IS AVAILABLE ON THE CHRONIC HEALTH EFFECTS OF THIS PRODUCT.

III. Fire and Explosion

Flash Point (Method) GT 200° F (TOC)	Autoignition Temperature (Method) N/DA	Flammable Limits (% Vol. in Air) Lower N/DA Upper N/DA
------------------------------------------	-------------------------------------------	-----------------------------------------------------------

Fire and Explosion Hazards
WHILE NOT NORMALLY COMBUSTIBLE, IF WATER CONTENT IS LOST (AS IN A FIRE), MATERIAL MAY RELEASE FLAMMABLE VAPORS IF EXPOSED TO HIGH TEMPERATURE. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE.

Extinguishing Media
DRY CHEMICAL
CO2
FOAM
USE WATER SPRAY/ WATER FOG FOR COOLING

Special Firefighting Procedures
DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE "DECOMPOSITION PRODUCTS POSSIBLE." FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. MAY BECOME COMBUSTIBLE FOLLOWING EVAPORATION OF NON-COMBUSTIBLE CARRIER. USE WATER SPRAY/FOG FOR COOLING. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

IV. Health Hazards

Summary of Acute Hazards HIGH HEALTH HAZARD. SEE BELOW FOR ROUTE-SPECIFIC DETAILS.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	Primary Route(s)
Inhalation	ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.	<input checked="" type="checkbox"/>
Eye Contact	ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE SEVERE EYE IRRITATION.	<input checked="" type="checkbox"/>
Skin Absorption	NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST.	<input type="checkbox"/>
Skin Irritation	ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SEVERE SKIN IRRITANT.	<input checked="" type="checkbox"/>
Ingestion	NO DATA AVAILABLE. INGESTION OF THIS MATERIAL MAY RESULT IN ASPIRATION INTO THE LUNGS CAUSING CHEMICAL PNEUMONIA.	<input type="checkbox"/>

Summary of Chronic Hazards and Special Health Effects NO INFORMATION IS AVAILABLE ON THE CHRONIC HEALTH EFFECTS OF THIS PRODUCT.
THIS MATERIAL OR ITS EMISSIONS MAY AGGRAVATE PRE-EXISTING EYE DISEASE.

V. Protective Equipment and Other Control Measures

Respiratory	NO OCCUPATIONAL EXPOSURE STANDARDS HAVE BEEN DEVELOPED FOR THIS MATERIAL. WHERE EXPOSURE THROUGH INHALATION MAY OCCUR FROM USE, NIOSH/MSHA APPROVED RESPIRATORY PROTECTION EQUIPMENT IS RECOMMENDED.
Eye	EYE PROTECTION, INCLUDING BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD, MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPRAYING LIQUID OR AIRBORNE PARTICLES. CONTACT LENSES MUST NOT BE WORN.
Skin	IMPERVIOUS PROTECTIVE SUIT WITH GLOVES, BOOTS, AND FULL HEAD AND FACE PROTECTION MUST BE WORN. THE EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.
Engineering Controls	LOCAL EXHAUST VENTILATION MAY BE REQUIRED IN ADDITION TO GENERAL ROOM VENTILATION.
Other Hygienic and Work Practices	EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE. USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

VI. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time
PETROLEUM DISTILLATE (NAPHTHA)	OSHA	1971	PEL	500 PPM	8 HRS



VISLINK® VL-9362 VISCOSIFIERS

MSDS No.
HCRO08838
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XII. Label Information

Manufacturer: CHEMLINK PETROLEUM, INC.
A DIVISION OF PONY INDUSTRIES
9100 W. 21ST STREET
SAND SPRINGS, OK 74063

Telephone Numbers
EMERGENCY
800/424-9300 CHEMTREC
800/232-1616 EXT. 347
CUSTOMER SERVICE
918/245-2224 INFO ONLY

Use Statement: FOR INDUSTRIAL USE ONLY
KEEP OUT OF REACH OF CHILDREN

Signal Word: WARNING

Physical Hazards:
COMBUSTIBLE

Health Hazards:
INHALATION HAZARD SEVERE SKIN AND EYE IRRITANT
HIGH INGESTION HAZARD-CHEMICAL PNEUMONIA

Precautionary Measures: DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.
AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.
AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.
USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.
PREVENT CONTACT WITH FOOD, CHEWING, OR SMOKING MATERIALS.
WASH THOROUGHLY AFTER HANDLING.
DO NOT TASTE/SWALLOW.
DO NOT TAKE INTERNALLY.

DOT Information: UN/NA ID Number- N/AP
Hazard Class- NOT REGULATED
Proper Shipping- NOT REGULATED, N.O.S.

Instructions: DRY CHEMICAL
In case of fire, use- CO2
FOAM

First Aid -Inhalation IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

-Eye Contact IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

-Skin Contact IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH WITH LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATER-LESS CLEANER FIRST. OBTAIN EMERGENCY MEDICAL ATTENTION.

-Ingestion IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL. COMBUSTIBLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. BLANKET WITH FIREFIGHTING FOAM. SOAK UP SMALL SPILL. ON WATER, CONTAIN/MINIMIZE DISPERSION, COLLECT. REPORT PER REGULATORY REQUIREMENTS.

In case of spill,

Protective Equipment:

-Respiratory USE NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR AS APPROPRIATE.

-Eye BOTH CHEMICAL SPLASH GOGGLES AND FACE SHIELD.

-Skin IMPERVIOUS PROTECTIVE SUIT PLUS IMPERVIOUS GLOVES, BOOTS, AND FULL HEAD/FACE PROTECTION.

MATERIAL SAFETY DATA SHEET

Printed 10-19-93

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INC-820 EMULSION BREAKER

1 - GENERAL INFORMATION

INTERCHEM, INC.

P. O. BOX 13166 79768
3803 MANKINS 79763
ODESSA, TX

24 hour emergency #
(915) 550-7027

GENERIC NAME: DEMULSIFIER
DOT PROPER SHIPPING NAME: FLAMMABLE LIQUID, N.O.S.
DOT HAZARD CLASS: FLAMMABLE LIQUID
NFPA CLASSIFICATION: HEALTH (2) FLAMMABILITY (3) REACTIVITY (0)
DOT/CERCLA RQ: 16700 lbs. (XYLENE)

DATE REVISED: 12/5/90

UN/NA NUMBER
UN 1993

2 - SUMMARY OF HAZARDS

WARNING PHYSICAL HAZARDS: HIGHLY FLAMMABLE LIQUID
ACUTE HEALTH HAZARDS: MODERATE SKIN IRRITANT
(SHORT-TERM) SUSPECT INHALATION HAZARD
SUSPECT EYE CONTACT HAZARD
SUSPECT SKIN IRRITATION HAZARD
SUSPECT INGESTION HAZARD

CHRONIC HEALTH HAZARDS: NO INFORMATION IS AVAILABLE ON CHRONIC HEALTH
(LONG-TERM) HAZARDS. HOWEVER, REPEATED SKIN CONTACT SHOULD BE
AVOIDED AS THIS MATERIAL MAY CONTAIN POLYNUCLEAR
AROMATIC HYDROCARBONS WHICH HAVE BEEN REPORTED TO
INDUCE TUMORS IN LAB ANIMALS. SEE SUPPLEMENT.

3 - COMPONENTS

Table with 3 columns: COMPONENT NAME, CAS NUMBER, % COMPOSITION BY (WT.)
Rows include: TRADE SECRET 5294-01#, TRADE SECRET 5294-02#, *XYLENE (1330-20-7, < 11), *ETHYLBENZENE (100-4-1-4, < 3), ISOPROPYL ALCOHOL (67-63-0), HEAVY AROMATIC SOLVENT (64742-94-5)

* THIS IS A SARA SECTION 313 LISTED CHEMICAL
US TSCA INVENTORY: ALL COMPONENTS ARE INCLUDED ON THE US TSCA INVENTORY

4 - PHYSICAL AND CHEMICAL DATA

BOILING POINT: 180F
FREEZING POINT: AP -18C
SPECIFIC GRAVITY (H2O=1 AT 39.2F): .97
PH: N/AP
DRY POINT: N/AP
VOLATILE CHARACTERISTICS: NEGLIGIBLE

INC-820 EMULSION BREAKER

4 - PHYSICAL AND CHEMICAL DATA (continued)

VISCOSITY UNITS, TEMP. N/AP	SOLUBILITY IN WATER NEGLIGIBLE
VAPOR PRESSURE 11.0 MM HG AT 70F	STABILITY STABLE
VAPOR SP GR (AIR=1 AT 60 - 90F) 2.3	HAZARDOUS POLYMERIZATION NOT EXPECTED TO OCCUR
APPEARANCE AND ODOOR DARK BROWN LIQUID, AROMATIC ODOOR	
CONDITIONS AND MATERIALS TO AVOID HEAT, SPARKS, AND OPEN FLAMES	
STRONG OXIDIZING AGENTS, STRONG ALKALIES	
HAZARDOUS DECOMPOSITION PRODUCTS INCOMPLETE COMBUSTION MAY RELEASE POISONOUS CARBON MONOXIDE AND OXIDES AND/OR COMPOUNDS OF NITROGEN AND SULFUR.	

5 - OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	DATE	TYPE	VALUE	TIME
XYLENE	ACGIH/OSHA	1989	TLV/PEL	100 PPM	8 HRS
			STEL	150 PPM	15 MIN
ISOPROPYL ALCOHOL	ACGIH/OSHA	1989	TLV/PEL	400 PPM	8 HRS
			STEL	500 PPM	15 MIN
ETHYLBENZENE	ACGIH/OSHA	1989	TLV/PEL	100 PPM	8 HRS
			STEL	125 PPM	15 MIN

6 - FIRE AND EXPLOSION

FLASH POINT METHOD=(D-56) AUTOIGNITION TEMP. METHOD=
75F AP 750F

FLAMMABLE LIMITS (% VOLUME IN AIR)
AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE
LOWER: 1.1 UPPER: 12.0

FIRE AND EXPLOSION HAZARDS

RELEASES VAPORS AT NORMAL AMBIENT TEMPERATURES. WHEN MIXED WITH AIR AND EXPOSED TO IGNITION SOURCE, VAPORS CAN BURN IN OPEN OR EXPLODE IF CONFINED. FLAMMABLE VAPORS MAY BE HEAVIER THAN AIR. MAY TRAVEL LONG DISTANCES ALONG GROUND BEFORE IGNITING/FLASHING BACK TO VAPOR SOURCE.

EXTINGUISHING MEDIA

DRY CHEMICAL
CO2
WATER SPRAY
ALCOHOL

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER FIRE AREA WITHOUT PROPER PROTECTION. SEE SECTION 4 - DECOMPOSITION PRODUCTS POSSIBLE. FIGHT FIRE FROM SAFE DISTANCE/PROTECTED LOCATION. HEAT MAY BUILD PRESSURE/RUPTURE CLOSED CONTAINERS, SPREADING FIRE, INCREASING RISK OF BURNS/INJURIES. DO NOT USE SOLID WATER STREAM/MAY SPREAD FIRE. USE WATER SPRAY/FOG FOR COOLING. AVOID FROTHING/STEAM EXPLOSION. BURNING LIQUID WILL FLOAT ON WATER. NOTIFY AUTHORITIES IF LIQUID ENTERS SEWER/PUBLIC WATERS.

7 - HEALTH HAZARDS

ROUTES OF EXPOSURE

INHALATION

ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INHALATION HAZARD.

7 - HEALTH HAZARDS (continued)

EYE CONTACT -- PRIMARY ROUTE
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO CAUSE EYE IRRITATION.

SKIN ABSORPTION
 NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST.

SKIN IRRITATION
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE A SKIN IRRITANT.

INGESTION
 ALTHOUGH NO APPROPRIATE HUMAN OR ANIMAL HEALTH EFFECTS DATA ARE KNOWN TO EXIST, THIS MATERIAL IS EXPECTED TO BE AN INGESTION HAZARD.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
 SEE SUPPLEMENT

8 - PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION
 IF EXPOSURE CAN EXCEED THE PEL/TLV, USE ONLY NIOSH/MSHA APPROVED AIR-PURIFYING OR SUPPLIED AIR RESPIRATOR OPERATED IN A POSITIVE PRESSURE MODE PER THE NIOSH/OSHA 1981 OCCUPATIONAL HEALTH GUIDELINES FOR CHEMICAL HAZARDS.

EYE PROTECTION
 EYE PROTECTION SUCH AS CHEMICAL SPLASH GOGGLES AND/OR FACE SHIELD MUST BE WORN WHEN POSSIBILITY EXISTS FOR EYE CONTACT DUE TO SPLASHING OR SPRAYING LIQUID, AIRBORNE PARTICLES, OR VAPOR. CONTACT LENSES SHOULD NOT BE WORN.

SKIN PROTECTION
 WHEN SKIN CONTACT IS POSSIBLE, PROTECTIVE CLOTHING INCLUDING GLOVES, APRON, SLEEVES, BOOTS, HEAD AND FACE PROTECTION SHOULD BE WORN. THIS EQUIPMENT MUST BE CLEANED THOROUGHLY AFTER EACH USE.

ENGINEERING CONTROLS
 GENERAL ROOM OR LOCAL EXHAUST VENTILATION IS USUALLY REQUIRED TO MEET EXPOSURE STANDARD(S).

OTHER HYGIENIC PRACTICES
 EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE IMMEDIATE VICINITY OF ANY POTENTIAL EXPOSURE.

OTHER WORK PRACTICES
 USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. PROMPTLY REMOVE SOILED CLOTHING/WASH THOROUGHLY BEFORE REUSE. SHOWER AFTER WORK USING PLENTY OF SOAP AND WATER.

9 - EMERGENCY AND FIRST AID

INHALATION
 IF OVERCOME BY EXPOSURE, REMOVE VICTIM TO FRESH AIR IMMEDIATELY. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS NEEDED. OBTAIN EMERGENCY MEDICAL ATTENTION. PROMPT ACTION IS ESSENTIAL.

EYE CONTACT
 IN CASE OF EYE CONTACT, IMMEDIATELY RINSE WITH CLEAN WATER FOR 20-30 MINUTES. RETRACT EYELIDS OFTEN. OBTAIN EMERGENCY MEDICAL ATTENTION.

SKIN CONTACT
 IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH MILD SOAP/WATER. FLUSH W/LUKEWARM WATER FOR 15 MINUTES. IF STICKY, USE WATERLESS CLEANER FIRST. SEEK MEDICAL ATTENTION IF ILL EFFECT OR IRRITATION DEVELOPS.

INGESTION
 IF SWALLOWED, GIVE LUKEWARM WATER (PINT) IF VICTIM COMPLETELY CONSCIOUS/ALERT. DO NOT INDUCE VOMITING/RISK OF DAMAGE TO LUNGS EXCEEDS POISONING RISK. OBTAIN EMERGENCY MEDICAL ATTENTION.

EMERGENCY MEDICAL TREATMENT PROCEDURES
 TREAT BURNS OR ALLERGIC REACTIONS CONVENTIONALLY AFTER DECONTAMINATION. DO NOT INDUCE VOMITING. ADMINISTER AN AQUEOUS SLURRY OF ACTIVATED CHARCOAL FOLLOWED BY A CATHARTIC SUCH AS MAGNESIUM CITRATE OR SORBITOL.

INC-820 EMULSION BREAKER

10 - SPILL AND DISPOSAL

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED
EXTREMELY FLAMMABLE LIQUID. EXTINGUISH ALL IGNITION SOURCES. INPOUND/
RECOVER LARGE LAND SPILL. BLANKET WITH FIREFIGHTING FOAM. SOAK UP SMALL
SPILL. ON WATER, MAY BIODEGRADE. CONTAIN/MINIMIZE DISPERSION/COLLECT.
REPORT PER REGULATORY REQUIREMENTS.

WASTE DISPOSAL METHODS

CONTAMINATED PRODUCT/SOIL/WATER MAY BE RCRA/OSHA HAZARDOUS WASTE DUE TO
POTENTIALLY LOW FLASH POINT (SEE 40 CFR 261 AND 29 CFR 1910). WASTE MAY BE
DESIGNATED D001 UNDER RCRA LISTING DUE TO PRESENCE OF ISOPROPYL ALCOHOL.
LANDFILL SOLIDS AT PERMITTED SITES. USE REGISTERED TRANSPORTERS. BURN CON-
CENTRATED LIQUIDS. AVOID FLAMEOUTS. ASSURE EMISSIONS COMPLY WITH APPLICABLE
REGULATIONS. DILUTE AQUEOUS WASTE MAY BIODEGRADE. AVOID OVERLOADING/POISON-
ING PLANT BIOMASS. ASSURE EFFLUENT COMPLIES WITH APPLICABLE REGULATIONS.

11 - ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE PROCEDURES

STORE IN TIGHTLY CLOSED/PROPERLY VENTED CONTAINERS AWAY FROM HEAT, SPARKS,
OPEN FLAME, STRONG OXIDIZING AGENTS. USE ONLY NON-SPARKING TOOLS. STORE
DRUMS WITH BUNG IN UP POSITION. CAREFULLY VENT INTERNAL PRESSURE BEFORE
REMOVING CLOSURE. CONTAINERS MUST BE GROUNDED BEFORE BEGINNING TRANSFER.
ELECTRICAL EQUIPMENT SHOULD CONFORM TO NATIONAL ELECTRIC CODE. HANDLE
"EMPTY" CONTAINERS WITH CARE/VAPOR RESIDUE MAY BE FLAMMABLE. VAPOR SPACE
ABOVE LIQUID MAY BE FLAMMABLE/EXPLOSIVE UNLESS BLANKETED WITH INERT GAS.

DECONTAMINATION PROCEDURES

ISOLATE, VENT, DRAIN, WASH AND PURGE SYSTEMS OR EQUIPMENT BEFORE MAINTEN-
ANCE OR REPAIR. REMOVE ALL IGNITION SOURCES. CHECK ATMOSPHERE FOR EXPLO-
SIVENESS AND OXYGEN DEFICIENCIES. USE ADEQUATE PERSONAL PROTECTIVE
EQUIPMENT. OBSERVE PRECAUTIONS PERTAINING TO CONFINED SPACE ENTRY.

12 - LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY

SIGNAL WORD

WARNING

PHYSICAL HAZARDS

HIGHLY FLAMMABLE

HEALTH HAZARDS

SKIN IRRITANT

INHALATION HAZARD

SIMILAR MATERIAL INDUCES TUMORS IN LAB ANIMALS

MAY CAUSE LONG-TERM ADVERSE HEALTH EFFECTS

MUCOUS MEMBRANE IRRITANT

PRECAUTIONARY MEASURES

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

KEEP CONTAINER CLOSED WHEN NOT IN USE.

DO NOT STORE NEAR COMBUSTIBLE MATERIALS.

STORE IN TIGHTLY CLOSED CONTAINERS.

AVOID PROLONGED OR REPEATED BREATHING OF VAPOR.

AVOID PROLONGED OR REPEATED CONTACT WITH SKIN.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

13 - SUPPLEMENT

CHRONIC HEALTH HAZARDS - SECTIONS 2 AND 7

REGARDING POTENTIAL CHRONIC HEALTH HAZARDS WHICH MAY RESULT FROM
LONG-TERM, REPEATED CONTACT, THIS MATERIAL MAY CONTAIN POLYNUCLEAR
AROMATIC HYDROCARBONS (PNA'S). STUDIES HAVE SHOWN THAT THE REPEATED
PAINTING OF PNA'S ON THE SKIN OF EXPERIMENTAL ANIMALS OVER A SUSTAINED
PERIOD OF TIME RESULTS IN THE INDUCTION OF TUMORS. INDIVIDUALS SHOULD
AVOID SKIN CONTACT AND SHOULD WASH AFFECTED AREAS IMMEDIATELY IF CONTACT

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INC-820 EMULSION BREAKER

13 - SUPPLEMENT (continued)

OCCURS.

ALL ELECTRICAL EQUIPMENT IN AREAS WHERE MATERIAL IS STORED OR HANDLED SHOULD BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, N.F.P.A.

NOTE -- QUALIFIERS AND CODES USED IN THIS MSDS

EQ	= EQUAL	AP	= APPROXIMATELY
LT	= LESS THAN	GT	= GREATER THAN
TR	= TRACE	UK	= UNKNOWN
N/AP	= NOT APPLICABLE	N/P	= NO APPLICABLE INFORMATION FOUND
N/DA	= NO DATA AVAILABLE	CBI	= CONFIDENTIAL BUSINESS INFORMATION

14 - DISCLAIMERS

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF.

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE.

THIS MSDS HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1200).

(35)

3370

Hoechst Celanese

Hoechst Celanese Corporation
 Specialty Chemicals Group
 P.O. Box 1026
 Charlotte, NC 28201-1026
 Fax 704 559 6299

Material Safety Data Sheet

THE EMERGENCY PHONE NUMBERS ARE: CHEMTREC (800) 424-9300
 HOECHST CELANESE (804) 484-5000
 FOR (NON EMERGENCY) PRODUCT INFORMATION CALL: (800) 235-2637

PAGE 1

PRODUCT IDENTIFICATION

PRODUCT NAME:
 VIRTEX D CONCENTRATED SODIUM HYDROSULFITE
 SYNONYMS:
 SODIUM HYDROSULFITE
 SODIUM DITHIONITE

VERSION DATE: 01/30/91
 DATE PRINTED: 01/30/91
 MSDS NUMBER: 1101090203

HAZARDOUS INGREDIENTS

INGREDIENT:	PERCENT:	HAZARD DATA:
SODIUM HYDROSULFITE (7775-14-6)	90%	FLAMMABLE SOLID SEE EFFECTS OF OVEREXPOSURE
SODIUM METABISULFITE (7681-57-4)	3-7%	
SODIUM THIOSULFATE (7772-98-7)	1%	
SODIUM FORMATE (141-53-7)	1%	

PHYSICAL DATA

PHYSICAL DATA	LOW	HIGH	UNITS	COMMENT
MELTING POINT				DECOMPOSES
DENSITY	0.8	1.02	G/CC	
SOLUBILITY IN WATER	18		WT.%	AT 20 DEG C.
DECOMPOSITION TEMPERATURE	70	130	DEG.C	

APPEARANCE AND ODOR:
 WHITE POWDER, SLIGHT SULFUR DIOXIDE ODOR

FIRE AND EXPLOSION HAZARDS

EXTINGUISHING MEDIA:
 WATER IN VERY LARGE QUANTITIES

SPECIAL PROCEDURES:
 USE SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.
 IF DECOMPOSITION IS SUSPECTED IN SEALED CONTAINER (HOT TO TOUCH OR PRESSURE DEFORMED), VENT CONTAINER BY SAFEST MEANS POSSIBLE. MOVE VENTED CONTAINER TO A SAFE OPEN AREA. EMPTY, FLOOD MATERIAL WITH WATER, CONTAIN ALL RUNOFF. SAND OR DRY CHEMICAL WILL NOT STOP DECOMPOSITION REACTIONS!

UNUSUAL HAZARDS:
 CONTACT WITH SMALL AMOUNTS OF WATER OR MOIST AIR WILL CAUSE A CHEMICAL DECOMPOSITION REACTION. HEAT GENERATED IS SUFFICIENT TO IGNITE COMBUSTIBLE MATERIAL. IF FIRE CODE REQUIRES SPRINKLERED STORAGE, PROTECT BY COVERING WITH PLASTIC SHEET. PROMPTLY REMOVE AND INSPECT CONTAINERS WHICH ARE ACCIDENTALLY WETTED (SEE PREVIOUS PARAGRAPH).

HEALTH INFORMATION

PRIMARY ROUTE OF EXPOSURE: INHALATION: YES SKIN ABSORPTION: NO INGESTION: YES

EFFECTS OF OVEREXPOSURE:
 INHALATION: MAY CAUSE RESPIRATORY IRRITATION AND BRONCHOSPASMS. SYMPTOMS MAY INCLUDE COUGHING AND BREATHING DIFFICULTY. MAY CAUSE SEVERE RESPIRATORY DISTRESS IN ASTHMATICS. ASTHMATICS OR PERSONS WITH OTHER RESPIRATORY DISORDERS SHOULD BE EXCLUDED FROM EXPOSURE.
 SKIN CONTACT: MAY CAUSE SLIGHT IRRITATION. NECROSIS OBSERVED IN ONE SKIN IRRITATION STUDY OF LABORATORY ANIMALS (RABBITS).
 SKIN ABSORPTION: PRACTICALLY NON-TOXIC. LD50(RABBITS)>10,000 MG/KG.
 SWALLOWING: MAY CAUSE MOUTH, THROAT, ESOPHAGUS IRRITATION OR BURNS. MAY CAUSE

5570

Hoechst Celanese

Hoechst Celanese Corporation
Specialty Chemicals Group
P.O. Box 1026
Charlotte, NC 28201-1026
Fax 704 559 6299

Material Safety Data Sheet

THE EMERGENCY PHONE NUMBERS ARE: CHEMTREC (800) 424-9300
HOECHST CELANESE (804) 484-5000
FOR (NON EMERGENCY) PRODUCT INFORMATION CALL: (800) 235-2637 PAGE 2

PRODUCT NAME: VIRTEX D CONCENTRATED SODIUM HYDROSULFITE MSDS NUMBER: 1101090203

-----HEALTH INFORMATION----- (CONTINUED)

GASTROINTESTINAL DISTURBANCES. LD50(RAT)>500 MG/KG (SLIGHTLY TOXIC). MAY CAUSE SENSITIZATION IN INDIVIDUALS ALLERGIC TO SULFITES.
EYE CONTACT: MAY CAUSE MODERATE TO SEVERE EYE IRRITATION.
SULFUR DIOXIDE DECOMPOSITION PRODUCT MAY CAUSE PULMONARY IRRITATION, BRONCHOSPASMS, RESPIRATORY FAILURE DUE TO PULMONARY EDEMA.

TOXICITY:	ROUTE	TEST	DOSE	UNITS	COMMENTS
	RAB	LD50	>10,000	MG/KG	(1)
	RAT	LD50	>500	MG/KG	(2)

TOXICITY TEXT:
(1) SKIN ABSORPTION STUDY.
(2) ORAL / INGESTION STUDY.

MEDICAL CONDITIONS AGGRAVATED:
ASTHMA, RESPIRATORY DISEASE

CARCINOGEN: IARC: NO NTP: NO OSHA: NO

-----OCCUPATIONAL EXPOSURE LIMITS-----

T.L.V.: HCC TWA8 5 MG/M3
T.L.V.: HCC 30MIN 15 MG/M3

TEXT:
SODIUM HYDROSULFITE: HCC RECOMMENDED LIMITS ARE 5 MG/M3 TWA 8; 15 MG/M3 30 MIN. EXCURSION.
SODIUM METABISULFITE: OSHA PEL 5 MG/M3; ACGIH TLV 5 MG/M3;
HCC RECOMMENDED LIMIT: 5 MG/M3 TWA8

-----EMERGENCY AND FIRST AID PROCEDURE-----

INHALATION:
REMOVE VICTIM TO FRESH AIR. GET IMMEDIATE MEDICAL HELP.

EYE CONTACT:
FLUSH THOROUGHLY WITH WATER FOR 15 MINUTES.
SEEK MEDICAL ATTENTION.

SKIN CONTACT:
REMOVE CONTAMINATED CLOTHING AND WASH AFFECTED AREA WITH SOAP AND WATER UNTIL CLEAN. WASH CLOTHING THOROUGHLY BEFORE REUSE.

INGESTION:
IF APPRECIABLE QUANTITIES ARE INGESTED, SEEK MEDICAL ASSISTANCE.

ADDITIONAL MEASURES:
NONE FOUND

-----REACTIVITY DATA-----

CHEMICAL STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID:
CONTACT WITH OXIDIZING AGENTS, PEROXIDES, POTASSIUM CHLORATE, POTASSIUM PERMANGANATE, TEMPERATURES OVER 50 DEG. C. CONTACT WITH MOISTURE.

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-----REACTIVITY DATA----- (CONTINUED)

HAZARDOUS DECOMPOSITION PRODUCTS:
A MAJOR DECOMPOSITION PRODUCT IS SULFUR DIOXIDE; HOWEVER, DURING CATASTROPHIC DECOMPOSITION OTHER SULFUR CONTAINING DECOMPOSITION PRODUCTS SUCH AS HYDROGEN SULFIDE AND MERCAPTANS MAY BE PRESENT.

-----SPILL OR LEAK PROCEDURES/WASTE DISPOSAL-----

SPILL OR LEAK PROCEDURES:
CONTAIN TO MINIMIZE CONTAMINATED AREA. RECOVER AS A DRY MATERIAL. DISCARDED UNREACTED MATERIAL IS A HAZARDOUS WASTE BECAUSE OF REACTIVITY WITH MOISTURE. KEEP OUT OF GROUND AND SURFACE WATERS.
HAZARDOUS SUBSTANCE SUPERFUND: NO RQ(LBS): 100 LBS
HAZARDOUS WASTE 40CFR261: YES HAZ. WASTE NO.: D-003

WASTE DISPOSAL:
DISPOSE OF SOLID MATERIAL IN A HAZARDOUS WASTE TREATMENT FACILITY IN COMPLIANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. DISPOSE OF WATER SOLUTIONS OF THE MATERIAL IN INDUSTRIAL WASTEWATER TREATMENT SYSTEM OR OTHERWISE AS ALLOWED BY LOCAL, STATE OR FEDERAL REGULATIONS.

-----EMPLOYEE PROTECTION-----

RESPIRATORY PROTECTION:
USE NIOSH/MSHA APPROVED RESPIRATOR WITH ACID GAS CARTRIDGE AND DUST PREFILTER. FOR CONCENTRATIONS OVER 10 TIMES THE RECOMMENDED EXPOSURE LIMIT, AS WELL AS FOR FIREFIGHTING AND OTHER EMERGENCIES, USE POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS.

PROTECTIVE CLOTHING:
WORK CLOTHING TO COVER EXPOSED AREAS.
CHEMICAL GOGGLES.
WEAR NEOPRENE OR OTHER IMPERMEABLE GLOVES WHEN SKIN CONTACT IS LIKELY. CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH THIS CHEMICAL.

ADDITIONAL PROTECTIVE MEASURES:
USE LOCAL EXHAUST TO CONTROL DUST WITHIN THE RECOMMENDED LIMITS.
EYE WASH AND/OR SAFETY SHOWER.

-----SPECIAL PRECAUTIONS-----

KEEP STORED MATERIAL DRY AND AT TEMPERATURES BELOW 50 DEG. C. DO NOT STORE CONTAINERS OPEN TO THE AIR. KEEP THE CONTAINER TIGHTLY COVERED WHEN MATERIAL IS NOT IN USE. SEPARATE CONTAINERS FROM OXIDIZERS, ACIDS AND FLAMMABLE MATERIALS. AVOID SOURCES OF HEAT OR FLAME.
IF THE CONTAINER WALL FEELS HOT OR IF THE CONTAINER BEGINS SMOKING, REMOVE THE CONTAINER TO AN OPEN AREA, REMOVE MATERIAL, FLOOD WITH WATER, CONTAIN RUN-OFF. REMOVE DAMAGED OR PUNCTURED CONTAINERS FROM STORAGE, SECURE ANY LEAKS AND USE PRODUCT IMMEDIATELY OR SECURE LEAKS, OBSERVE CONTAINER FOR SIGNS OF PRODUCT DECOMPOSITION (CONTAINER WARM TO TOUCH).
IF STORED IN A FIRE SPRINKLER PROTECTED AREA, COVER CONTAINER WITH PLASTIC SHEETING TO PREVENT WETTING IF SPRINKLERS ACTIVATE.

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PAGE 4

PRODUCT NAME:
VIRTEX D CONCENTRATED SODIUM HYDROSULFITE

MSDS NUMBER: 113710203

-----OTHER REGULATORY CONTROLS-----

OTHER REGULATORY CONTROLS:
SARA SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) LIST/
SECTION 304 (CERCLA):
SARA SECTION 313 (TOXIC CHEMICAL) LIST:
TSCA INVENTORY STATUS:

NO
NO
ALL THE SUBSTANCE,
LISTED IN SECTION
III ARE ON THE TSCA
INVENTORY.

INTERNATIONAL MARITIME ORGANIZATION: IMO SHIPPING NAME: SODIUM DITHIONITE
UN NUMBER: 1384 CLASS: 4.2, SPONTANEOUSLY COMBUSTIBLE
IMDG CODE PAGE: 4122

OSHA PHYSICAL HAZARDS:
WATER REACTIVE

OSHA HEALTH HAZARDS:
EYE HAZARD
IRRITANT
SENSITIZER

HAZARD COMMUNICATION LABEL: P00.0

SARA HAZARD CLASS:
ACUTE: YES CHRONIC: NO FIRE HAZARD: YES PRESSURE: NO REACTIVITY: YES

SPILL PREVENTION PLAN- WAREHOUSE

Date

Subject

From/Location

To/Location

In case of a chemical leak or spill in your warehouse, you should put Absorb-all on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste material to pick up and dispose of the remains. Should there be no commercial hazardous waste disposal available, the remains are to be shipped to Sand Springs for disposal.

MSD sheets are to be readily available in the warehouse on all products in the warehouse at all times.

This plan will hang in the warehouse in a place accessible to everyone.



J.M. Wagner
Registered Professional Engineer

Date:

Subject: Spill Prevention Plan - Chemical Bulk Tanks

From/Location: A.T. ARCHULETA

To/Location: CHACO CHEMICAL EMPLOYEES

In case of a chemical spill or leak in your bulk storage tanks, you should put sand on the chemical to dry it up and then call a commercial company that is licensed to dispose of hazardous waste materials to pick up and dispose of the remains.

This plan should be kept in an office that is closest to the bulk tanks and readily accessible to all.


J. H. Wagner
Registered Professional Engineer

3. An estimate of the quantity of substance released into the environment.
4. The time and duration of the release.
5. Whether the release occurred into air, water and/or land.
6. Any known or anticipated acute or chronic health risks associated with the emergency and necessary advice on medical attention for exposed individuals.
7. Proper precautions including evacuation.
8. Name and telephone number of contact person.

Follow-up notice or notices must include:

1. Update of information included in the initial notice.
2. Provide information on:

The actual response actions taken.

Advice regarding medical attention necessary for exposed individuals.

Reviewed By:



Date:

6-17-95

Anthony T. Archuleta
Chaco Chemical Company

Received By: _____

Date: _____

CHACO CHEMICAL COMPANY
EMERGENCY RESPONSE PROCEDURE

Chaco Chemical Company must immediately notify the local emergency response commissions likely to be affected if there is a release of a listed hazardous substance that exceeds the reportable quantity for that substance. Substances subject to this requirement are the list of 366 extremely hazardous substances as published in Federal Register (40 CFR 355) and substances subject to the emergency notification requirements under CERCLA Section 103(a) (40 CFR 302.4).

Chaco Chemical Company also will provide a follow-up emergency notice after the release, as mandated in Section 304.

Chaco Chemical Company requires all emergency equipment is adequately maintained. Assured by an agreement with a fully integrated oilfield construction service company.

Chaco Chemical Company disposes of all hazardous materials in an safe and appropriate manner.

The following procedure is to be followed by Chaco Chemical Company in response to a potential chemical accident;

Initial notification of a chemical accident may be made by telephone, radio or in person. Emergency notification requirements involving transportation incidents can be met by dialing 911, or in the absence of a 911 emergency number, calling the operator.

Emergency notification must include the following:

1. The chemical name.
2. An indication of whether the substance is extremely hazardous. Check each of the following lists:

List of Extremely Hazardous Substances (366 Substances)
(40 CRT 355)

Substances requiring notification under Section 103(a) of CERCLA [717 substances] (40 CFR 302.4)

Hazardous Chemicals considered physical or health hazards under Aces Hazard Communication Standard (29 CFR 1910, 1200)

Material Safety Data Sheets