Incompatibility (Materials to Avoid): All flammable materials

Hazardous Decomposition Products: None

Hazardous Polymerization: Will not occur

Conditions to Avoid: Contact with all flammable materials

Hazardous Mixtures of Other Liquids, Solids or Gases: Oxygen vigorously accelerates combustion. Contact with all flammable materials should be avoided. Some materials which are not flammable in air will burn in pure oxygen or oxygen-enriched atmospheres.

PREVENTIVE MEASURES

SPILL OR LEAK PROCEDURES:

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container valve, contact CANUTEC for emergency assistance or your closest CANOX location.

Waste Disposal Method:

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labelled, with any valve outlet plugs or caps secured and valve protection cap in place to CANOX for proper disposal.

ENGINEERING CONTROLS:

Ventilation: To prevent accumulation above 25 molar percent.

Local Exhaust: To prevent accumulation of high concentrations so as to maintain the oxygen level in the air to be within 18 and 25 molar percent.

PERSONAL PROTECTIVE EQUIPMENT:

Protective Gloves: Any material

Eye Protection: Safety goggles or glasses

Other Protective Equipment: Safety shoes, safety shower

SPECIAL PRECAUTIONS

Special Labelling Information:

TDG Shipping Name: Oxygen
TDG Classification: 2.2 (5.1) UN 1072

Special Handling Recommendations:

Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower

pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.

For additional handling recommendations, consult Compressed Gas Association Pamphlets P-1, P-14, and G-4. NFPA #51-1984, OSHA 1910-Subparts H & Q

Special Storage Recommendations:

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 54 deg C (130 deg F). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

For additional recommendations, consult Compressed Gass Association Pamphlets P-1, P-14, and G-4. NFPA #51-1984, OSHA 1910 - Subparts H & Q

Special Packaging Recommendations:

Carbon steels and low alloy steels are acceptable for use at lower pressures. For high pressure applications use stainless steels, copper and its alloys, nickel and its alloys, brass, bronze, silicon alloys, Monel(R), Incone(R) or beryllium. Lead and silver or lead and tin alloys are good gasketing materials. Teflon(R) and Kel-F(R) are the preferred nonmetal gaskets.

Special Note: It should be recognized that the ignition temperature of metals and nonmetals in pure oxygen service decreases with increasing oxygen pressure.

Other Recommendations or Precautions:

Oxygen should not be used as a substitute for compressed air in pneumatic equipment since this type generally contains flammable lubricants. Equipment to contain oxygen must be "cleaned for oxygen service". See Compressed Gas Association Pamphlet G-4.1. Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipments of a compressed gas cylinder, which has not been filled by the owner or with his (written) consent is a violation of Federal Law.

M S D S

Canadian Centre for Occupational Health and Safety
Issue : 2000-1 (February, 2000)

*** IDENTIFICATION ***

MSDS RECORD NUMBER	: 1599460
PRODUCT NAME(S)	: Propane 0246 - Propane 7319 - Stench Propane HD5 Propane (Propylene <5%)
PRODUCT IDENTIFICATION	: GASC0250
DATE OF MSDS	: 1997-12-31

*** MANUFACTURER INFORMATION ***

MANUFACTURER	: Conoco, Inc
ADDRESS	: Post Office Box 2197 Houston Texas U.S.A. 77252 Telephone: 281-293-5550 (Product Information)
EMERGENCY TELEPHONE NO.	: 800-424-9300 (Transport, CHEMTREC) 800-441-3637 (Medical)

***

Message from Conoco Inc: The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

*** SUPPLIER/DISTRIBUTOR INFORMATION ***

SUPPLIER/DISTRIBUTOR	: Conoco, Inc
ADDRESS	: Post Office Box 2197 Houston Texas U.S.A. 77252 Telephone: 281-293-5550 (Product Information)
EMERGENCY TELEPHONE NO.	: 800-424-9300 (Transport, CHEMTREC) 800-441-3637 (Medical)

*** MATERIAL SAFETY DATA ***

CHEMICAL PRODUCT

Material Identification

CAS Number 74-98-6

Tradenames and Synonyms
0246 - Propane
7319 - Stench Propane
HD5 Propane (Propylene <5%)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
Propane	74-98-6	>85
*Propylene	115-07-1	
-In propane produced at Billings, Lake Charles, and Ponca City Refineries:		<5
-In propane produced at the Denver Refinery:		10-15
Ethyl Mercaptan	75-08-1	0-0.0020

* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

HAZARDS IDENTIFICATION

Potential Health Effects

Primary Routes of Exposure/Entry: Inhalation

Acute Toxicity Data : The LC50 is above 40% volume/volume.

Other Toxicity Data -

Overexposure may cause weakness, headache, confusion, blurred vision, drowsiness, nausea, and other nervous system effects. Greater exposure may cause dizziness; slurred speech; flushed face; irritation to the eyes, skin, and lungs; unconsciousness; or convulsions and may lead to asphyxiation. High concentrations, usually above 10%, may sensitize the heart and lead to fatal cardiac arrhythmias. Contact with liquified product may cause frostbite.

ODORANT
The odorant, ethyl mercaptan, can be irritating to the eyes, skin, and respiratory tract. At high concentrations, a person can temporarily lose the ability to smell ethyl mercaptan. In addition, some individuals may have an impaired sense of smell which inhibits the detection of the odorant. Propane and odorant are heavier than air and will collect and pool along the ground or floor. Odorant, therefore, may not be detectable above the location of propane storage or service (for example, odorant in propane released or leaked into the basement of a dwelling may not be detected above the basement).

WARNING: The intensity of the odorant may fade over prolonged storage or in the presence of rust, when placed initially in new or freshly cleaned storage vessels, or when exposed to masonry.

DEALERS: Familiarize yourself and your customers with this warning and other facts associated with odor fade.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Consult a physician for possible frostbite.

INGESTION

Ingestion is not considered a potential route of exposure.

Notes to Physicians

Because of a possible increased risk of eliciting cardiac dysrhythmias, catecholamine drugs, such as epinephrine, should be used with caution in situations of emergency life support.

FIRE FIGHTING MEASURES

Flammable Properties

Flash Point	Gas
Flammable limits in Air, % by Volume	
LEL	2.1
UEL	9.5
Autoignition	851 F (455 C)

Vapor forms explosive mixture with air. Vapors or gases may travel considerable distances to ignition source and flash back.

Compressed gas, Flammable.

Extinguishing Media

If gas has ignited, do not extinguish. Stop gas flow. Allow to burn out.

Fire Fighting Instructions

Stop flow of gas. Use water to keep fire-exposed containers cool. If leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for personnel attempting to stop a leak.

Highly flammable. Do not enter a vapor cloud due to potential for flash fire. Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE

EQUIPMENT during clean-up.

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Keep upwind of leak - evacuate until gas has dispersed. Remove source of heat, sparks, flame, impact, friction and electricity including internal combustion engines and power tools. If equipment is used for spill cleanup, it must be explosion proof and suitable for flammable liquid and vapor.

NOTE: Vapors released from the spill may create an explosive atmosphere.

See HAZARDS IDENTIFICATION, Odorant.

HANDLING AND STORAGE

Handling (Personnel)

Avoid breathing gas. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Wash clothing after use.

Handling (Physical Aspects)

Use of non-sparking and explosion-proof equipment may be necessary depending on type of operation. Keep away from heat, sparks and flames.

Storage

Store in a well ventilated place. Keep container tightly closed. Store in accordance with National Fire Protection Association recommendations. Store away from ignition sources, oxidizers.

Odorant may be added to product when transported, stored, or used for domestic or certain industrial purposes. Odorant is added according to National Fire Protection Association Code 58, and may fade over prolonged storage. As a precaution, storage tanks should be properly purged before being put into service or after a period of nonuse. See HAZARDS IDENTIFICATION, Odorant.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Ventilation: Storage and use areas should be well ventilated. Explosion-proof mechanical ventilation should be used in enclosed areas. See HAZARDS IDENTIFICATION, Odorant.

Personal Protective Equipment

Respiratory Protection:

Personnel should never enter areas of high concentrations without proper respiratory protection. Provide NIOSH-approved air-supplied respirator

or self-contained breathing equipment for emergency or nonroutine situations where the level is excessive.

Protective Gloves: Should be used to prevent frostbite which can be caused by rapid evaporation when handling as a liquid.

Eye Protection: Face shield and chemical goggles when changing valves, hoses, etc. in compressed gas or liquid hydrocarbon service. Full facepiece where respiratory protection is required.

Other Protective Equipment: If there is a possibility of skin contact with the liquid, thermally protective impervious clothing should be worn to protect from frostbite.

Exposure Guidelines

Exposure Limits

Propane	
PEL (OSHA):	1,000 ppm, 1,800 mg/m3, 8 Hr. TWA
TLV (ACGIH):	Simple Asphyxiant Notice of Intended Changes (1997) 2500 ppm, 4508 mg/m3, 8 Hr. TWA
AEL * (DuPont):	None Established

Other Applicable Exposure Limits

Propylene	
PEL (OSHA):	None Established
TLV (ACGIH):	Simple Asphyxiant A4
AEL * (DuPont):	None Established

Ethyl Mercaptan	
PEL (OSHA):	10 ppm, 25 mg/m3, Ceiling
TLV (ACGIH):	0.5 ppm, 1.3 mg/m3, 8 Hr. TWA
AEL * (DuPont):	None Established

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Boiling Point	-54 to 44 F (-48 to -42 C)
Vapor Pressure	10,000 mm/Hg @ 100 F (38 C) or 200 psia at 100 deg F
Vapor Density	1.6 (Air = 1)
% Volatiles	(by volume) 100
Solubility in Water	Very slightly soluble
Form	Gas (Liquid under pressure)
Color	Colorless
Specific Gravity	(Liquid 0.5-0.6) (Water = 1)
Odor	: Product sold for use as fuel may contain mercaptan odorant.

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Conditions to Avoid

Heat, sparks, and flames.

Incompatibility With Other Materials

Incompatible with strong oxidizing materials. Avoid contact with peroxides, plastics, and chlorine dioxide.

Decomposition

Normal combustion forms carbon dioxide; incomplete combustion may produce carbon monoxide.

Polymerization

Polymerization will not occur.

DISPOSAL CONSIDERATIONS

Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Allow to evaporate or disperse leaks in air, making sure gas/vapor is dissipated below lower explosive limit.

If the material is to be disposed of as a compressed gas (e.g., in cylinders), it must be managed as a RCRA ignitable hazardous waste.

TRANSPORTATION INFORMATION

Shipping Information

DOT

Proper Shipping Name	Propane
Hazard Class	2.1
I.D. No. (UN/NA)	UN1978
DOT Label(s)	Flammable gas
DOT Placard	Flammable gas

Shipping Information -- Canada

TDG

Proper Shipping Name	Propane
TDG Class	2.1
PIN No.	UN1978
TDG Label	Flammable gas

Subsidiary Risk : 3

REGULATORY INFORMATION

U.S. Federal Regulations

OSHA HAZARD DETERMINATION

This material is hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA/SUPERFUND
This material is not known to contain any ingredient(s) subject to the Act.

SARA, TITLE III, 302/304
This material is not known to contain extremely hazardous substances.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute	:	Yes
Chronic	:	No
Fire	:	Yes
Reactivity	:	No
Pressure	:	Yes

SARA, Title III, 313:
This material contains the following chemical(s) at a level of 1.0% or greater (0.1% for carcinogens) on the list of Toxic Chemicals and is subject to toxic chemical release reporting requirements:

Toxic Chemical(s) Propylene

TSCA
This material is in the TSCA Inventory of Chemical Substances (40 CFR 710) and/or is otherwise in compliance with TSCA.

RCRA
This material, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however, it could be considered hazardous if it meets criteria for being toxic, corrosive, ignitable, or reactive according to U.S. definitions (40 CFR 261). This material could also become a hazardous waste if it is mixed with or comes in contact with a listed hazardous waste. If it is a hazardous waste, regulations 40 CFR 262-266 and 268 may apply.

CLEAN WATER ACT
The material contains the following ingredient(s) which is considered hazardous if spilled into navigable waters and therefore reportable to the National Response Center (1-800-424-8802).

Ingredient	Petroleum Hydrocarbons.
Reportable Quantity	Film or sheen upon or discoloration of any water surface.

State Regulations (U.S.)
CALIFORNIA "PROP 65"
This material is not known to contain any ingredient(s) subject to the Act.

PENNSYLVANIA WORKER & COMMUNITY RIGHT TO KNOW ACT
This material may contain the following ingredient(s) subject to the Pennsylvania Worker and Community Right to Know Hazardous Substances List.

Ingredient	Propane
Category	Hazardous Substance.

Canadian Regulations
CLASS A Compressed Gas

CLASS B Division 1 - Flammable Gas.

Transport/Medical Emergency Phone Number: 1-613-348-3616

OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating

Health	1
Flammability	4
Reactivity	0

NPCA - HMIS Rating

Health	1
Flammability	4
Reactivity	0

Personal Protection rating to be supplied by user depending on use conditions.

Additional Information

Product Use: Fuel

Additional information concerning ethyl mercaptan and odor fade may be obtained from the National Propane Gas Association at (708) 515-0600.

Responsibility for MSDS: MSDS Coordinator

Address	:	Conoco Inc.
>	:	PO Box 2197
>	:	Houston, TX 77252
Telephone	:	1-281-293-5550

# Indicates updated section.

End of MSDS

GASC0250

ISN: 1599460

welding.

Eye Protection: Safety goggles or glasses

Other Protective Equipment: Safety shoes, safety shower

SPECIAL PRECAUTIONS

Special Labelling Information:

TDG Shipping Name: Acetylene
TDG Classification: 2.1 UN 1001

Special Handling Recommendations:

Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when removing gas from the cylinder. DO NOT ALLOW THE FREE GAS TO EXCEED 207 kPa absolute (30 PSIA) @ 21.1 deg C (70 deg F). Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.

For additional recommendations, consult Compressed Gas Association's Pamphlets G-1 and P-1. NFPA #51-1984. OSHA 1910 - Subparts H & Q

Special Storage Recommendations:

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 54 deg C (130 deg F). Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

For additional recommendations, consult Compressed Gas Association's Pamphlets G-1&P-1. NFPA #51-1984. OSHA 1910 - Subparts H & Q

Special Packaging Recommendations:

Since acetylene will explode or combust if its pressure exceeds 207 kPa absolute (30 psia), it is shipped dissolved in acetone or dimethylformamide, which is dispersed in a porous mass within the cylinder. Follow CANOX's instructions for the maximum withdrawal rate for each size cylinder so that solvent is not withdrawn with the acetylene.

Most metals except silver, copper, mercury or brasses with more than 66% copper are compatible (noncorrosive) with acetylene.

Other Recommendations or Precautions:

Earth-ground and bond all lines and equipment associated with the acetylene system. Electrical equipment should be non-sparking or explosion proof. Compressed gas cylinders should not be refilled except by qualified producers

of compressed gases. Shipments of a compressed gas cylinder, which has not been filled by the owner or with his (written) consent is a violation of Federal Law.

ISN: 218190

* *
* M S D S *
* Canadian Centre for Occupational Health and Safety *
* * * * * * * * * * * * * Issue : 2000-1 (February, 2000) *

*** IDENTIFICATION ***

MSDS RECORD NUMBER	: 2003520
PRODUCT NAME(S)	: DIESEL ENGINE COOLANT, 4 LITRE, PREMIUM PACKAGE
PRODUCT IDENTIFICATION	: PRODUCT CODE: 06851
DATE OF MSDS	: 1995-09-28
CURRENCY NOTE	: This MSDS was provided to CCOHS in electronic form on 1999-05-14

*** MANUFACTURER INFORMATION ***

MANUFACTURER	: DOW CHEMICAL CANADA INC
ADDRESS	: Post Office Box 1012 Sarnia Ontario Canada N7T 7K7 Telephone: 519-339-5083
EMERGENCY TELEPHONE NO.	: 403-998-8282 (Fort Saskatchewan, Alberta) 519-339-3711 (Sarnia, Ontario) 514-652-1000 (Varennes, Quebec)

MANUFACTURER NOTE :
For French translation of this data sheet, please contact Dow Chemical Canada Inc directly.

*** MATERIAL SAFETY DATA ***

M A T E R I A L S A F E T Y D A T A S H E E T PAGE: 1

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

IN CASE OF EMERGENCY: Fort Saskatchewan, Alberta: (403) 998-8282
Sarnia, Ontario: (519) 339-3711
Varennes, Quebec: (514) 652-1000

Product: DIESEL ENGINE COOLANT, 4 LITRE, PREMIUM PACKAGE

Product Code: 06851

Effective Date: 09/28/95 Date Printed: 05/10/99 MSD: 003255

Dow Chemical Canada Inc.
P.O. Box 1012, Sarnia, Ontario N7T 7K7

Prepared for use in Canada by the Product Quality, Compliance and Safety Department; Phone (519) 339-5083

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ethylene glycol	CAS# 000107-21-1	>90%

Diethylene glycol	CAS# 000111-46-6	< 5%
Sodium Tetraborate pentahydrate Na2B4O7.5h2O	CAS# 012179-04-3	1-1.5%
Water	CAS# 007732-18-5	< 3%
Non-hazardous Inhibitors		< 5%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

****
* HARMFUL OR FATAL IF SWALLOWED. Solution is poisonous to both humans and animals. Excessive exposure has been shown to cause birth defects in laboratory testing. *
****

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight transient (temporary) eye irritation. Vapors or mists may irritate eyes. Corneal injury is unlikely.

SKIN: Essentially nonirritating to skin. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin

(CONTINUED ON PAGE 2)

may result in absorption of potentially lethal amounts.

INGESTION: Single dose oral toxicity is considered to be moderate. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. The lethal dose in humans is estimated to be 100 ml (3 ounces). Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

INHALATION: At room temperature, vapors are minimal due to low vapor pressure. If material is heated or mist is produced, concentrations may be attained that are sufficient to cause irritation and other effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Excessive exposure may cause irritation to upper respiratory tract. Observations in animals include formation of bladder stones after repeated oral doses of diethylene glycol. Observations in animals

include kidney and liver effects and deposition of calcium salts in various tissues after long-term dietary intake of ethylene glycol.

CANCER INFORMATION: Based on data from long-term animal studies, diethylene glycol is not believed to pose a carcinogenic risk to man. Ethylene glycol did not cause cancer in long-term animal studies.

TERATOLOGY (BIRTH DEFECTS): Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation (tested nose-only in animals to prevent ingestion) or skin contact, the primary routes of occupational exposure, had minimal or essentially no effect on the fetus. Birth defects are unlikely from exposure to minor component diethylene glycol. Exposures having no adverse effects on the mother should have no effect on the fetus.

REPRODUCTIVE EFFECTS: Ingestion of large amounts of ethylene glycol has been shown to interfere with reproduction in animals. Specifically, growth retardation and decreased litter size in rats and mice and mating frequency in mice were observed. Reproductive effects are unlikely from exposure to minor component diethylene glycol.

4. FIRST AID

(CONTINUED ON PAGE 3)

EYES: Flush eye with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Consult medical personnel. Seek medical attention immediately.

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

NOTE TO PHYSICIAN: Early administration of ethanol may counter the toxic effects of ethylene glycol--metabolic acidosis and renal damage. Hemodialysis or peritoneal dialysis have been of benefit. New Eng. J. Med. 304:21 1981. Supportive care. Treatment based on the judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASH POINT: >247F, 119C*
METHOD USED: Setaflash
AUTOIGNITION TEMPERATURE:

*Flashpoint of ethylene glycol is 247F, 119C by Setaflash; flashpoint of diethylene glycol is 255F, 124C by PMCC

FLAMMABILITY LIMITS
LFL: Not determined.
UFL: Not determined.

EXTINGUISHING MEDIA: Water fog, carbon dioxide, dry chemical, foam. For large scale fires, alcohol resistant foams are preferred if available. General purpose synthetic foams or protein foams may function, but much less effectively. Water may be used to flush spills away from fire exposures and to dilute spills to non-flammable mixtures. If possible, contain fire run off water. For large scale fires, direct water stream may cause violent frothing, but fine water spray may help control situation.

FIRE FIGHTING INSTRUCTIONS: Keep unnecessary people away; isolate area and deny unnecessary entry. When using water spray, boil

(CONTINUED ON PAGE 4)

over may occur when the product temperature reaches the boiling point of water (tank type scenarios, not spills).

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure, self-contained breathing apparatus and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Material is moderately toxic when ingested. Take adequate precautions to keep people away from spill site. PVC-coated rubber gloves and goggles or faceshield can be used during cleanup of spill site.

PROTECT THE ENVIRONMENT: Keep out of sewers, storm drains, surface waters and soil.

CLEANUP: Small spills: Soak up with suitable absorbent material. Large spills: Dike and pump into suitable containers for disposal. Ensure compliance with all applicable statutes that require notification of appropriate government authorities.

7. HANDLING AND STORAGE

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Practice reasonable care and cleanliness. Avoid breathing spray mists if generated.

Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignitin temperature, possibly resulting in spontaneous combustion.

Trace quantities of ethylene oxide (EO) may be present in this product. While these trace quantities could accumulate in headspace areas of storage and transport vessels, they are not expected to create a condition which will result in EO concentrations greater than 0.5 ppm (8 hour TWA) in the breathing zone of the workplace for appropriate applications. OSHA has established a permissible exposure limit of 1.0 ppm 8 hr TWA for EO. (Code of Federal Regulations Part 1910.1047 of Title 29)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

(CONTINUED ON PAGE 5)

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT
EYE/FACE PROTECTION: Use safety glasses
If vapor exposure
causes eye discomfort, use a full-face respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as faceshiled, gloves, boots, apron or full body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse. If hands are cut or scratched, use gloves impervious to this material even for brief periods. When handling hot material, protect skin from thermal burns as well as from skin absorption.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator.

EXPOSURE GUIDELINE: Ethylene glycol: ACGIH TLV is 100 mg/m3, Ceiling, A4. OSHA PEL is 50 ppm. PELs are in accord with those recommended by OSHA, as in the 1989 revisionof PELs. Diethylene glycol: AIHA WEEL is 50 ppm, total; 10 mg/m3, aerosol only.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colored liquid
ODOR: Information not available.
VAPOR PRESSURE: (mmHg @ 20C) Very low.
VAPOR DENSITY: > 1
BOILING POINT: Approx. 330F, 166C
SOLUBILITY IN WATER: Completely miscible.
SPECIFIC GRAVITY: 1.11-1.14 60/60F, 16C

10. STABILITY AND REACTIVITY

(CONTINUED ON PAGE 6)

CHEMICAL STABILITY: Stable under normal storage conditions. Ethylene glycol will ignite in air at 748F (398C).

CONDITIONS TO AVOID:

INCOMPATIBILITY WITH OTHER MATERIALS: Oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may produce carbon dioxide, and toxic carbon monoxide. Unidentified organic compounds may be formed during combustion.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The dermal LD50 has not been determined.

INGESTION: The oral LD50 for each component was >6000 mg/kg.

MUTAGENICITY: In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT AND PARTITIONING: BASED LARGELY OR COMPLETELY ON component information. Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3).

DEGRADATION AND PERSISTANCE: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). Based largely or completely on component information.

ECOTOXICOLOGY: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species). Based largely or completely on component information.

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

(CONTINUED ON PAGE 7)

DO NOT DUMP INTO ANY SEWERS, ONT THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, Stat/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESS OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information on Ingredients).

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.):

For DOT regulatory information, if required, consult transportation regulations, product shipping papers or contact your Dow representative.

CANADIAN TDG INFORMATION:

For TDG regulatory information, if required, consult transportation regulations, product shipping papers, or your Dow representative.

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

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

CANADIAN REGULATIONS
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(CONTINUED ON PAGE 8)

REGULATORY INFORMATION: (CONTINUED)

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

D2A - material is teratogenic, embryotoxic, or fetotoxic
Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

- - - - -

CPR STATEMENT: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

- - - - -

HAZARDOUS PRODUCTS ACT INFORMATION: This product contains the following ingredients which are Controlled Products and/or on the Ingredient Disclosure List (Canadian HPA section 13 and 14):

COMPONENTS:	CAS #	AMOUNT (%w/w)
Ethylene glycol	CAS# 000107-21-1	>90%
Sodium tetraborate pentahydrate	CAS# 012179-04-3	1%

U.S. REGULATIONS
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SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
ETHYLENE GLYCOL	000107-21-1	90 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following

(CONTINUED ON PAGE 9)

REGULATORY INFORMATION: (CONTINUED)

categories:

An immediate health hazard
A delayed health hazard

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
ETHYLENE GLYCOL	000107-21-1	NJ3 PA3 PA1
DIETHYLENE GLYCOL	000111-46-6	PA1

NJ3=New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1=Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).
PA3=Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND):

This product contains the following substance(s) listed as "Hazardous

(Continued on page 10)

REGULATORY INFORMATION: (CONTINUED)

Substances" under CERCLA which may require reporting of releases:
Category:

Chemical Name	CAS#	RQ	% in Product
Ethylene Glycol	000107-21-1	1 lb	> 90%

16. OTHER INFORMATION

HAZARD RATING SYSTEM:

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Health	1
Flammability	1
Reactivity	0

PRODUCT USE: This product is intended for use as a heat transfer fluid or coolant fluid in a closed system designed for the fluid. An unacceptable use of this product is to generate an aerosol or high concentration of vapor (example: theatrical fog). An unacceptable use of this product is any use which allows contact with food or drink. Do not ingest.

SHELF LIFE: This product, when stored under ambient conditions, in packaged, drum or bulk containers has a 24 month shelf life. Sedimentation is the first sign of deterioration.

MSDS STATUS: Revised section 8 (TLV).

* *
* M S D S *
* Canadian Centre for Occupational Health and Safety *
* * * * * * * * * * * * * Issue : 2000-1 (February, 2000) *

*** IDENTIFICATION ***

MSDS RECORD NUMBER : 2177403
PRODUCT NAME(S) : DIESEL FUEL TREAT / CONDNR
PRODUCT IDENTIFICATION : PRODUCT CODE R00072220000
DATE OF MSDS : 1997-11-06
CURRENCY NOTE : This MSDS was provided to CCOHS in electronic form on 1999-12-03

*** MANUFACTURER INFORMATION ***

MANUFACTURER : SUN COMPANY, INC
ADDRESS : Ten Penn Center
1801 Market Street
Philadelphia Pennsylvania
U.S.A. 19103-1699
Telephone: 215-977-6182 (Joanne Houck)
EMERGENCY TELEPHONE NO. : 800-964-8861 (SUN COMPANY, AFTER NORMAL BUSINESS HOURS)
800-424-9300 (CHEMTREC, AFTER NORMAL BUSINESS HOURS)

*** MATERIAL SAFETY DATA ***

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

REVISION DATE: 11/06/1997
UN NUMBER- UN1993

PRIMARY APPLICATION- TREATMENT AND CONDITIONER

MANUFACTURER- SUN COMPANY, INC.
TEN PENN CENTER
1801 MARKET STREET
PHILADELPHIA PA 19103-1699

SYNONYMS..... : FUEL TREATMENT AND CONDITIONER
CAS REGISTRY NO: SEE SECT. 2
CAS NAME..... : NO CLASSIFICATION-MIXTURE
CHEMICAL FAMILY: BLEND
INFORMATION
SUPPLIER.. MARIA DAYRIT
PHONE.... : (610) 859-1120

EMERGENCY PHONE NUMBERS (AFTER NORMAL BUSINESS HOURS)
SUN CO.. 1-800-964-8861
CHEMTREC. 1-800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT/CAS NO.	LO%	HI%	EXPOSURE GUIDELINES OSHA TWA	OSHA STEL	ACGIH TWA	ACGIH STEL	SUN/MFR TWA	SUN/MFR STEL	UNIT
LIMITS FOR THE PRODUCT:									
					NO SPECIFIC LIMIT				
STODDARD SOLVENT									
8052-41-3	20.00	30.00	500		100				PPM
ISOPROPYL ALCOHOL									
67-63-0	35.00	40.00	400	500	400	500			PPM
BUTYL CELLOSOLVE									
111-76-2	15.00	25.00	25		20				PPM
TRIMETHYLBENZENE									
25551-13-7	.00	10.00			NO SPECIFIC LIMIT				
1,2,4-TRIMETHYLBENZENE									
95-63-6	.00	10.00	25		25				PPM
1,3,5-TRIMETHYLBENZENE									
108-67-8	.00	5.00	25		25				PPM
XYLENE									
1330-20-7	.00	1.00	100	150	100	150			PPM
ISOOCTANOL									
26952-21-6	.00	5.00	50		50				PPM
CUMENE									
98-82-8	.00	1.00	50		50				PPM
ETHYL BENZENE									
100-41-4	.00	1.00	100	125	100	125			PPM
NAPHTHALENE									
91-20-3	.00	1.00	10	15	10	15			PPM
2-ETHYLHEXANOL									
104-76-7	.00	5.00			NO SPECIFIC LIMIT				
CATALYTIC REFORMER PETROLEUM DISTILLATE									
68477-31-6	.00	5.00			NO SPECIFIC LIMIT				
LIGHT AROMATIC NAPHTHA									
64742-95-6	.00	15.00			NO SPECIFIC LIMIT				
ETHYLENE-VINYL ACETATE COPOLYMER									
24937-78-8	.00	5.00					5		MG/M3
POLYBUTENYL SUCCINIMIDE/AMIDE BORATE									
84605-20-9	.00	5.00			NO SPECIFIC LIMIT				

ADDITIONAL EXPOSURE LIMITS ---------- GOVERNMENT REGULATION
OTHER LIMIT- SEE SECTION 2

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW ----------

DANGER] FLAMMABLE LIQUID AND VAPOR. HARMFUL IF INHALED. HIGH VAPOR CONCENTRATIONS MAY CAUSE DIZZINESS. MAY CAUSE SKIN IRRITATION. CAUSES EYE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. PULMONARY ASPIRATION HAZARD-CAN ENTER LUNGS AND CAUSE DAMAGE. MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS.

APPEARANCE-- BROWNISH LIQUID ODOR-- MILD ALCOHOL

POTENTIAL HEALTH EFFECTS ----------

PRIMARY ROUTES OF ENTRY- INHALATION(X) SKIN(X) EYE(X) INGESTION(X)

INHALATION ----------
EXCESSIVE EXPOSURES MAY CAUSE IRRITATION TO EYES, NOSE, THROAT, LUNGS; RESPIRATORY TRACT; CENTRAL NERVOUS SYSTEM (BRAIN) EFFECTS; HEADACHES, NAUSEA; DIZZINESS, LOSS OF BALANCE AND COORDINATION; UNCONSCIOUSNESS, COMA; RESPIRATORY FAILURE AND DEATH. CONTAINS A MATERIAL(S) WHICH IS A SUSPECT FEMALE REPRODUCTIVE HAZARD.

SKIN ----------
SKIN ABSORPTION OF MATERIAL MAY PRODUCE SYSTEMIC TOXICITY. MAY CAUSE MODERATE IRRITATION WITH PROLONGED OR REPEATED CONTACT. REMOVES NATURAL OILS & FATS FROM SKIN.

EYE ----------
CONTACT WITH THE EYE MAY CAUSE REDNESS, TEARING, BLURRED VISION. MODERATE IRRITATION.

INGESTION ----------
HARMFUL OR FATAL IF SWALLOWED. PULMONARY ASPIRATION HAZARD IF SWALLOWED AND/OR VOMITING OCCURS - CAN ENTER LUNGS AND CAUSE DAMAGE. CONTAINS A MATERIAL WHICH IS A SUSPECT FEMALE REPRODUCTIVE HAZARD.

CARCINOGEN LISTED BY-IARC(NO) NTP(NO) OSHA(NO) ACGIH(NO) OTHER(NO)

PRE-EXISTING MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE-
DISORDERS OR DISEASES OF THE SKIN, EYE, RESPIRATORY, PULMONARY AND LUNG (E.G. ASTHMA-LIKE CONDITIONS).

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4. FIRST AID MEASURES

INHALATION ----------
MOVE PERSON TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, OBTAIN MEDICAL ASSISTANCE.

SKIN ----------
WASH WITH SOAP AND WATER UNTIL NO ODOR REMAINS. IF REDNESS OR SWELLING DEVELOPS, OBTAIN MEDICAL ASSISTANCE. IMMEDIATELY REMOVE SOAKED CLOTHING. WASH CLOTHING BEFORE REUSE. DESTROY CONTAMINATED SHOES.

EYE ----------
FLUSH WITH WATER FOR AT LEAST 15 MINUTES. OBTAIN MEDICAL ASSISTANCE.

INGESTION ----------
DO NOT INDUCE VOMITING] DO NOT GIVE LIQUIDS] OBTAIN EMERGENCY MEDICAL ATTENTION. SMALL AMOUNTS WHICH ACCIDENTALLY ENTER MOUTH SHOULD BE RINSED OUT UNTIL TASTE OF IT IS GONE.

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5. FIRE FIGHTING MEASURES

FLASH POINT: 90 (DEG. F); 32 (DEG. C)
AUTOIGNITION TEMP.: NOT DETERMINED (DEG. F); NOT DETERMINED (DEG. C)

---FLAMMABLE LIMITS IN AIR---
LOWER EXPLOSIVE LIMIT (LEL): 2.0 % VOLUME
UPPER EXPLOSIVE LIMIT (UEL): 12.7 % VOLUME

FIRE AND EXPLOSION HAZARDS ----------

FLAMMABLE LIQUID (FLASH POINT LESS THAN 100F)

EXTINGUISHING-MEDIA ----------
REGULAR FOAM. DRY CHEMICAL. CARBON DIOXIDE.

SPECIAL FIRE FIGHTING INSTRUCTIONS ---------
WEAR SELF-CONTAINED BREATHING APPARATUS. WEAR STRUCTURAL FIREFIGHTERS PROTECTIVE CLOTHING.

NFPA/HMIS CLASSIFICATION
HEALTH - 3 / 3
FIRE - 2 / 2
REACTIVITY - 1 / 1
PERSONAL PROTECTION INDEX - X

HAZARD RATING
0=LEAST 1=SLIGHT
2=MODERATE 3=HIGH
4=EXTREME

SPECIFIC HAZARD: FLAMMABLE

6. ACCIDENTAL RELEASE MEASURES

PREVENT IGNITION; STOP LEAK; VENTILATE AREA. CONTAIN SPILL. USE PERSONAL PROTECTIVE EQUIPMENT STATED IN SECTION 8. ADVISE EPA; STATE AGENCY IF REQUIRED. ABSORB ON INERT MATERIAL. SHOVEL, SWEEP OR VACUUM SPILL.

7. HANDLING AND STORAGE

KEEP AWAY FROM HEAT, SPARKS AND FLAME. KEEP IN COOL, DRY PLACE. KEEP CONTAINER TIGHTLY CLOSED. KEEP IN WELL VENTILATED SPACE. NFPA CLASS 1C STORAGE. CONSULT NFPA AND OSHA CODES. TRANSFER OPERATIONS MUST BE ELECTRICALLY GROUNDED TO DISSIPATE STATIC BUILDUP. AVOID PROLONGED BREATHING OF MIST OR VAPOR. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. AVOID CONTACT WITH EYES. WASH THOROUGHLY AFTER HANDLING.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

CONSULT WITH A HEALTH/SAFETY PROFESSIONAL FOR SPECIFIC SELECTION.

VENTILATION ----------
USE ONLY WITH ADEQUATE VENTILATION. VENTILATE AS NEEDED TO COMPLY WITH EXPOSURE LIMIT. EXPLOSION PROOF VENTILATION EQUIPMENT REQUIRED.

PERSONAL PROTECTIVE EQUIPMENT ----------
EYE ----------
SPLASH PROOF CHEMICAL GOGGLES OR FULL FACE SHIELD RECOMMENDED TO PROTECT AGAINST SPLASH OF PRODUCT.
GLOVES ----------
PROTECTIVE GLOVES RECOMMENDED WHEN PROLONGED SKIN CONTACT CANNOT BE AVOIDED. THE FOLLOWING GLOVE MATERIALS ARE ACCEPTABLE: NITRILE;
RESPIRATOR ----------
CONCENTRATION-IN-AIR DETERMINES PROTECTION NEEDED. USE ONLY NIOSH CERTIFIED RESPIRATORY PROTECTION. HALF-MASK AIR PURIFYING RESPIRATOR WITH ORGANIC VAPOR CARTRIDGES IS ACCEPTABLE TO 10 TIMES THE EXPOSURE LIMIT. FULL-FACE AIR PURIFYING RESPIRATOR WITH ORGANIC VAPOR CARTRIDGES

IS ACCEPTABLE TO 50 TIMES THE EXPOSURE LIMIT NOT TO EXCEED THE CARTRIDGE LIMIT OF 1000 PPM. PROTECTION BY AIR PURIFYING RESPIRATORS IS LIMITED. USE A POSITIVE PRESSURE-DEMAND FULL-FACE SUPPLIED AIR RESPIRATOR OR SCBA FOR EXPOSURES ABOVE 50X THE EXPOSURE LIMIT. IF EXPOSURE IS ABOVE IDLH(IMMEDIATELY DANGEROUS TO LIFE & HEALTH) OR THERE IS THE POSSIBILITY OF AN UNCONTROLLED RELEASE OR EXPOSURE LEVELS ARE UNKNOWN THEN USE A POSITIVE PRESSURE-DEMAND FULL-FACE SUPPLIED AIR RESPIRATOR WITH ESCAPE BOTTLE OR SCBA.

OTHER ----------

IF CONTACT IS UNAVOIDABLE, WEAR CHEMICAL RESISTANT CLOTHING. SAFETY SHOWER AND EYE WASH AVAILABILITY RECOMMENDED. LAUNDER SOILED CLOTHES. FOR NON-FIRE EMERGENCIES, POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS (SCBA) & STRUCTURAL FIREFIGHTERS' PROTECTIVE CLOTHING WILL PROVIDE LIMITED PROTECTION.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT..... : 165 (DEG. F) _____ 74 (DEG. C)
MELTING POINT..... : N/A (DEG. F) _____ N/A (DEG. C)
SPECIFIC GRAVITY... : 0.82 (WATER=1)
PACKING DENSITY.... : N.D. (KG/M3)
VAPOR PRESSURE..... : 33 (MM HG @ 20 DEG C)
VAPOR DENSITY..... : 2.1 (AIR=1)

SOLUBILITY IN WATER.: < 5 (% BY VOLUME)
PH INFORMATION..... : N/A AT CONC. N/A G/L H2O
% VOLATILES BY VOL..: N.D.
EVAPORATION RATE... : 20 (ETHYL ETHER=1)
OCTANOL/WATER COEFF.: N.D.
APPEARANCE..... : BROWNISH LIQUID
ODOR..... : MILD ALCOHOL
ODOR THRESHOLD..... : N.D. (PPM)
VISCOSITY..... : N.D. SUS @ N.D DEG F ... N.D. CST @ N.D DEG C
MOLECULAR WEIGHT... : N.D. (G/MOLE)

10. STABILITY AND REACTIVITY

STABILITY ----------

STABLE.

CONDITIONS TO AVOID-

HEAT, SPARKS AND OPEN FLAMES.

INCOMPATIBLE MATERIALS ----------

STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION ----------

COMBUSTION WILL PRODUCE CARBON DIOXIDE, CARBON MONOXIDE.

POLYMERIZATION ----------

WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

FOR THE PRODUCT ----------

INHALATION: OVEREXPOSURE MAY CAUSE EYE, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION, CENTRAL NERVOUS SYSTEM (BRAIN) EFFECTS, HEADACHE,

NAUSEA, DIZZINESS, WEAKNESS. SKIN: PROLONGED OR REPEATED CONTACT MAY CAUSE MODERATE IRRITATION. EYE: CONTACT MAY CAUSE MODERATE IRRITATION. ORAL: HARMFUL OR FATAL IF SWALLOWED AND/OR VOMITING OCCURS BECAUSE IT CAN ENTER THE LUNGS AND CAUSE DAMAGE--PULMONARY ASPIRATION HAZARD. CONTAINS BUTYL CELLOSOLVE WHICH MAY CAUSE FETAL TOXICITY AT MATERNALLY TOXIC DOSES.

STODDARD SOLVENT (COMPONENT)
INHALATION: OVEREXPOSURE TO MIST OR VAPOR MAY CAUSE IRRITATION TO EYE, NOSE, THROAT, RESPIRATORY TRACT, CNS (BRAIN) EFFECTS, DIZZINESS. GROSS OVEREXPOSURE MAY CAUSE TREMOR, CONVULSIONS, UNCONSCIOUSNESS, RESPIRATORY FAILURE, DEATH. SKIN: PROLONGED/REPEATED CONTACT MAY CAUSE IRRITATION & DERMATITIS. EYE: MINIMALLY IRRITATING ON CONTACT. INGESTION: LOW ACUTE TOXICITY. PULMONARY ASPIRATION HAZARD - HARMFUL OR FATAL IF SWALLOWED AND/OR VOMITING OCCURS BECAUSE IT CAN ENTER THE LUNGS AND CAUSE DAMAGE.

ISOPROPYL ALCOHOL (COMPONENT)
INHALATION: OVEREXPOSURE MAY CAUSE EYE, NOSE, THROAT, AND RESPIRATORY TRACT IRRITATION, CENTRAL NERVOUS SYSTEM (BRAIN) EFFECTS, DIZZINESS, COMA. SKIN: PRACTICALLY NON-TOXIC IF ABSORBED. LD50 (RABBIT) 12.8 G/KG PROLONGED/REPEATED CONTACT MAY CAUSE MODERATE IRRITATION & DERMATITIS. EYE: CONTACT MAY CAUSE SEVERE IRRITATION & CORNEAL INJURY. ORAL: MODERATELY TOXIC. LD50 (RAT) 5.045 G/KG. HARMFUL/FATAL IF SWALLOWED. INGESTION MAY CAUSE GASTROINTESTINAL TRACT IRRITATION, CNS EFFECTS. THE SINGLELETHAL DOSE FOR HUMAN ADULT IS ABOUT 250 ML ALTHOUGH AS LITTLE AS 100 ML CAN BE FATAL; REPORTS OF SERIOUS ILLNESS FROM AS LITTLE AS 10 ML; BIRTH DEFECTS & REPRODUCTIVE EFFECTS FOUND IN ANIMALS

BUTYL CELLOSOLVE (COMPONENT)
INHALATION: OVEREXPOSURE MAY CAUSE EYE, NOSE, MOUTH, THROAT, AND RESPIRATORY TRACT IRRITATION, CNS (BRAIN) EFFECTS, HEADACHE, SLURRED SPEECH, DIZZINESS, DROWSINESS, INCOORDINATION, MOOD CHANGES, OR DEATH. PROLONGED/GROSS OVEREXPOSURES CAUSED HEMATOLOGIC (BLOOD) EFFECTS; & IN ANIMALS CAUSED LIVER, KIDNEY, LUNG, SPLEEN EFFECTS/DAMAGE. SKIN: TOXIC IF ABSORBED. READILY PENETRATES SKIN CAUSING EFFECTS AS IN INHALATION. ON CONTACT MODERATELY IRRITATING AND MAY CAUSE BURNING FEELING OR RASH EYE: IRRITANT. MAY CAUSE EYE BURNS AND BLURRED VISION ON CONTACT. INGESTION: TOXIC IF SWALLOWED- CAN BE HARMFUL AND/OR FATAL. MATERNALLY TOXIC DOSE (RABBIT:200PPM/6H ON DAYS 6-15) CAUSED FETAL TOXICITY.

TRIMETHYLBENZENE (COMPONENT)
INHALATION: HARMFUL IF INHALED. OVEREXPOSURE MAY CAUSE EYE, NOSE, THROAT AND RESPIRATORY TRACT IRRITATION, CENTRAL NERVOUS SYSTEM (BRAIN) EFFECTS, DIZZINESS, HEADACHE, NAUSEA, INCOORDINATION, UNCONSCIOUSNESS, COMA, DEATH. SKIN: CAN BE ABSORBED. PROLONGED OR REPEATED CONTACT MAY CAUSE MILD TO MODERATE IRRITATION AND/OR DERMATITIS. EYE: CONTACT MAY CAUSE MILD TO MODERATE IRRITATION. ORAL: HARMFUL OR FATAL IF SWALLOWED AND/OR VOMITING OCCURS BECAUSE IT CAN ENTER THE LUNGS AND CAUSE DAMAGE--PULMONARY ASPIRATION HAZARD.

1,2,4-TRIMETHYLBENZENE (COMPONENT)
INHALATION: MODERATELY TOXIC. VAPOR OR MIST IRRITATES THE EYES, MUCOUS MEMBRANES, RESPIRATORY TRACT. OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYTEM (BRAIN) EFFECTS, NARCOTIC EFFECTS, NAUSEA, HEADACHE, DIZZINESS, INCOORDINATION, UNCONSCIOUSNESS, COMA, DEATH. SKIN: CAN BE ABSORBED. CONTACT MAY CAUSE IRRITATION AND DERMATITIS. EYE: IRRITATING

INGESTION: MODERATELY TOXIC. SYMPTOMS SIMILAR TO INHALATION. HARMFUL OR FATAL IF SWALLOWED. PULMONARY ASPIRATION HAZARD- HARMFUL OR FATAL BECAUSE IT CAN ENTER THE LUNGS AND CAUSE DAMAGE.

1,3,5-TRIMETHYLBENZENE (COMPONENT)
INHALATION: VAPOR HARMFUL] OVEREXPOSURE MAY CAUSE EYE, NOSE, THROAT, & RESPIRATORY TRACT IRRITATION, CENTRAL NERVOUS SYSTEM (BRAIN) EFFECTS, HEADACHE, NAUSEA, DROWSINESS, PERIPHERAL NERVE DAMAGE, INCOORDINATION, UNCONSCIOUSNESS, COMA, OR DEATH. SKIN: MILD TO MODERATE IRRITATION WITH PROLONGED OR REPEATED CONTACT. EYE: MILD TO MODERATE IRRITATION. ORAL: HARMFUL OR FATAL IF SWALLOWED. PULMONARY ASPIRATION HAZARD IF SWALLOWED AND/OR VOMITING OCCURS- CAN ENTER THE LUNGS AND CAUSE DAMAGE

XYLENE (COMPONENT)
INHALATION: VAPOR HARMFUL] OVEREXPOSURE TO HIGH CONCENTRATIONS CAN CAUSE EYE, NOSE, THROAT, LUNG IRRITATION; CNS (BRAIN) EFFECTS, DIZZINESS, DIFFICULTY IN BREATHING, UNCONSCIOUSNESS, COMA ANDDEATH. REPORTS OF HEART IRREGULARITIES FROM MASSIVE EXPOSURES. PROLONGED OVEREXPOSURES CAN CAUSE BRAIN, LIVER, KIDNEY EFFECTS/DAMAGE. SKIN: CAN BE ABSORBED, REPEATED/PROLONGED CONTACT IS IRRITATING. EYES: IRRITANT. ORAL: HARMFUL OR FATAL IF SWALLOWED. PULMONARY ASPIRATION HAZARD-CAN ENTER LUNGS AND CAUSE DAMAGE. IN RATS, PROLONGED BREATHING OF 500 PPM-FETAL EFFECTS BUT NO BIRTH DEFECTS; NO EFFECTS AT 400 PPM. HIGH ORAL DOSE WAS TOXIC TO PREGNANT MICE; CLEFT PALATE IN FETUSES.

ISOOCTANOL (COMPONENT)
INHALATION: NO DATA AVAILABLE. SKIN: IRRITANT. MODERATELY TOXIC. LD50 (RABBIT) 2.52G/KG. EYE: SEVERE IRRITATION. ORAL: MODERATELY TOXIC.

CUMENE (COMPONENT)
INHALATION: VAPOR HARMFUL] OVEREXPOSURE TO HIGH CONCENTRATIONS CAN CAUSE EYE, NOSE, THROAT, RESPIRATORY TRACT IRRITATION, CNS (BRAIN) EFFECTS, NAUSEA, HEADACHE, DIZZINESS, DIFFICULTY IN BREATHING, INCOORDINATION, UNCONSCIOUSNESS, DEATH. SKIN: LOW ACUTE TOXICITY. CAN BE ABSORBED. MODERATE IRRITATION. EYE: MILD IRRITANT. ORAL: MODERATE ACUTE TOXICITY. HARMFUL OR FATAL IF SWALLOWED. PULMONARY ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. IN RATS- NOAEL FOR MATERNAL TOXICITY IS 100PPM; DEVELOPMENTAL TOXICITY NOAEL IS 1200PPM. IN RABBITS- NOAEL FOR DEVELOPMENTAL TOXICITY IS 2300PPM.

ETHYL BENZENE (COMPONENT)
INHALATION: OVEREXPOSURE TO HIGH CONCENTRATIONS CAN CAUSE EYE, NOSE, THROAT & RESPIRATORY IRRITATION, CENTRAL NERVOUS SYSTEM (BRAIN) EFFECTS, DIZZINESS, LOSS OF BALANCE & COORDINATION, UNCONSCIOUSNESS, RESPIRATORY FAILURE & DEATH. PROLONGED BREATHING CAN CAUSE LIVER AND KIDNEY EFFECTS. SKIN: LOW ACUTE TOXICITY. ABSORBABLE THROUGH SKIN. MODERATE IRRITATION. EYE: MODERATE IRRITANT. ORAL: HARMFUL OR FATAL IF SWALLOWED. PULMONARY ASPIRATION HAZARD IF SWALLOWED AND/OR VOMITING OCCURS-CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OVEREXPOSURE OF 1000 PPM CAUSED MATERNAL AND FETAL TOXICITY.

NAPHTHALENE (COMPONENT)
INHALATION: VAPORS MAY CAUSE RESPIRATORY TRACT IRRITATION, HEADACHE, CONFUSION, EXCITEMENT, PROFUSE SWEATING, ABDOMINAL PAIN, VOMITING, DIARRHEA. SKIN: MAY BE ABSORBED THROUGH THE SKIN. MAY CAUSE IRRITATION AND DERMATITIS. OCCASSIONAL ALLERGIC RESPONSES ARE RARE. EYE: VAPOR CAUSES IRRITATION AT 15 PPM. CONTACT MAY CAUSE IRRITATION.

CONJUNCTIVITIS, CORNEAL OPACITY. REPORTED TO CAUSE CATARACTS. ORAL: MODERATELY TOXIC IF SWALLOWED. BLOOD EFFECTS (HEMOLYSIS), LIVER & KIDNEY INJURY MAY ALSO OCCUR. MAY CAUSE GASTROINTESTINAL IRRITATION, VOMITING, AND DIARRHEA.

2-ETHYLHEXANOL (COMPONENT)
INHALATION: OVEREXPOSURE MAY CAUSE EYE, NOSE, THROAT IRRITATION, NASAL DISCOMFORT & DISCHARGE, CHEST PAIN, COUGH, HEADACHE, NAUSEA, VOMITING. SKIN: IRRITATING. PROLONGED/REPEATED CONTACT MAY CAUSE REDNESS AND SWELLING. PROLONGED WIDESPREAD ABSORPTION CAUSED CNS DEPRESSION, STUPOR, & UNCONSCIOUSNESS IN ANIMALS. EYE: SEVERE IRRITANT. MAY CAUSE CORNEAL INJURY. ORAL: MODERATELY TOXIC. MAY CAUSE ABDOMINAL DISCOMFORT NAUSEA, VOMITING, DIARRHEA, UNCONSCIOUSNESS, OTHER CNS EFFECTS, LIVER & KIDNEY INJURY (REPEATED INGESTION). PREGNANT RATS: SKIN CONTACT UP TO 3ML/KG - MATERNAL TOXICITY BUT NO BIRTH DEFECTS; ORAL DOSE 2ML/KG-EMBRYOFETAL TOXICITY & POSSIBLY INCREASED BIRTH DEFECTS.

CATALYTIC REFORMER PETROLEUM DISTILLATE (COMPONENT)
NO STATEMENT AVAILABLE

LIGHT AROMATIC NAPHTHA (COMPONENT)
INHALATION: OVEREXPOSURE MAY CAUSE CNS (BRAIN) EFFECTS, IRRITATION OF EYES, NOSE, THROAT, & RESPIRATORY TRACT, NAUSEA, DIZZINESS, SWEATING, UNCONSCIOUSNESS, RESPIRATORY FAILURE, DEATH. MAY CONTAIN > 0.1% BENZENE. BENZENE IS A HUMAN CANCER HAZARD; PROLONGED OR REPEATED EXPOSURE TO BENZENE CAN RESULT IN BLOOD DISORDERS RANGING FROM ANEMIA TO LEUKEMIA. SKIN: MAY BE ABSORBED. PROLONGED/REPEATED CONTACT MAY CAUSE MODERATE IRRITATION. EYE: SEVERE IRRITATION. MAY CAUSE CORNEAL DAMAGE. COMPONENT REPORTED TO CAUSE CATARACTS. INGESTION: HARMFUL OR FATAL IF SWALLOWED. COMPONENT- MAY CAUSE BLOOD, LIVER, & KIDNEY EFFECTS. PULMONARY ASPIRATION HAZARD- CAN ENTER LUNGS & CAUSE DAMAGE.

ETHYLENE-VINYL ACETATE COPOLYMER (COMPONENT)
INHALATION: MIST OR VAPORS GENERATED FROM HEATING MAY CAUSE EYE, NOSE THROAT & RESPIRATORY IRRITATION. SKIN: NEGLIGIBLE AT AMBIENT TEMPERATURE. EYE: DUST MAY SCRATCH SURFACE OR CAUSE MECHANICAL
IRRITATION. ORAL: MINIMAL TOXICITY.

POLYBUTENYL SUCCINIMIDE/AMIDE BORATE (COMPONENT)
NO DATA AVAILABLE FOR ALL ROUTES OF EXPOSURE.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY ----------

NO DATA AVAILABLE.

13. DISPOSAL CONSIDERATIONS

FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS. DO NOT FLUSH TO DRAIN/ STORM SEWER. CONTRACT TO AUTHORIZED DISPOSAL SERVICE.

14. TRANSPORTATION INFORMATION