

# Safety Data Sheets

CD-HF



Roadyard Willcox

03/05/2018



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**Binder: Roadyard Willcox - CD-HF**

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TEXACO LUBRICANTS DIV OF TEXACO REFINING & MK -- 00958 MARFAK MULTI PURPOSE 2  
- GREASE,AUTOMOTIVE,MULTI-PURPOSE  
MATERIAL SAFETY DATA SHEET  
NSN: 9150009351017  
Manufacturer's CAGE: 2R503  
Part No. Indicator: A  
Part Number/Trade Name: 00958 MARFAK MULTI PURPOSE 2

=====  
General Information  
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Item Name: GREASE,AUTOMOTIVE,MULTI-PURPOSE  
Company's Name: TEXACO LUBRICANTS DIV. OF TEXACO REFINING & MKTG  
Company's Street: 1111 RUSK STREET  
Company's P. O. Box: 4427  
Company's City: HOUSTON  
Company's State: TX  
Company's Country: US  
Company's Zip Code: 77002-3310  
Company's Emerg Ph #: 914-831-3400/800-424-9300(CHEMTREC)  
Company's Info Ph #: 914-838-7509/914-838-7204  
Distributor/Vendor # 1: HOME OIL & GAS CORP. (816-232-8494)  
Distributor/Vendor # 1 Cage: HOME0  
Record No. For Safety Entry: 003  
Tot Safety Entries This Stk#: 006  
Status: SM  
Date MSDS Prepared: 01AUG91  
Safety Data Review Date: 08JUN93  
Supply Item Manager: CX  
MSDS Serial Number: BPZJH  
Specification Number: MIL-G-10924  
Spec Type, Grade, Class: NONE  
Hazard Characteristic Code: N1  
Unit Of Issue: CA  
Unit Of Issue Container Qty: UNKNOWN  
Type Of Container: PPP-C-186  
Net Unit Weight: 14 OZ.  
NRC/State License Number: NONE  
Net Propellant Weight-Ammo: NONE

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Ingredients/Identity Information  
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Proprietary: NO  
Ingredient: MINERAL OIL  
Ingredient Sequence Number: 01  
Percent: 35-50  
NIOSH (RTECS) Number: PY8038500  
CAS Number: 64742-65-0  
OSHA PEL: NOT ESTABLISHED  
ACGIH TLV: NOT ESTABLISHED  
Other Recommended Limit: NONE RECOMMENDED

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Proprietary: NO  
Ingredient: SOLVENT DEASPHALTED RESIDUAL PETROLEUM OIL  
Ingredient Sequence Number: 02  
Percent: 35-50

NIOSH (RTECS) Number: 1004043SD  
CAS Number: 64741-95-3  
OSHA PEL: NOT ESTABLISHED  
ACGIH TLV: NOT ESTABLISHED  
Other Recommended Limit: NONE RECOMMENDED

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Proprietary: NO  
Ingredient: LITHIUM 12 HYDROXYSTEARATE  
Ingredient Sequence Number: 03  
Percent: 3-11  
NIOSH (RTECS) Number: 1002148LS  
CAS Number: 7620-77-1  
OSHA PEL: NOT ESTABLISHED  
ACGIH TLV: NOT ESTABLISHED  
Other Recommended Limit: NONE RECOMMENDED

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Physical/Chemical Characteristics  
=====

Appearance And Odor: DARK GREEN SEMISOLID  
Boiling Point: "N/D"  
Melting Point: UNKNOWN  
Vapor Pressure (MM Hg/70 F): "N/A"  
Vapor Density (Air=1): "N/A"  
Specific Gravity: "N/D"  
Decomposition Temperature: UNKNOWN  
Evaporation Rate And Ref: NEGLIGIBLE  
Solubility In Water: NEGLIGIBLE  
Percent Volatiles By Volume: 100  
pH: "N/A"  
Corrosion Rate (IPY): UNKNOWN

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Fire and Explosion Hazard Data  
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Flash Point: "N/D"  
Lower Explosive Limit: "N/D"  
Upper Explosive Limit: "N/D"  
Extinguishing Media: ACCORDING TO NFPA GUIDE, USE WATER SPRAY, DRY  
CHEMICAL, FOAM OR CARBON DIOXIDE. WATER OR FOAM MAY CAUSE FROTHING.  
Special Fire Fighting Proc: IF LEAK OR SPILL HAS NOT IGNITED, USE WATER  
SPRAY TO DISPERSE VAPORS & TO PROTECT PEOPLE ATTEMPTING TO STOP THE LEAK.  
USE WATER TO COOL FIRE-EXPOSED CONTAINERS.  
Unusual Fire And Expl Hazrds: NONE

=====  
Reactivity Data  
=====

Stability: YES  
Cond To Avoid (Stability): SUPPLIER DIDN'T ADDRESS THIS FIELD.  
Materials To Avoid: STRONG OXIDIZERS  
Hazardous Decomp Products: TOXIC LEVELS OF CARBON MONOXIDE/CARBON  
DIOXIDE/ALDEHYDES/KETONES/LITHIUM COMPOUNDS.  
Hazardous Poly Occur: NO  
Conditions To Avoid (Poly): WILL NOT OCCUR

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Health Hazard Data  
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LD50-LC50 Mixture: LD50 (ORAL RAT) IS >5000MG/KG  
Route Of Entry - Inhalation: YES

Route Of Entry - Skin: YES  
Route Of Entry - Ingestion: YES  
Health Haz Acute And Chronic: PRACTICALLY NON-TOXIC. MAY CAUSE MINIMAL IRRITATION. MATERIAL FROM HIGH PRESSURE EQUIPMENT (LEAKS, LINE FAILURE) MAY PENETRATE THE SKIN AND CAUSE SERIOUS DAMAGE IF UNTREATED.  
Carcinogenicity - NTP: NO  
Carcinogenicity - IARC: NO  
Carcinogenicity - OSHA: NO  
Explanation Carcinogenicity: NO  
Signs/Symptoms Of Overexp: EYES:MINIMAL IRRITATION. SKIN:DRYING, MINIMALLY IRRITATING PROLONGED/REPEATED SKIN CONTACT. INHALED:NO ADVERSE EFFECTS FROM VAPORS AT AMBIENT TEMPERATURES. INGESTED:NO ADVERSE EFFECTS EXPECTED. IF SEVERAL MOUTHSFULL ARE SWALLOWED, ABDOMINAL DISCOMFORT, NAUSEA & DIARRHEA MAY OCCUR.  
Med Cond Aggravated By Exp: DRYING PROPERTIES MAY AGGRAVATE PRE-EXISTING DERMATITIS  
Emergency/First Aid Proc: IF IRRITATION PERSISTS OR IS SEVERE, SEE A DOCTOR. EYE:FLUSH W/WATER 15 MIN. SKIN:WASH W/SOAP & WATER. REMOVE CONTAMINATED CLOTHING & LAUNDRER BEFORE REUSE. INHALED:IF IRRITATION OR DROWSINESS OCCURS, REMOVE TO FRESH AIR. INGESTED:IF MORE THAN SEVERAL MOUTHSFULL ARE SWALLOWED, GIVE 2 LARGE GLASSES OF MILK OR WATER & GET IMMEDIATE MEDICAL CARE. GET IMMEDIATE MEDICAL CARE FOR SUBDREMAL INJECTION.

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Precautions for Safe Handling and Use  
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Steps If Matl Released/Spill: CONTAIN SPILL IF POSSIBLE. CONTAIN WITH ABSORBENT MATERIAL SUCH AS CLAY OR SOIL AND SHOVEL UP.  
Neutralizing Agent: NO INFORMATION GIVEN ON MSDS BY MFR.  
Waste Disposal Method: WASTE CLASSIFICATION: PRODUCT HAS BE EVALUATED FOR RCRA CHARACTERISTICS AND DOES NOT MEET CRITERIA OF A HAZARDOUS WASTE IF DISCARDED IN ITS PURCHASED FORM.  
Precautions-Handling/Storing: MAINTAIN MINIMUM FEASABLE HANDLING. AVOID PERIODS OF HIGH TEMPERATURE. AVOID WATER CONTAMINATION.  
Other Precautions: NO INFORMATION GIVEN ON MSDS BY MFR.

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Control Measures  
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Respiratory Protection: KEEP AIRBORNE CONCENTRATIONS AS LOW AS POSSIBLE. USE MSHA/NIOSH APPROVED RESPIRAATOR IF VAPOR, MIST OR DUST IS GENERATED. USE SUPPLIED AIR RESPIRATORFOR LARGE SPILLS O R IN ENCLOSED AREAS.  
Ventilation: ADEQUATE TO MEET COMPONENT OCCUPATIONAL EXPOSURE LIMIT.  
Protective Gloves: NO INFORMATION GIVEN ON MSDS BY MFR.  
Eye Protection: GOGGLES OR FACE SHIELD  
Other Protective Equipment: NO INFORMATION GIVEN ON MSDS BY MFR.  
Work Hygienic Practices: WORKERS SHOULD WASH EXPOSED SKIN SEVERAL TIMES DAILY W/SOAP & WATER. LAUNDRER SOILED WORK CLOTHING AT LEAST WEEKLY.  
Suppl. Safety & Health Data: KEY2:KT

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Transportation Data  
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Trans Data Review Date: 93122  
DOT PSN Code: ZZZ  
DOT Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION  
IMO PSN Code: ZZZ  
IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION  
IATA PSN Code: ZZZ  
IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION



AFI PSN Code: ZZZ

AFI Prop. Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

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Disposal Data  
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Label Data  
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Label Required: YES

Technical Review Date: 08JUN93

MFR Label Number: NONE

Label Status: F

Common Name: 00958 MARFAK MULTI PURPOSE 2

Signal Word: CAUTION!

Acute Health Hazard-Slight: X

Contact Hazard-Slight: X

Fire Hazard-Slight: X

Reactivity Hazard-None: X

Special Hazard Precautions: PRACTICALLY NON-TOXIC. MAY CAUSE MINIMAL IRRITATION. MATERIAL FROM HIGH PRESSURE EQUIPMENT(LEAKS, LINE FAILURE)MAY PENETRATE SKIN & CAUSE SERIOUS DAMAGE IF UNTREATED. MINIMUM FEASIBLE HANDLING TEMPERATURES SHOULD BE MAINTAINED. MINIMIZE PERIODS OF EXPOSURE TO HIGH TEMPERATURES. AVOID WATER CONTAMINATION. FIRST AID:IF IRRITATION OCCURS, IF IRRITATION OR DROWSINESS OCCURS, REMOVE TO FRESH AIR. INGESTED:IF MORE THAN SEVERAL MOUTHSFULL ARE SWALLOWED, GIVE 2 LARGE GLASSES OF MILK OR WATER & GET IMMEDIATE MEDICAL CARE. GET IMMEDIATE MEDICAL CARE FOR SUBDREMAL INJECTION.

Protect Eye: Y

Protect Skin: Y

Label Name: TEXACO LUBRICANTS DIV. OF TEXACO REFINING & MKTG

Label Street: 1111 RUSK STREET

Label P.O. Box: 4427

Label City: HOUSTON

Label State: TX

Label Zip Code: 77002-3310

Label Country: US

Label Emergency Number: 914-831-3400/800-424-9300(CHEMTREC)

# MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard, 29 CFR 1910.1200

**Identity:** 3080 Black Drawing Ink - Also identified as 3080FCCB BLA, 3080FKE BLA, 3080FP BLA, 3080FRBU BLA, 3080FW BLA, 3080F3 BLA, 3080F5 BLA, 3080F7 BLA

## Section I

**Manufacturers Name:** Koh-I-Noor Rapidograph, Inc.  
**Address:** 100 North Street  
Bloomsbury, NJ 08804

**Emergency Telephone:** 201-479-4124 Outside N.J. 800-631-7646

**Information Telephone:** 201-479-4124 Outside N.J. 800-631-7646

**Date Prepared:** August 24, 1988

**Signature of Preparer:** *Ben Apionarius*

## Section II - Hazardous Ingredients/Identity Information

Hazardous Components	CAS NO.	OSHA PEL	ACGIH TLV	OTHER	%
Ammonia Solution 30%	1336-21-6	50ppm (as NH <sub>3</sub> )	25ppm (as NH <sub>3</sub> )		1.2
Phenol	108-95-2		5ppm		0.45
Ethylene Glycol	107-21-1		50ppm ceiling conc.		1.6
Water					75-85

## Section III - Physical/Chemical Characteristics

**Boiling Point:** 215<sup>o</sup>F      **Specific Gravity: (H<sub>2</sub>O=1)** 1.055  
**Vapor Pressure (mm Hg.):** Like Water      **Melting Point:** 25-28<sup>o</sup>F  
**Vapor Density (Water=1):** Like Water      **Evaporation Rate:**  
(Butyl Acetate=1) Like Water  
**Solubility in Water:** Miscible  
**Appearance and Odor:** Black liquid, mild fusel oil odor

## Section IV - Fire and Explosion Hazard Data

**Flash Point:** 171<sup>o</sup>F      **Flammable Limits**      **LEL**      **UEL**  
(Method Used) ASTM D56      None      N/A      N/A

**Extinguishing Media:** This ink will not burn or support combustion.

**Special Fire Fighting Procedures:** High temperatures will evaporate the water and the remaining residue will burn. Water is an adequate extinguishing medium.

**Unusual Fire and Explosion Hazards:** None

## Section V - Reactivity Data

**Stability:** Unstable:  
Stable: X

**Conditions to Avoid:** None

**Materials to Avoid:** None

**Hazardous Decomposition or Byproducts:** None Expected

**Hazardous Polymerization:** May Occur: No  
Will NOT Occur: X  
Conditions to Avoid: None

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**Section VI - Health Hazard Data**

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Route(s) of Entry: Inhalation? X Skin? X  
Ingestion? Non-toxic LD<sub>50</sub> (Oral rat-greater than 5g/Kg)

Health Hazards (Acute and Chronic): Acute: nausea, vomiting, circulatory collapse, depression, greenish or smoky urine, drowsiness, respiratory failure, vomiting, convulsions.  
Chronic: Renal and hepatic damage.

Carcinogenicity: NTP? NO IARC Monographs? NO OSHA Regulated? NO

Signs and Symptoms of Exposure: Not normally expected due to the small percentages of hazardous ingredients, however, contact with eyes or skin may result in irritation, ingestion may result in gastric disturbances, inhalation of vapors may irritate respiratory tract.

Medical Conditions Generally Aggravated by Exposure: No Data Found

Emergency and First Aid Procedures: If inhaled, move to fresh air, flush eyes with large amounts of water for at least 15 minutes, wash skin with soap & water. If ingested, drink 1 or 2 glasses of water to dilute. If irritation develops, get medical attention immediately.

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**Section VII - Precautions for Safe Handling and Use**

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Steps to be Taken in Case Material is Released or Spilled: Wipe up at once. Dried ink can be soaked with soap solution and rinsed.

Waste Disposal Method: In accordance with federal, state, and local regulations.

Precautions to be Taken in Handling and Storing: Do not allow to freeze.

Other Precautions: None

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**Section VIII - Control Measures**

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Respiratory Protection: Not needed

Ventilation: Local Exhaust: Not needed Special: Not needed  
Mechanical (General): Sufficient Other: Not needed

Protective Gloves: Not necessary under normal usage.

Eye Protection: Recommended to avoid splashing into eyes.

Protective Clothing or Equipment: None

Work/Hygenic Practices: Wash hands thoroughly before eating, smoking, or using toilet facilities.



PROGRESS IS OUR  
COMMITMENT  
THE EARTH OUR CONCERN

CRC Industries Europe bvba  
Touwslagerstraat 1  
9240 Zele - Belgium  
Tel (+32) (0) 52 / 45 60 11 - Fax (+32) (0) 52 / 45 00  
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## Material Safety Data Sheet

Regulation EC No 1907/2006 Art.31

**Productname :** 5-56 **Creationdate :** 23.11.10  
**Ref.Nr.:** AB10100-3-231110 **Replaces:** 14.01.10

### 1. IDENTIFICATION OF PRODUCT AND COMPANY

**Productname :** 5-56  
Aerosol

**Application :** Lubricants

**Company :** **CRC Industries Europe bvba**  
**Touwslagerstraat 1**  
**9240 ZELE**  
**Belgium**  
**Tel.: (+32)(0)52/456011**  
**Fax: (+32)(0)52/450034**  
**E-mail : [hse@crcind.com](mailto:hse@crcind.com)**

**In case of emergency :** (+32) (0)52/45 60 11

Subsidiaries		Tel	Fax
<b>CRC Industries Finland</b>	Asemanrinne 13, 08500 Lohja AS	(+358)(0)19/32921	(+358)(0)19/383676
<b>CRC Industries France</b>	12, Bld des Martyrs de Chateaubriant F-95102 Argenteuil Cédex	(+33)(0)1/34112000	(+33)(0)1/34110996
<b>CRC Industries Deutschland</b>	Südring 9, 76473 Iffezheim	(+49)(0)7229/3030	(+49)(0)7229/303266
<b>CRC Industries Iberia</b>	Gremio del cuero S/N, 40195 Segovia	(+34)921/427546	(+34)921/436270
<b>CRC Industries Sweden</b>	Kryptongatan 14, 43153 Mölnådal	(+46)(0)31/7068480	(+46)(0)31/273991

## 2. HAZARD IDENTIFICATION

<b>Health and Safety :</b>	Flammable Repeated exposure may cause skin dryness or cracking. Remark: Preparations classified as harmful on the basis of an aspiration hazard need not be labelled as harmful with R65 when placed on the market in aerosol containers or in containers fitted with a sealed spray attachment. (EU-Directive 67/548 Annex VI 9.4)
<b>Environment :</b>	According to EU-directive 99/45/EC not classified
<b>Other hazards :</b>	Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

## 3. COMPOSITION AND INFORMATION ON COMPONENTS

Hazardous ingredient	CAS-nbr.	EINECS	w/w %	symbol	R-phrases*	Notes
carbon dioxide	124-38-9	204-696-9	1-5	-	-	A,G
Distillates (petroleum), hydrotreated light; Kerosine unspecified	64742-47-8	265-149-8	60-100	Xn	65-66	B
sulfonic acids,petroleum,sodium salts	68608-26-4	271-781-5	1-5	Xi	36	
mineral oil (IP 346 DMSO extract < 3%)	-	-	10-30	-	-	B
<b>Explanation notes</b>						
A : substance with Community workplace exposure limit						
B : substance with national established workplace exposure limit						
G : exempted from the obligation to register in accordance with art.2(7)(a)of REACH Regulation No 1907/2006						

(\* Explanation risk-phrases : see chapter 16)

#### 4. FIRST AID MEASURES

<b>General Advice :</b>	The usual precautions for handling chemicals should be observed If any symptoms should occur, seek medical advice.
<b>Contact with eyes :</b>	If substance has got into eyes, immediately wash out with plenty of water
<b>Contact with skin :</b>	Wash with water and soap. Seek medical attention if irritation persists
<b>Inhalation :</b>	Fresh air, keep warm and at rest.
<b>Ingestion :</b>	Ingestion is unlikely to occur If swallowed do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention

#### 5. FIRE-FIGHTING MEASURES

<b>Flash point (without propellant):</b>	78 °C (Closed Cup)
<b>Explosion limits : upper limit :</b>	Not available.
<b>lower limit :</b>	Not available.
<b>Extinguishing media :</b>	water, foam, carbon dioxide or dry agent
<b>Fire-fighting procedures :</b>	Keep container(s) exposed to fire cool, by spraying with water
<b>Unusual exposure hazard :</b>	Aerosols may explode if heated above 50°C

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions :</b>	Ensure adequate ventilation Shut off all ignition sources
<b>Environmental precautions :</b>	Do not allow to enter public sewers and watercourses
<b>Cleaning methods :</b>	Absorb spillage in suitable inert material

#### 7. HANDLING AND STORAGE

<b>Handling procedures :</b>	Use only in well ventilated areas Keep away from heat and sources of ignition Do not spray on a naked flame or incandescent material. Do not pierce or burn aerosols, even after use. Do not breathe aerosols or vapours. Avoid contact with skin and eyes.
------------------------------	--

**Storage procedures :** Pressurized container : protect from sunlight and do not expose to temperatures exceeding 50°C.  
 Keep in a cool, dry, well ventilated place  
 Keep out of reach of children.

**8. EXPOSURE CONTROL AND PERSONAL PROTECTION**

**Control procedures :** Ensure adequate ventilation  
 Keep away from heat and sources of ignition

**Personal protection :** Ensure adequate ventilation  
 Keep away from heat and sources of ignition  
 Take precautionary measures against static discharges

**inhalation :** In case of insufficient ventilation, wear suitable respiratory equipment.  
 (Filter type A)

**hands and skin :** Wear suitable protective gloves (nitrile)

**eyes :** Wear safety goggles.

**Exposure limits :**

Hazardous ingredient	CAS-nbr.	method	
<b>EU established exposure limits:</b>			
carbon dioxide	124-38-9	TWA	5000 ppm

**9. PHYSICAL AND CHEMICAL PROPERTIES (for aerosols without propellant)**

**Apperance : physical state :** CO2 propelled liquid.

**colour :** Amber.

**odour :** Salicylate.

**Melting point/range :** <-50 °C

**Boiling point/range :** Not available.

**Relative density :** 0.82 g/cm<sup>3</sup> (@ 20°C).

**pH :** Not applicable.

**Vapour pressure :** Not available.

**Relative vapour density :** Not available.

**Solubility in water :** Emulsifies with water

**Flash point :** 78 °C (Closed Cup)

**Auto-ignition :** > 200 °C

**Viscosity :** < 7 mPa.s.

**Evaporation rate :** Not available.

## 10. STABILITY AND REACTIVITY

<b>Conditions to be avoided :</b>	Pressurized container : protect from sunlight and do not expose to temperatures exceeding 50°C.
<b>Materials to be avoided :</b>	Strong oxidising agent
<b>Hazardous decomposition compounds :</b>	CO,CO2

## 11. TOXICOLOGICAL INFORMATION

<b>Inhalation :</b>	Excessive inhalation of solvent vapours may give rise to nausea, headaches and dizziness
<b>Ingestion :</b>	Ingestion is unlikely to occur After vomiting of swallowed product aspiration into lungs is likely. Solvents may induce chemical pneumonia.
<b>Skin contact :</b>	Prolonged skin contact will result in defatting of the skin, leading to irritation, and in some cases, dermatitis Repeated exposure may cause skin dryness or cracking.
<b>Eye contact :</b>	May cause irritation.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity :</b>	Do not allow to enter public sewers and watercourses
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## 13. WASTE DISPOSAL

<b>Product :</b>	Do not empty into drains. Disposal should be in accordance with local, state or national legislation
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## 14. TRANSPORT

<b>UN-number :</b>	1950
<b>Road/Rail - ADR/RID :</b>	UN1950 Aerosols Class : 2, PG : NA, Class code : 5F, Label : 2.1, Tunnel-code : (D)
<b>Sea - IMDG :</b>	UN1950 Aerosols Class : 2, PG : NA, Label : 2.1
<b>EmS</b>	F-D, S-U
<b>Air - IATA/ICAO :</b>	UN1950 Aerosols, flammable Class : 2, PG : NA, Label : 2.1



## 15. REGULATORY INFORMATION

<b>Warning symbol(s) :</b>	F : FLAMMABLE
<b>Risk-phrase(s) :</b>	R66: Repeated exposure may cause skin dryness or cracking.
<b>Safety-phrase(s) :</b>	S2: Keep out of the reach of children. S16: Keep away from sources of ignition - No smoking. S23: Do not breathe vapours/spray. S51: Use only in well-ventilated areas.

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

Classified according to Dir. 2008/47/EC amendment of the aerosol dispenser directive 75/324/EEC.

Classification according to EU-directive 99/45/EC

Remark: Preparations classified as harmful on the basis of an aspiration hazard need not be labelled as harmful with R65 when placed on the market in aerosol containers or in containers fitted with a sealed spray attachment. (EU-Directive 67/548 Annex VI 9.4)

## 16. OTHER INFORMATION

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It does not guarantee any specific properties.

Apart from any fair dealing for purposes of study, research and review of health, safety and environmental risks, no part of these documents may be reproduced by any process without written permission from CRC.

**REVISIONS IN CHAPTRE :** 2,7,8,11,15

**\*Explanation risk-phrases:**  
R36: Irritating to eyes.  
R65: Harmful: may cause lung damage if swallowed.  
R66: Repeated exposure may cause skin dryness or cracking.

This Material Safety Data Sheet may already have been revised at this moment for reason such as legislation, availability of components and newly acquired experiences. The latest and only valid version of this Material Safety Data Sheet will be sent to you upon simple request or can be found on our website : [www.crcind.com](http://www.crcind.com). We recommend you to register on this website for this product so you will be able to receive any future updated version automatically.

# Material Safety Data Sheet



Acrylic crack filler for asphalt

1L 017-9814 (142-711)

## 1. Product and company identification

**Product name** : Acrylic crack filler for asphalt  
**Material uses** : Used to repair cracks 1 cm wide or less.  
**Supplier/Manufacturer** : Techniseal  
300, avenue Liberté  
Candiac, QC, Canada, J5R 6X1  
Tel: (514) 523-2110  
Toll free: 1-800-465-7325  
Fax: (450) 633-3035  
**Validation date** : 4/10/2013.  
**Prepared by** : Atrion International Inc.  
**In case of emergency** : CANUTEC (613) 996-6666

## 2. Hazards identification

**Physical state** : Liquid.  
**Color** : Brown.  
**Odor** : Asphalt. [Slight]

### Emergency overview

**Hazard statements** :  CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.  
**Precautions** :  No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.  
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
**Routes of entry** : ermal contact. Eye contact. Ingestion.

### Potential acute health effects

**Inhalation** :  No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.  
**Skin** :  No known significant effects or critical hazards.  
**Eyes** :  No known significant effects or critical hazards.

### Potential chronic health effects

**Chronic effects** :  Contains material that may cause target organ damage, based on animal data.  
**Carcinogenicity** : No known significant effects or critical hazards.

## Acrylic crack filler for asphalt

- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** :  Contains material which may cause damage to the following organs: kidneys, lungs, upper respiratory tract, eyes, testes.

### Over-exposure signs/symptoms

- Inhalation** :  No specific data.
- Ingestion** : No specific data.
- Skin** :  No specific data.
- Eyes** :  No specific data.
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

## 3. Composition/information on ingredients

### United States

Name	CAS number	%
<input checked="" type="checkbox"/> Crystalline silica non-respirable	14808-60-7	30-60

### Canada

Name	CAS number	%
<input checked="" type="checkbox"/> Crystalline silica non-respirable	14808-60-7	30-60

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## 4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5. Fire-fighting measures

**Flammability of the product** : May be combustible at high temperature.

### Extinguishing media

**Suitable** : Use water spray, dry chemical powder or carbon dioxide for extinction.

**Not suitable** : None known.

**Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods for cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Acrylic crack filler for asphalt**

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Storage temperature: >60°C.

**8. Exposure controls/personal protection**

**United States**

Ingredient	Exposure limits
Crystalline silica non-respirable	<p><b>OSHA PEL Z3 (United States, 9/2005).</b>                      TWA: 250 MPPCF / (%SiO<sub>2</sub>+5) 8 hours. Form: Respirable                      TWA: 10 MG/M<sup>3</sup> / (%SiO<sub>2</sub>+2) 8 hours. Form: Respirable                      TWA: 30 MG/M<sup>3</sup> / (%SiO<sub>2</sub>+2) 8 hours. Form: Total dust.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b>                      TWA: 0.1 mg/m<sup>3</sup>, (as quartz) 8 hours. Form: Respirable dust</p> <p><b>ACGIH TLV (United States, 3/2012).</b>                      TWA: 0.025 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction</p> <p><b>NIOSH REL (United States, 6/2009).</b>                      TWA: 0.05 mg/m<sup>3</sup> 10 hours. Form: respirable dust</p>

**Canada**

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
Crystalline silica non-respirable	US ACGIH 3/2012	-	0.025	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	0.025	-	-	-	-	-	-	-	[b]
	BC 4/2012	-	0.025	-	-	-	-	-	-	-	[c]
	ON 7/2010	-	0.1	-	-	-	-	-	-	-	[d]
	QC 9/2011	-	0.1	-	-	-	-	-	-	-	[e]

**Form:** [a]Respirable fraction [b]Respirable particulate [c]Respirable [d]Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency. [e]Respirable dust.

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

## Acrylic crack filler for asphalt

- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): natural rubber (latex)
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: Safety glasses.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  
Recommended: overall
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Closed cup: >100°C (>212°F) [Pensky-Martens.]
- Auto-ignition temperature** : Not available.
- Flammable limits** : Not available.
- Color** : Brown.
- Odor** : Asphalt. [Slight]
- pH** : 7.5
- Boiling/condensation point** : 100°C (212°F)
- Melting/freezing point** : -1°C (30.2°F)
- Relative density** : 1.58 g/L
- Density** : 1.58 g/cm<sup>3</sup>
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Volatility** : 32% (water)
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- Viscosity** : Dynamic (room temperature): 1600 mPa·s (1600 cP)
- Solubility** : Miscible in water.
- LogK<sub>ow</sub>** : Not available.

## 10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials and alkalis. halogenated compounds
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Under normal conditions of storage and use, hazardous polymerization will not occur.

## 11. Toxicological information

### Acute toxicity

Not available.

- Conclusion/Summary** : The respirable fraction of crystalline silica is less than 1%. This product is not classified according to EU legislation.

### Chronic toxicity

Not available.

### Irritation/Corrosion

Not available.

### Sensitizer

Not available.

### Carcinogenicity

- Conclusion/Summary** : The respirable fraction of crystalline silica is less than 1%. Not classifiable as a human carcinogen.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
crystalline silica respirable	A2	1	-	+	Known to be a human carcinogen.	-

### Mutagenicity

Not available.

### Teratogenicity

Not available.

### Reproductive toxicity

Not available.

## 12. Ecological information

**Ecotoxicity** :  No known significant effects or critical hazards.

**Aquatic ecotoxicity**

Not available.

**Persistence/degradability**

Not available.

## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

## 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
<b>DOT Classification</b>	Not regulated.	-	-	-		-
<b>TDG Classification</b>	Not regulated.	-	-	-		-
<b>IMDG Class</b>	Not regulated.	-	-	-		-
<b>IATA-DGR Class</b>	Not regulated.	-	-	-		-

PG\* : Packing group



## 15. Regulatory information

### United States

- HCS Classification** :  Target organ effects
- U.S. Federal regulations** : **TSCA 8(a) PAIR**: Poly(oxy-1,2-ethanediyl),  $\alpha$ -[(1,1,3,3-tetramethylbutyl)phenyl]- $\omega$ -hydroxy-  
**TSCA 8(a) CDR Exempt/Partial exemption**: Not determined  
**United States inventory (TSCA 8b)**: Not determined.  
 **SARA 302/304**: No products were found.  
**SARA 311/312 Hazards identification**: Delayed (chronic) health hazard  
**Clean Air Act (CAA) 112 accidental release prevention**: No products were found.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 313

**Form R - Reporting requirements** : Not applicable.

**Supplier notification** : Not applicable.

### State regulations

**Massachusetts** :  The following components are listed: SILICA, CRYSTALLINE, QUARTZ

**New York** : None of the components are listed.

**New Jersey** :  The following components are listed: SILICA, QUARTZ; QUARTZ (SiO<sub>2</sub>)

**Pennsylvania** :  The following components are listed: QUARTZ (SiO<sub>2</sub>)

### California Prop. 65

**WARNING**: This product contains a chemical known to the State of California to cause cancer.

### Canada

**WHMIS (Canada)** :  Not controlled under WHMIS (Canada).

### Canadian lists

**Canadian NPRI** : None of the components are listed.

**CEPA Toxic substances** : None of the components are listed.

**Canada inventory** : All components are listed or exempted.


**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

### International regulations

## Acrylic crack filler for asphalt

International lists	: Australia inventory (AICS): Not determined. China inventory (IECSC): Not determined. Japan inventory: Not determined. Korea inventory: Not determined. Malaysia Inventory (EHS Register): Not determined. New Zealand Inventory of Chemicals (NZIoC): Not determined. Philippines inventory (PICCS): Not determined. Taiwan inventory (CSNN): Not determined.
Chemical Weapons Convention List Schedule I Chemicals	: Not listed
Chemical Weapons Convention List Schedule II Chemicals	: Not listed
Chemical Weapons Convention List Schedule III Chemicals	: Not listed

## 16. Other information

Label requirements :  CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

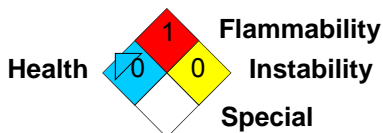
Hazardous Material  
Information System (U.S.A.) :

Health	*	0
Flammability		1
Physical hazards		0
Personal protective equipment		B

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection  
Association (U.S.A.) :



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

**Acrylic crack filler for asphalt**

Date of issue : 4/10/2013.

Date of previous issue : 2/15/2009.

Version : 2

Indicates information that has changed from previously issued version.

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**KANO LABORATORIES, INC.  
SAFETY DATA SHEET**

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** AEROKROIL

**Product Use:** Penetrant/Lubricant for Industrial Use

**Manufacturer:** Kano Laboratories, Inc.  
1000 E. Thompson Lane  
Nashville, TN 37211

**Emergency Phone Number:** Chemtrec 1 (800) 424-9300

**Manufacturer Phone Number:** 615-833-4101

**Website:** www.kanolaboratories.com

**SDS Date of Preparation:** October 5th, 2016

**SECTION 2: HAZARDS IDENTIFICATION**

**GHS / HAZCOM 2012 Classification:**

<b>Health</b>	<b>Physical</b>
Skin Irritation Category 2 Eye Irritation Category 2A Specific Target Organ Toxicity – Single Exposure Category 3 (Respiratory Irritation, CNS) Aspiration Hazard Category 1	Flammable Aerosol Category 2 Gas Under Pressure: Compressed Gas

Label Elements

**Danger!**



Flammable aerosol.

Contains gas under pressure; may explode if heated.

Causes skin irritation.

Causes serious eye irritation.

May be fatal if swallowed and enters airways.

May cause respiratory irritation.

May cause drowsiness or dizziness.

Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

Do not spray on an open flame or other ignition source.

Pressurized container. Do not pierce or burn, even after use.

Avoid breathing mist, vapors or spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, eye protection and face protection.

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

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical attention.

Take off contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

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

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

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

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

Store in a well-ventilated place.

Store locked up.

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

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS#	%
Severely Hydrotreated Petroleum Distillates	64742-52-5	30-50
Light Petroleum Distillates	64742-95-6 64742-88-7 64742-47-8 64742-96-7	30-50
Proprietary Ingredients	Proprietary	1-10
Dipropylene Glycol Monopropyl Ether	29911-27-1	1-5
Diisobutyl Ketone	108-83-8	0-15
Dipropylene Glycol Methyl Ether	88917-22-0	0-5
Aliphatic Alcohol #1	123-42-2	<3
Aliphatic Alcohol #2	78-83-1	<3
Carbon Dioxide Propellant	124-38-9	1-15

**The specific identity and/or exact percentage has been withheld as a trade secret.**

**SECTION 4: FIRST AID MEASURES**

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

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

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

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

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

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

**SECTION 5: FIRE FIGHTING MEASURES**

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

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

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

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

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal precautions, Protective equipment, and Emergency procedures:** Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed.

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

**Methods and Materials for Containment and Cleaning up:** Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Ventilate area. Cover with an inert absorbent material and collect into an appropriate container for disposal.

**SECTION 7: HANDLING AND STORAGE**

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

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

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

Chemical Name	Exposure Limits
Severely Hydrotreated Petroleum Distillates	5 mg/m <sup>3</sup> TWA OSHA PEL 5 mg/m <sup>3</sup> TWA ACGIH TLV(inhalable fraction)
Light Petroleum Distillates	500 ppm TWA OSHA PEL (As stoddard solvent) 200 ppm TWA ACGIH TLV (as kerosene)
Dipropylene Glycol Monopropyl Ether	None Established
Proprietary Ingredients	None Established
Diisobutyl Ketone	25 ppm TWA OSHA PEL 50 ppm TWA ACGIH TLV
Dipropylene Glycol Methyl Ether	None Established
Aliphatic Alcohol #1	50 ppm OSHA TWA PEL- 50 ppm TWA ACGIH TLV
Aliphatic Alcohol #2	100 ppm TWA OSHA PEL 50 ppm TWA ACGIH TLV
Carbon Dioxide Propellant	5000 ppm OSHA PEL-TWA 5000 ppm ACGIH TLV-TWA 30000 ppm ACGIH TLV-STEL

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

**Personal Protective Equipment:**

**Respiratory Protection:** If the exposure limits listed above are exceeded, a NIOSH approved respirator with organic vapor cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

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

**Eye Protection:** Chemical safety goggles recommended.

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

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

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** None known.

**Chemical Stability:** Stable under normal conditions of storage or use.

**Possibility of Hazardous Reactions:** None known.

**Conditions to avoid:** Avoid heat, sparks, flames and all other sources of ignition.

**Incompatible Materials:** Avoid strong oxidizing agents, reducing agents, acids and bases.

**Hazardous decomposition products:** Combustion will produce oxides of carbon, acetone, acrid fumes and smoke.

### SECTION 11: TOXICOLOGICAL INFORMATION

**Potential Health Effects:**

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

**Skin:** May cause irritation with redness, rash, swelling. Prolonged or repeated contact may result in defatting and dermatitis.

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

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

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

**Chronic Hazards:** Prolonged or repeated exposure may cause effects on the central nervous system, kidney and liver.

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

**Acute toxicity:** Toxicological testing has not been performed on this product as a mixture.

Severely Hydrotreated Petroleum Distillates: Oral rat LD50 > 5000 mg/kg; Dermal rat LD50 > 5000 mg/kg  
Inhalation rat LC50 > 2.18 mg/L/4 hr.

Light Petroleum Distillates: Oral rat LD50 >5000 mg/kg, Inhalation rat LC50 >5.28 mg/L/4 hr, Dermal rabbit LD50 >2000 mg/kg

Proprietary Ingredients: Oral rat LD50 2760 mg/kg; Dermal rabbit LD50 >2000 mg/kg

Dipropylene Glycol Monopropyl Ether: Oral rat LD50 >2000 mg/kg Dermal rabbit LD50 >2000 mg/kg.

Diisobutyl Ketone: Oral rat LD50 5233 mg/kg; Dermal rat LD50 > 2000 mg/kg; Inhalation rat LC50 14.5 mg/L/4 hr.

Dipropylene Glycol Methyl Ether: Oral rat LD50 >5000 mg/kg, Dermal rat LD50 >2000 mg/kg, Inhalation rat LD50 >5.7 mg/L/4 hr

Aliphatic Alcohol #1: Oral rat LD50 3002 mg/kg; Dermal rat LD50 > 1875 mg/kg; Inhalation rat LC50 > 7.6 mg/L/4 hr.

Aliphatic Alcohol #2: Oral rat LD50 > 2830 mg/kg; Inhalation rat LC50 24.6 mg/L/4 hr.; Dermal rabbit LD50 > 2000 mg/kg

Carbon Dioxide: Inhalation rat LC50 167857 ppm/4 hr

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** No toxicity data available for the product.

Severely Hydrotreated Petroleum Distillates: 96 hr. LC50 Pimephales promelas > 100 mg/L; 48 hr. EC50 daphnia magna >1000 mg/L; 72 hr. EC50 Pseudokirchnerella subcapitata > 100 mg/L

Light Petroleum Distillates: 96 hr LL50 Oncorhynchus mykiss 2.5 mg/kg, 48 hr EL50 daphnia magna 1.4 mg/L, 72 hr EL50 Pseudokirchnerella subcapitata 1.3 mg/L

Proprietary Ingredients: 96 hr. LC50 Oncorhynchus mykiss 18350 ug/L

Dipropylene Glycol Monopropyl Ether: 96 hr LC50 Oncorhynchus mykiss >100 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 96 hr EC50 Pseudokirchnerella subcapitata >1000 mg/L

Diisobutyl Ketone: 96 hr. LC50 Oncorhynchus mykiss 30 mg/L; 48 hr. EC50 daphnia magna 37.2 mg/L, 72 hr. EC50 Pseudokirchnerella subcapitata 46.9 mg/L

Dipropylene Glycol Methyl Ether: 96 hr LC50 Oncorhynchus mykiss 110.2 mg/L, 48 hr LC50 daphnia magna 2701 mg/L, 72 hr EC50 Pseudokirchnerella subcapitata >1000 mg/L

Aliphatic Alcohol #1: 96 hr. LC50 Oryzias latipes >100 mg/L; 48 hr. EC50 daphnia magna >1000 mg/L; 72 hr. EC50 Pseudokirchnerella subcapitata >1000 mg/L

96 hr LC50 Pimephales promelas 1430 mg/L; 48 hr EC50 daphnia pulex 1100 mg/L; 72 hr EC50 Pseudokirchnerella subcapitata 1799 mg/L

Carbon Dioxide: 96 hr LC50 Oncorhynchus mykiss 35 mg/L

**Persistence and Degradability:** Aliphatic alcohol #1 and aliphatic alcohol #2 are readily biodegradable. . Light petroleum distillates is not readily biodegradable. Severely hydrotreated petroleum distillates is inherently biodegradable based on structurally similar chemicals.

**Bioaccumulative Potential:** Aliphatic alcohol #1 has a calculated BCF of 0.5. Diisobutyl Ketone has a calculated BCF of 7. Aliphatic alcohol #2 has a calculated BCF of 3.

**Mobility in Soil:** Aliphatic alcohol #1, aliphatic alcohol #2 and diisobutyl ketone have a high to very high mobility in soil.

**Other Adverse Effects:** None known



**SECTION 13: DISPOSAL INFORMATION**

**Disposal instructions:** Dispose of product in accordance with all local, state/provincial and federal regulations.

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

**SECTION 14: TRANSPORT INFORMATION**

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
<b>DOT Ground</b>		Consumer Commodity ORM-D or Limited Quantity			
<b>DOT / 49 CFR</b>	UN1950	Aerosols, Flammable, Limited Quantity	2.1	None	None
<b>IMDG</b>	UN1950	Aerosols, Limited Quantity	2.1	None	None
<b>IATA</b>	UN1950	Aerosols, Flammable, Limited Quantity	2.1	None	None

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

**Special precautions:** None known.

**SECTION 15: REGULATORY INFORMATION**

**U.S. FEDERAL REGULATIONS:**

**CERCLA 103 Reportable Quantity:** This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

**SARA TITLE III:**

**Hazard Category for Section 311/312:** Acute Health, Fire Hazard, Sudden Release of Pressure

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

**Section 302 Extremely Hazardous Substances (TPQ):** None

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

**SECTION 16: OTHER INFORMATION**

**HMIS Ratings:** Health - 2                      Flammability - 4                      Physical Hazard - 0  
**NFPA Ratings:** Health - 1                      Flammability - 2                      Instability - 0

**SDS Revision History:** Section 3 Composition, Section 8 Exposure Limits, Section 11 Acute Toxicity, Section 12 Ecotoxicity

**Date of preparation:** October 5th, 2016

**Date of last revision:** April 15th, 2016

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

**MATERIAL SAFETY DATA SHEET**

10/12/06

CARROLL COMPANY  
EMERGENCY TELEPHONES

2900 West Kingsley Road  
Infotrac 24 Hours

Garland, TX 75041  
1-800-535-5053

1-972-278-1304  
1-800-527-5722

**SECTION 1 - PRODUCT**  
NAME: Aerosol 700 Special Dust Mop Treatment  
Product Code: 823  
Product Type: Dust Mop Treatment  
NFPA Rank: Level 3

Health	Flammability	Reactivity	PPE
1	1	0	2
Health Haz	Fire Haz	Reactivity	Personal Protection
0= minimal	0= will not burn	0= none	0= not necessary
1= slightly haz	1= FP>141F	1= mild	1= goggles
2= hazardous	2= FP=>73F=<141F	2= strong	2= goggles, gloves
3= serious haz	3= FP<73F		3= goggles, gloves, protective clothes
4= severe haz	4= BP<95F FP by PMCC		4= goggles, gloves & respirator
* DGIS			

**SECTION 2 - HAZARDOUS INGREDIENTS**  
Hydrotreated Middle  
Distillates (Petroleum) CAS #64742-46-7 Wt%=88  
Isobutane/Propane CAS #75-28-5/74-98-6 Wt%=12

**SECTION 3 - HEALTH HAZARD & FIRST AID**  
1. Acute Health Effect None  
2. Chronic Health Effect None  
3. Carcinogen NO  
4. Primary Entry Routes:  
a) Skin & Eyes: Contact with the skin may cause mild irritation. Contact with the eyes may result in some irritation.  
b) Inhalation: Inhalation of mist may be irritating.  
c) Ingestion: Not an entry route.  
5. First Aid:  
a) Skin: Wash effected area with soap and water. If irritation persists seek medical attention.  
b) Eyes: Wash eyes with large volumes of water for at least 15 minutes while lifting the upper and lower eyelids and rotating the eyeball. Get immediate medical attention.  
c) Inhalation: Move to fresh air. If irritation persists get medical attention.

**SECTION 4 - PHYSICAL & CHEMICAL CHARACTERISTICS**  
1. Physical State Pressurized Liquid  
2. Color Clear  
3. Odor Banana  
4. Solubility in water Insoluble  
5. Specific Gravity (H2O=1.0) 0.804 (Liquid Concentrate)  
6. pH N/A  
7. Freezing Point N/A  
8. Flash Point >250 FPMCC (Liquid Concentrate)  
9. Vapor Pressure N/A

**SECTION 5 - FIRE AND EXPLOSION HAZARD**  
1. Flash Point >250 FPMCC (Liquid Concentrate)  
2. Extinguishing Media Dry Chemical, CO2, Foam  
3. Special Fire Fighting Procedures Aerosol cans may rupture in severe heat.  
4. Unusual Fire & Explosion Hazard Fire fighters should observe all precautions that apply to any fire where chemicals are stored.

**SECTION 6 - REACTIVITY DATA**  
1. Stability Stable  
2. Conditions to Avoid Heat sources

**SECTION 7 - SPILL OR LEAK PROCEDURES**  
1. Wear recommended Personal Protection Equipment.  
2. If product leaks soak-up with dry absorbent and place in hazardous waste container for disposal. Follow label directions-dispose of can in the recommended manner.  
3. Abide by Federal, State, and Local regulations.

**SECTION 8 - PERSONAL PROTECTION**  
1. Use this product in a well ventilated area.  
2. Wear goggles.  
3. Wear rubber gloves.

**SECTION 9 - SPECIAL PRECAUTIONS**  
1. Store containers in an upright position, in a cool dry place, away from heat sources.  
2. Do not destroy or deface the label.

**SECTION 10 - SECTION 313 SUPPLIER NOTIFICATION (SARA)**  
This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:  
None

**SECTION 11 - TOXICOLOGICAL INFORMATION**  
None

**SECTION 12 - ECOLOGICAL INFORMATION**  
None

**SECTION 13 - DISPOSAL CONSIDERATIONS**  
1. See Section 7 above.

**SECTION 14 - DOT TRANSPORT INFORMATION**  
1. This product is in Package Group II  
2. Aerosols 26 fl oz and smaller are classed as CONSUMER COMMODITY ORM-D thus are exempt from regulation.  
3. The Bill of Lading  
Proper Shipping Name Class ID PG Hazardous Material  
N/A

**SECTION 15 - OTHER REGULATORY INFORMATION**  
All ingredients appear on the TSCA Inventory List.

**SECTION 16 - OTHER INFORMATION**  
\* Revisions on 3/10/06 in Sections 2 and 4.  
1. N/A = Not Applicable  
2. \*Dangerous Goods Identification System (DGIS)  
3. PMCC = Pensky Martin Closed Cup  
4. Manufacturer believes that the information given here is accurate. The suggested procedures are based on experience and common sense and are not necessarily all-inclusive of every conceivable circumstance.

ITEM: 1CH06 - CLEANER POWDERED 21 OZ PK 24

PICK REQ: 1012170970

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: A7177

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - A7177  
 Associated Grainger Item: 1CH06 - CLEANER POWDERED 21 OZ PK 24  
 CP  
 COLGATE-PALMOLIVE COMPANY  
 MATERIAL SAFETY DATA SHEET  
 THIS INDUSTRIAL MATERIAL SAFETY DATA SHEET IS NOT INTENDED FOR CONSUMERS AND DOES NOT ADDRESS CONSUMER USE OF THE PRODUCT. FOR INFORMATION REGARDING CONSUMER APPLICATIONS OF THIS PRODUCT, REFER TO THE PRODUCT LABEL.  
 AJAX OXYGEN BLEACH CLEANSER  
 EFFECTIVE DATE: AUGUST 6, 2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COLGATE-PALMOLIVE COMPANY  
 COMMERCIAL CUSTOMER GROUP  
 191 EAST HANOVER AVENUE  
 MERRISTOWN, NJ 07960-3151  
 EMERGENCY TELEPHONE NUMBER:  
 FOR EMERGENCY INVOLVING SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL  
 CHEMTREC: (800) 424-9300, DAY OR NIGHT  
 FOR MEDICAL EMERGENCIES INVOLVING THIS PRODUCT CALL: (888) 489-3861  
 PRODUCT NAME: AJAX OXYGEN BLEACH CLEANSER  
 CAS NUMBER: NOT APPLICABLE - PRODUCT IS A MIXTURE  
 GENERAL USE: A FORMULATED CLEANSER FOR INDUSTRIAL AND INSTITUTIONAL USE.

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA-REGULATED COMPONENTS (PRESENT AT A CONCENTRATION OF > OR = 1%):

COMPONENT	CAS#	%	PEL	TLV
CALCIUM CARBONATE	1317-65-3	90-95	5 MG/MB	10 MG/MB

THE FOLLOWING COMPONENTS, PRESENT AT A CONCENTRATION OF > OR = 0.1%, ARE LISTED AS CARCINOGENS OR POTENTIAL CARCINOGENS BY EITHER THE NATIONAL TOXICOLOGY PROGRAM (NTP), THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) OR OSHA:

COMPONENT	CAS#	%	PEL	TLV
CRYSTALLINE SILICA	14808-60-7	0.7	NE	0.05 MG/MB

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:  
 EYE CONTACT: MAY CAUSE EYE IRRITATION ON DIRECT CONTACT.  
 SKIN CONTACT: MAY CAUSE SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT.  
 INGESTION: MAY BE HARMFUL IF SWALLOWED IN LARGE QUANTITIES.  
 INHALATION: OVEREXPOSURE TO DUST MAY CAUSE RESPIRATORY IRRITATION.  
 CHRONIC:  
 THIS PRODUCT CONTAINS A SMALL AMOUNT OF CRYSTALLINE SILICA, A NATURALLY OCCURRING IMPURITY IN CALCIUM CARBONATE. NTP HAS LISTED CRYSTALLINE SILICA AS AN KNOWN HUMAN CARCINOGEN BASED ON INCREASED LUNG CANCER RATES IN WORKERS EXPOSED TO RESPIRABLE-SIZE (BREATHABLE) CRYSTALLINE SILICA, PRIMARILY QUARTZ AND CRYSTALLITE, THAT ARE GENERATED DURING SANDBLASTING OR SIMILAR ACTIVITIES IN AN OCCUPATIONAL SETTING. IARC HAS DETERMINED THAT CRYSTALLINE SILICA INHALED IN THE FORM OF QUARTZ OR CRYSTALLITE FROM OCCUPATIONAL SOURCES IS CARCINOGENIC TO HUMANS. HOWEVER, UNDER NORMAL CONDITIONS OF PRODUCT USE, NO SIGNIFICANT HEALTH RISK TO HUMANS IS EXPECTED.

4. FIRST AID MEASURES

EYE CONTACT:  
 FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.  
 SKIN CONTACT:  
 RINSE AREA WITH PLENTY OF WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.  
 INGESTION: DRINK 1-2 GLASSES OF WATER. GET MEDICAL ATTENTION.  
 INHALATION:  
 REMOVE VICTIM TO FRESH AIR. GET MEDICAL ATTENTION IF SYMPTOMS PERSIST.

5. FIRE FIGHTING MEASURES

FLASH POINT (METHOD): NOT APPLICABLE  
 EXTINGUISHING MEDIA: WATER SPRAY, ALL-PURPOSE DRY CHEMICAL.  
 SPECIAL FIRE FIGHTING PROCEDURES:  
 SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING SHOULD BE WORN WHEN FIGHTING CHEMICAL FIRES.

6. ACCIDENTAL RELEASE MEASURES

COLLECT AND REMOVE TO DISPOSAL CONTAINER WITHOUT CREATING A DUST CONDITION. SPILL AREA MAY BE SLIPPERY. FLUSH WITH PLENTY OF WATER.

7. HANDLING AND STORAGE

STORE IN A TIGHTLY CLOSED CONTAINER IN A COOL, DRY AREA. KEEP CONTAINER CLOSED TO AVOID ABSORPTION OF MOISTURE FROM AIR AND POSSIBLE LOSS OF BLEACHING FUNCTION.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONTROLS: AVOID EYE CONTACT. AVOID INHALATION OF DUST.  
 PROTECTIVE CLOTHING:  
 THE USE OF SAFETY GOGGLES AND PROTECTIVE GLOVES IS RECOMMENDED.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: FINE, WHITE HEAVY POWDER, FAINT SOAPY ODOR

10. STABILITY AND REACTIVITY

GENERAL: THIS PRODUCT IS STABLE.  
 HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.  
 INCOMPATIBLE MATERIALS: NONE KNOWN  
 HAZARDOUS DECOMPOSITION: NONE KNOWN

11. TOXICOLOGICAL INFORMATION

THIS PRODUCT HAS NOT BEEN TESTED AS A WHOLE. HOWEVER, THIS FORMULA WAS REVIEWED BY EXPERT TOXICOLOGISTS IN THE PRODUCT SAFETY ASSURANCE DEPARTMENT OF COLGATE-PALMOLIVE AND IS DETERMINED TO BE SAFE FOR ITS INTENDED USE. THIS REVIEW HAS TAKEN INTO CONSIDERATION AVAILABLE SAFETY-RELATED INFORMATION INCLUDING INFORMATION ON INDIVIDUAL INGREDIENTS, SIMILAR INGREDIENTS, SIMILAR FORMULAS AND POTENTIAL INGREDIENT INTERACTIONS. THIS REVIEW IS A COMPONENT OF THE HAZARD DETERMINATION USED TO PREPARE THE STATEMENTS IN SECTION 3 OF THE MSDS.

12. ECOLOGICAL INFORMATION

NOT AVAILABLE

13. DISPOSAL CONSIDERATIONS

ANY DISPOSAL PRACTICE MUST BE IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS (CONTACT LOCAL OR STATE ENVIRONMENTAL AGENCY FOR SPECIFIC RULES). DO NOT DUMP INTO SEWERS, ANY BODY OF WATER OR ONTO THE GROUND.

14. TRANSPORTATION

NOT REGULATED AS A DOT HAZARDOUS MATERIAL.

15. REGULATORY INFORMATION

RCRA (40 CFR 261, SUBPART D): NOT APPLICABLE  
 CLEAN WATER ACT: NOT APPLICABLE  
 CLEAN AIR ACT: NOT APPLICABLE  
 SARA:  
 SECTIONS 301-304 (THRESHOLD PLANNING QUANTITY - TPQ) 40 CFR 355:  
 NO TPQ FOR ANY COMPONENT.  
 NOT APPLICABLE  
 SECTION 313 (TOXIC CHEMICAL RELEASE REPORTING) 40 CFR 372:  
 THE FOLLOWING CHEMICALS MUST BE REPORTED UNDER SARA 313: NOT APPLICABLE  
 CERCLA:  
 SECTION 102 (REPORTABLE QUANTITY - RQ) 40 CFR 302: NOT APPLICABLE  
 NEW JERSEY RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST:  
 THIS PRODUCT CONTAINS THE FOLLOWING COMPONENTS SUBJECT TO REPORTING REQUIREMENTS: CALCIUM OXIDE, CRYSTALLINE SILICA  
 PENNSYLVANIA HAZARDOUS SUBSTANCE LIST:  
 THIS PRODUCT CONTAINS THE FOLLOWING COMPONENTS SUBJECT TO REPORTING REQUIREMENTS: CALCIUM CARBONATE  
 MASSACHUSETTS SUBSTANCE LIST:  
 THIS PRODUCT CONTAINS THE FOLLOWING COMPONENTS SUBJECT TO REPORTING REQUIREMENTS: CALCIUM OXIDE, CRYSTALLINE SILICA  
 CANADA:  
 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)-LISTED MATERIAL.  
 THIS PRODUCT CONTAINS THE FOLLOWING COMPONENTS SUBJECT TO REPORTING REQUIREMENTS: SODIUM CARBONATE  
 TSCA SECTION 8(B) INVENTORY STATUS:  
 ALL INGREDIENTS IN THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY OR ARE NOT REQUIRED TO BE LISTED ON THE TSCA INVENTORY.

16. OTHER INFORMATION

EFFECTIVE DATE: AUGUST 6, 2004  
 SUPERSEDES MSDS DATED: DECEMBER 3, 2002  
 MSDS STATUS: REVISED SECTIONS 1, 3, 48  
 THE INFORMATION ON THIS SHEET IS LIMITED TO THE MATERIAL IDENTIFIED AND IS

BELIEVED BY THE COLGATE-PALMOLIVE COMPANY TO BE CORRECT BASED ON ITS KNOWLEDGE AND INFORMATION AS OF THE DATE NOTED. COLGATE MAKES NO REPRESENTATION, GUARANTEE OR WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ACCURACY, RELIABILITY OR COMPLETENESS OF THE INFORMATION AND ASSUMES NO RESPONSIBILITY FOR INJURY, DAMAGE OR LOSS RESULTING FROM THE USE OF THE MATERIAL.



# SAFETY DATA SHEET

Page: 1(6)  
SDS Number: 44-M  
Date Revised: 05/01/2014

This Safety Data Sheet complies with Regulation (EC) No. 1907/2006, ISO 11014-1 and ANSI Z400.1

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** ALL-STATE GENERAL PURPOSE AND STAINLESS STEEL SOLDERING FLUXES  
 ALL-STATE DUZALL® NCR FLUX P/N: 69080181  
 ALL-STATE DUZALL® FLUX P/Ns: 69080161, 69080162, 69080163, 69080164  
 ALL-STATE NO. 430 ACID FLUX P/Ns: 69080151, 69080224

**Application:** Soldering Flux  
**Classification:** None  
**Supplier:** THE ESAB GROUP, INC., 801 Wilson Avenue, Hanover, PA 17331  
**Telephone No.:** 1-717-637-8911, 1-800-933-7070  
**Emergency No.:** 1-717-637-8911 and 1-800-424-9300 (CHEMTREC)  
**Web site:** [www.esabna.com](http://www.esabna.com)

## 2. HAZARDS IDENTIFICATION

### Emergency Overview:

Duzall NCR Flux: Opaque white to yellowish smooth paste with no odor. Harmful if swallowed.

Duzall Flux: White to pale yellow liquid with no odor. Can cause severe burns to skin, eyes and respiratory tract.

No. 430 Acid Flux: Clear water-white liquid with no odor. Can cause severe burns to skin, eyes and respiratory tract.

Paste harmful if swallowed and can irritate eyes. Liquids can cause severe burns to skin, eyes and respiratory tract. Liquid products contain methyl alcohol which may cause blindness and can be fatal if swallowed.

Gloves should be worn when handling to prevent contaminating hands with product.

Persons with a pacemaker should not go near soldering operations until they have consulted their doctor and obtained information from the manufacturer of the device.

When these products are used in a soldering process, the most important hazards are heat, radiation, electric shock and soldering fumes.

**Heat:** Spatter and melting metal can cause burn injuries and start fires.

**Radiation:** Arc rays can severely damage eyes or skin.

**Electricity:** Electric shock can kill.

**Fumes:** Overexposure to soldering fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic overexposure to soldering fumes may affect pulmonary function. Prolonged inhalation of nickel and chromium compounds above safe exposure limits can cause cancer. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait.

Zinc chloride vapors produce irritation to the throat and lungs

**Flame Processing:** When used with combustible gas equipment (e.g., oxy-acetylene torch), read the use and safety information for that equipment.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

These products are pastes and liquids.

Ingredients	REACH Reg. #	CAS#	EINECS#	Hazard classification <sup>(1)</sup>	IARC <sup>(2)</sup>	NTP <sup>(3)</sup>	OSHA List <sup>(4)</sup>
Ammonium Chloride	--	12125-02-9	235-186-4	Xn; R22 Xi; R36	--	--	--
Boric Acid	--	10043-35-3	233-139-2	Repr. Cat. 2; R60-61	--	--	--
Carbowax	--	25322-68-3	500-038-2	No	--	--	--
Glycerin	--	56-81-5	200-289-5	No	--	--	--
Hydrobromic Acid	--	10035-10-6	233-113-0	C; R35 Xi; R37	--	--	--
Hydrochloric Acid	--	7647-01-0	231-595-7	T; R23 C; R35	--	--	--



Ingredients	REACH Reg. #	CAS#	EINECS#	Hazard classification <sup>(1)</sup>	IARC <sup>(2)</sup>	NTP <sup>(3)</sup>	OSHA List <sup>(4)</sup>
Methyl Alcohol	--	67-56-1	200-659-6	F; R11 T; R23/24/25-39/23/24/25	--	--	--
Monoethanolamine (2-aminoethanol)	--	141-43-5	205-483-3	Xn; R20/21/22 C; R34	--	--	--
Stannous Fluoborate	--	13814-97-6	237-487-6	No	--	--	--
Zinc Chloride	--	7646-85-7	231-592-0	Xn; R22 C; R34 N; R50-53	--	--	--

<sup>(1)</sup> Hazard Classification according to European Council Directive 67/548/EEC, for R-phrases, see Section 16.

<sup>(2)</sup> Evaluation according to the International Agency for Research on Cancer.

1 –Carcinogenic to humans. 2A – Probably carcinogenic to humans. 2B – Possibly carcinogenic to humans.

<sup>(3)</sup> Classification according to the 11th Report on Carcinogens, published by the US National Toxicology Program.  
K – Known Carcinogen S – Suspect Carcinogen

<sup>(4)</sup> Carcinogen listing according to OSHA, Occupational Safety & Health Administration (USA).

**APPROXIMATE COMPOSITION (Wt. %)**

All-State Product Trade Name	Duzall® NCR Flux	Duzall® Flux	No. 430 Acid Flux
Ammonium Chloride	1-5	7-12	3-7
Boric Acid	--	--	0.1-1
Carbowax	30-60	--	--
Glycerin	15-40	1-5	--
Hydrobromic Acid	1-5	--	--
Hydrochloric Acid	1-5	1-3	10-30
Methyl Alcohol	--	1-2	1-5
Monoethanolamine	1-5	--	--
Stannous Fluorborate	--	--	1-5
Zinc Chloride	--	35-40	15-40

**4. FIRST AID MEASURES**

- Inhalation: If breathing has stopped, perform artificial respiration and obtain medical assistance immediately! If breathing is difficult, provide fresh air and call physician. Call a physician for irritation and/or burns.
- Eye contact: Immediately rinse eyes with running water for up to 15 minutes. Get immediate medical assistance.  
For radiation burns due to arc flash, see physician. To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance.
- Skin contact: Rinse skin in running water and get immediate medical assistance for irritation or burns. Launder contaminated clothing before reuse. For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or irritations that persist. To remove dust or particles wash with mild soap and water.
- Ingestion: Call a physician or poison control center immediately. Do not induce vomiting unless directed to do so by a physician.
- Electric shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). Immediately call a physician.
- General: Move to fresh air and call for medical aid.



## 5. FIRE FIGHTING MEASURES

Materials not flammable. Use water, water fog or foam for surrounding fires. Wear self-contained breathing apparatus as fumes or vapors may be harmful.

No specific recommendations for soldering consumables. The soldering process can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning materials and fire situation. Wear self-contained breathing apparatus as fumes or vapors may be harmful.

## 6. ACCIDENTAL RELEASE MEASURES

Solid objects may be picked up and placed into a container. Sweep up dusts and place into container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.

Personal precautions: refer to Section 8.

Environmental precautions: refer to Section 13.

## 7. HANDLING AND STORAGE

Handling:

Avoid contact with skin, eyes and clothing. Do not swallow or breathe vapors produced by use of product. Wash hands after using. Wear gloves when handling to avoid exposure to skin. Do not ingest.

Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.

Storage:

Store in cool, dry, well-ventilated place.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Avoid exposure to soldering fumes, radiation, spatter, electric shock, heated materials and dust.

Engineering measures: (Soldering operations)

Ensure sufficient ventilation, local exhaust, or both, to keep soldering fumes and gases from breathing zone and general area. Keep working place and protective clothing clean and dry. Train welders to avoid contact with live electrical parts and insulate conductive parts. Check condition of protective clothing and equipment on a regular basis.

Personal protective equipment: (Soldering operations)

Use respirator or air supplied respirator when soldering in a confined space, or where local exhaust or ventilation is not sufficient to keep exposure values within safe limits. Use special care when soldering painted or coated steels since hazardous substances from the coating may be emitted. Wear hand, head, eyes, ear and body protection like welders gloves, helmet or face shield with filter lens, safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry.

Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits. The following limits can be used as guidance. For information about soldering flux fume analysis refer to Section 10. When used with soldering products, refer to the soldering product SDS, Section 10, for information on soldering fumes.

Substance	CAS#	ACGIH TLV <sup>(1)</sup> mg/m <sup>3</sup>	OSHA PEL <sup>(2)</sup> mg/m <sup>3</sup>
Ammonium Chloride (fume)	12125-02-9	10, 20 (STEL)	None
Boric Acid (as borates)	10043-35-3	2 <sup>***</sup> , 6 (STEL) <sup>***</sup>	None
Carbowax (Polyethylene Glycol)	25322-68-3	None [10 (mist) AIHA WEEL]	None
Glycerin	56-81-5	10 (mist)	15*, 5**
Hydrobromic Acid	10035-10-6	6.8 (ceiling)	10 (3 ppm)
Hydrochloric Acid	7647-01-0	2.98 (ceiling)	7 (ceiling)
Methanol (Methyl Alcohol)	67-56-1	262 (200 ppm) 328 (250 ppm) STEL	260 (200 ppm)
Monoethanolamine (2-aminoethanol)	141-43-5	7.5 (3 ppm) 15 (6 ppm) (STEL)	6 (3 ppm)
Stannous Fluoborate (as F)	13814-97-6	2.5	2.5
(as Sn)		2	2
Zinc Chloride (fume)	7646-85-7	1, 2 (STEL)	1

<sup>(1)</sup> Threshold Limit Values according to American Conference of Governmental Industrial Hygienists, 2014

<sup>(2)</sup> Permissible Exposure Limits according to the Occupational Safety & Health Administration (USA)

Unless noted, all values are for 8 hour time weighted averages (TWA).

\* Total dust, \*\* Respirable fraction, \*\*\* Inhalable fraction.

**NOTE:** Some of these products may not contain all of the materials listed. For details of composition, refer to the COMPOSITION TABLES in Section 3.





## 9. PHYSICAL AND CHEMICAL PROPERTIES

	Duzall® NCR Flux	Duzall® Flux	No. 430 Acid Flux
Appearance:	Opaque white to yellowish paste	White to pale yellow liquid	Clear, water-white liquid
Specific Gravity:	1.014-1.33	1.414	1.347
Boiling Point:	Not determined.	219°F (103°C)	228°F (108.9°C)
Freezing Point:	Not determined.	Not determined.	Not determined.
Vapor Pressure:	Not determined.	6 mm Hg	9.7 mm Hg
Vapor Density:	Not determined.	0.48	0.48
Evaporation Rate:	<1	<1	<1
Solubility in Water:	Complete.	Appreciable.	Complete.
Flash Point:	None.	None.	None.
Upper/Lower Flame Limit:	None.	None.	None.
Auto-ignition Temperature:	Not determined.	Not determined.	Not determined.

## 10. STABILITY AND REACTIVITY

**General:** These products are only intended for normal soldering purposes.

**Stability:** These products are stable under normal conditions.

**Reactivity:** Contact with chemical substances like strong bases could cause generation of gas.

When these products are used in a soldering process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the materials listed in Section 3 and those from the solder, the base metal and coating.

Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in Section 8 of this SDS and the soldering consumable SDS. A significant amount of the chromium in the fumes can be hexavalent chromium, which has a very low exposure limit in some countries. Manganese and nickel also have low exposure limits, in some countries, that may be easily exceeded.

Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the soldering area can be affected by the soldering process and influence the composition and quantity of fumes and gases produced.

## 11. TOXICOLOGICAL INFORMATION

Inhalation of soldering fumes and gases can be dangerous to your health. Classification of soldering fumes is difficult because of varying base materials, coatings, air contamination and processes. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (Group 2B).

**Acute toxicity:** Products cause severe irritation and/or corrosive burns to skin, eyes and respiratory tract. Considered corrosive and toxic by ingestion.

Overexposure to soldering fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes.

**Chronic toxicity:** Overexposure to soldering fumes may affect pulmonary function. Prolonged inhalation of nickel and chromium compounds above safe exposure limits can cause cancer. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. Chronic exposure to fluorides above safe exposure levels can cause changes in bone density and the teeth (fluorosis).

## 12. ECOLOGICAL INFORMATION

Soldering consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the soldering process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

Contains zinc which may be toxic to aquatic species and is regulated as an environmental hazard in the European Union. This hazard is not anticipated from the handling of soldering consumables, but is relevant if consumables enter natural waterways

## 13. DISPOSAL CONSIDERATIONS

Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal and local regulations. Use recycling procedures if available.

USA RCRA: Unused products or product residue containing Duzall Flux and No. 430 Acid Flux is considered hazardous waste if discarded, RCRA ID characteristic toxic Hazardous Waste D002.

Residues from soldering consumables and processes could degrade and accumulate in soils and groundwater.



## 14. TRANSPORT INFORMATION

**Duzall NCR Flux:** Not regulated for transport.  
**Duzall Flux:** UN1760, Corrosive Liquid, N.O.S. (zinc chloride, hydrochloric acid), 8, PG II.  
**No. 430 Acid Flux:** UN1760, Corrosive Liquid, N.O.S. (zinc chloride, hydrochloric acid), 8, PG II.

## 15. REGULATORY INFORMATION

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when soldering and protect yourself and others.

WARNING: Soldering fumes and gases are hazardous to your health and may damage lungs and other organs. Use adequate ventilation. ELECTRIC SHOCK can kill.

ARC RAYS and SPARKS can injure eyes and burn skin.

Wear correct hand, head, eye and body protection.

**Canada:** WHMIS classification: Class D; Division 2, Subdivision B  
Class E

Canadian Environmental Protection Act (CEPA): All constituents of these products are on the Domestic Substance List (DSL).

**USA:** Under the OSHA Hazard Communication Standard, these products are considered hazardous.

These products contain or produce a chemical known to the state of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code § 25249.5 et seq.)

United States EPA Toxic Substance Control Act: All constituents of these products are on the TSCA inventory list or are excluded from listing.

### CERCLA/SARA Title III

Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs):

Ingredient name	RQ (lb)	TPQ (lb)
Ammonium Chloride	5000	--
Hydrochloric Acid	5000	--
Methyl Alcohol	5000	--
Zinc Chloride	1000	--

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to your Local Emergency Planning Committee.

### Section 311 Hazard Class

As shipped: Immediate delayed In use: Immediate delayed

### EPCRA/SARA Title III 313 Toxic Chemicals

The following metallic components are listed as SARA 313 "Toxic Chemicals" and potential subject to annual SARA 313 reporting. See Section 3 for weight percent.

Ingredient name	Disclosure threshold
Methyl Alcohol	1.0% de minimis concentration
Zinc Chloride (as zinc, fume or dust)	1.0% de minimis concentration

## 16. OTHER INFORMATION

This Safety Data Sheet has been revised due to modifications to Section 8. This SDS supersedes 44-L.

Refer to ESAB "Welding and Cutting - Risks and Measures", F52-529 "Precautions and Safe Practices for Electric Welding and Cutting" and F2035 "Precautions and Safe Practices for Gas Welding, Cutting and Heating" available from ESAB, and to:

USA: Contact ESAB at [www.esabna.com](http://www.esabna.com) or 1-800-ESAB-123 if you have questions about this SDS.

American National Standard Z49.1 "Safety in Welding and Cutting", ANSI/AWS F1.5 "Methods for Sampling and Analyzing Gases from Welding and Allied Processes", ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes", AWSF3.2M/F3.2 "Ventilation Guide for Weld Fume", American Welding Society, 550 North Le Jeune Road, Miami, Florida, 33135. Safety and Health Fact Sheets available from AWS at [www.aws.org](http://www.aws.org).

OSHA Publication 2206 (29 C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

American Conference of Governmental Hygienists (ACGIH), Threshold Limit Values and Biological Exposure Indices, 6500 Glenway Ave., Cincinnati, Ohio 45211, USA.



NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169.

UK: WMA Publication 236 and 237, "Hazards from Welding Fume", "The arc welder at work, some general aspects of health and safety".

Germany: Unfallverhütungsvorschrift BGV D1, "Schweißen, Schneiden und verwandte Verfahren".

Canada: CSA Standard CAN/CSA-W117.2-01 "Safety in Welding, Cutting and Allied Processes".

These products have been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

Explanation of risk phrases mentioned in this SDS:

- R-phrases:
- R11 – Highly flammable.
  - R20/21/22 – Harmful by inhalation, harmful in contact with skin and harmful if swallowed.
  - R22 – Harmful if swallowed.
  - R23 – Toxic by inhalation.
  - R23/24/25 – Toxic by inhalation, in contact with skin and if swallowed.
  - R34 – Causes burns.
  - R35 – Causes severe burns.
  - R36 – Irritating to eyes.
  - R37 – Irritating to respiratory system.
  - R39/23/24/25 – Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
  - R50 – Very toxic to aquatic organisms.
  - R53 – May cause long-term adverse effects in the aquatic environment.
  - R60 – May impair fertility.
  - R61 – May cause harm to the unborn child.

ESAB requests the users of these products to study this Safety Data Sheet (SDS) and become aware of product hazards and safety information. To promote safe use of these products a user should:

- notify its employees, agents and contractors of the information on this SDS and any product hazards/safety information.
- furnish this same information to each of its customers for these products.
- request such customers to notify employees and customers for the same product hazards and safety information.

The information herein is given in good faith and based on technical data that ESAB believes to be reliable. Since the conditions of use are outside our control, we assume no liability in connection with any use of this information and no warranty, expressed or implied is given. Contact ESAB for more information.

# Safety Data Sheet

## ARSENAL POWERLINE HERBICIDE

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### 1. Product and Company Identification

Company  
BASF CORPORATION  
100 Park Avenue  
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information  
CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP (4357)

Substance number: 000000234359  
Molecular formula: C(13) H(15) N(3) O(3). C(3) H(9) N  
Chemical family: imidazole derivative  
Synonyms: Isopropylamine salt of imazapyr

### 2. Hazards Identification

#### Emergency overview

CAUTION:  
May cause moderate but temporary irritation to the eyes.  
Prolonged or repeated skin contact may cause sensitization or allergic reactions.  
HARMFUL IF SWALLOWED.  
KEEP OUT OF REACH OF CHILDREN.  
KEEP OUT OF REACH OF DOMESTIC ANIMALS.  
Avoid contact with the skin, eyes and clothing.  
Avoid inhalation of mists/vapours.

See Product Label for additional precautionary statements.

State of matter: liquid  
Colour: transparent  
Colour: light yellow  
Odour: odourless

#### Potential health effects

##### **Primary routes of exposure:**

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

##### **Acute toxicity:**

Slightly toxic after single ingestion. Relatively nontoxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

##### **Irritation / corrosion:**

May cause slight but temporary irritation to the eyes. May cause slight irritation to the skin.

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### **Sensitization:**

Caused skin sensitization in animal studies.

### **Chronic toxicity:**

**Repeated dose toxicity:** The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organotoxicity was observed after repeated administration to animals.

### **Medical conditions aggravated by overexposure:**

Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

### **Potential environmental effects**

#### **Aquatic toxicity:**

There is a high probability that the product is not acutely harmful to fish. There is a high probability that the product is not acutely harmful to aquatic invertebrates. Acutely harmful for aquatic plants.

#### **Terrestrial toxicity:**

With high probability not acutely harmful to terrestrial organisms.

---

### 3. Composition / Information on Ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
81510-83-0	26.7 %	imazapyr isopropylamine salt
	73.3 %	Proprietary ingredients

---

### 4. First-Aid Measures

#### **General advice:**

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

#### **If inhaled:**

Remove the affected individual into fresh air and keep the person calm.

#### **If on skin:**

Rinse skin immediately with plenty of water for 15 - 20 minutes.

#### **If in eyes:**

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

#### **If swallowed:**

Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

#### **Note to physician**

Antidote: No known specific antidote.  
Treatment: Treat symptomatically.

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### 5. Fire-Fighting Measures

Flash point:	A flash point determination is unnecessary due to the high water content.
Autoignition:	Based on the water content the product does not ignite.
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Flammability:	not highly flammable

**Suitable extinguishing media:**  
foam, dry powder, carbon dioxide, water spray

**Hazards during fire-fighting:**  
carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrocarbons,  
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

**Protective equipment for fire-fighting:**  
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

**Further information:**  
In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### 6. Accidental release measures

**Personal precautions:**  
Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

**Environmental precautions:**  
Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

**Cleanup:**  
Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

### 7. Handling and Storage

#### Handling

**General advice:**  
RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use

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attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

### **Protection against fire and explosion:**

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

### **Storage**

#### **General advice:**

Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

#### **Storage incompatibility:**

General advice: Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

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## 8. Exposure Controls and Personal Protection

**Users of a pesticidal product should refer to the product label for personal protective equipment requirements.**

### **Advice on system design:**

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

### **Personal protective equipment**

#### **RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:**

#### **Respiratory protection:**

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

#### **Hand protection:**

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

#### **Eye protection:**

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

#### **Body protection:**

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

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### General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

## 9. Physical and Chemical Properties

Form:	liquid	
Odour:	odourless	
Colour:	transparent light yellow	
pH value:	approx. 6 - 8	( 25 °C)
Freezing point:	approx. 0 °C	( 1,013.3 hPa) Information applies to the solvent.
Boiling point:	approx. 100 °C	( 1,013.3 hPa) Information applies to the solvent.
Vapour pressure:	approx. 23.3 hPa	( 20 °C) Information applies to the solvent.
Density:	approx. 1.10 g/cm <sup>3</sup>	( 20 °C)
Relative density:	1.10	( 20 °C)
Vapour density:		not determined
Partitioning coefficient n-octanol/water (log Pow):		not applicable
Viscosity, dynamic:	163.2 mPa.s	( 20 °C)
Solubility in water:		miscible
Molar mass:	320.4 g/mol	

## 10. Stability and Reactivity

### Conditions to avoid:

Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid electro-static discharge. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

### Substances to avoid:

oxidizing agents, reducing agents

### Hazardous reactions:

The product is chemically stable.

### Decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

### Thermal decomposition:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrocarbons

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.

### Corrosion to metals:

Corrosive effect on: mild steel brass

### Oxidizing properties:

Not an oxidizer.



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### 11. Toxicological information

#### Acute toxicity

##### Oral:

Type of value: LD50  
Species: rat  
Value: > 2,000 mg/kg (OECD Guideline 423)

##### Inhalation:

Type of value: LC50  
Species: rat  
Value: > 5.5 mg/l  
Exposure time: 4 h  
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

##### Dermal:

Type of value: LD50  
Species: rabbit  
Value: > 5,000 mg/kg (OECD Guideline 402)

#### Irritation / corrosion

##### Skin:

Species: rabbit  
Result: non-irritant  
Method: Primary skin irritation test

##### Eye:

Species: rabbit  
Result: non-irritant

##### Sensitization:

Skin sensitization test  
Species: guinea pig  
Result: Caused skin sensitization in animal studies.

#### Genetic toxicity

*Information on: Imazapyr*  
*No mutagenic effect was found in various tests with microorganisms and mammalian cell culture. The substance was not mutagenic in a test with mammals.*

-----

#### Carcinogenicity

*Information on: Imazapyr*  
*In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.*

-----

#### Reproductive toxicity

*Information on: Imazapyr*  
*The results of animal studies gave no indication of a fertility impairing effect.*

-----

#### Development:

*Information on: Imazapyr*

# Safety Data Sheet

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*No indications of a developmental toxic / teratogenic effect were seen in animal studies.*  
-----

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### 12. Ecological Information

#### Fish

Acute:  
Cyprinus carpio/LC50 (96 h): > 120 mg/l

#### Aquatic invertebrates

Acute:  
Daphnia magna/EC50 (48 h): > 100 mg/l

#### Aquatic plants

Toxicity to aquatic plants:  
green algae/EC50 (72 h): > 98 mg/l

#### Non-Mammals

*Information on: imazapyr*  
*Other terrestrial non-mammals:*  
*mallard duck/LC50: > 5,000 ppm*  
*With high probability not acutely harmful to terrestrial organisms.*  
*Honey bee/LD50: > 100 ug/bee*  
*With high probability not acutely harmful to terrestrial organisms.*  
-----

#### Environmental mobility:

*Information on: Imazapyr*  
*Assessment transport between environmental compartments:*  
*The substance will not evaporate into the atmosphere from the water surface.*  
*Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.*  
-----

#### Other adverse effects:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

---

### 13. Disposal considerations

#### Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

#### RCRA:

This product is not regulated by RCRA.

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### 14. Transport Information

**Land transport**  
USDOT

Not classified as a dangerous good under transport regulations

**Sea transport**  
IMDG

Not classified as a dangerous good under transport regulations

**Air transport**  
IATA/ICAO

Not classified as a dangerous good under transport regulations

---

### 15. Regulatory Information

**Federal Regulations**

**Registration status:**

Crop Protection      TSCA, US      released / exempt

Chemical              TSCA, US      blocked / not listed

**OSHA hazard category:**      Chronic target organ effects reported; ACGIH TLV established

**EPCRA 311/312 (Hazard categories):**      Acute; Chronic

**State regulations**

**CA Prop. 65:**

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

---

### 16. Other Information

**Refer to product label for EPA registration number.**

Recommended use: herbicide

**NFPA Hazard codes:**

Health : 2      Fire: 1      Reactivity: 0      Special:

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our

# Safety Data Sheet

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products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

---

**SDS Prepared by:**

BASF NA Product Regulations

msds@basf.com

SDS Prepared on: 2013/08/01

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

END OF DATA SHEET

## STA-LUBE INC -- BOAT TRAILER WHEEL BEARING GREASE, 3121 -- 9150-00N028086

## ===== Product Identification =====

Product ID:BOAT TRAILER WHEEL BEARING GREASE, 3121  
 MSDS Date:07/21/1989  
 FSC:9150  
 NIIN:00N028086  
 MSDS Number: BPZBJ  
 === Responsible Party ===  
 Company Name:STA-LUBE INC  
 Address:3039 ANA ST  
 City:RANCHO DOMINGUEZ (PART OF COMPTON)  
 State:CA  
 ZIP:90221  
 Country:US  
 Info Phone Num:310-537-5650  
 Emergency Phone Num:310-664-2121/800-424-9300 (CHEMTREC)  
 Preparer's Name:D.C. MARKIE  
 CAGE:33876

## ===== Contractor Identification =====

Company Name:STA-LUBE INC  
 Address:3039 ANA ST  
 Box:City:RANCHO DOMINGUEZ (PART OF COMPTON)  
 State:CA  
 ZIP:90221  
 Country:US  
 Phone:310-664-2121/800-424-9300 (CHEMTREC)  
 CAGE:33876

## ===== Composition/Information on Ingredients =====

Ingred Name:HYGIENE PRACT:SOLVENTS, THINNERS, GASOLINES OR KEROSENES  
 SHOULD NOT BE USED TO REMOVE THIS MATERIAL FROM SKIN.  
 RTECS #:9999999ZZ

Ingred Name:OTHER PROT EQUIP:ARE IMPRACTICAL. AN EYE WASH & A SOURCE OF  
 RUNNING WATER SHOULD BE AVAILABLE TO FLUSH/WASH EYES & SKIN.  
 RTECS #:9999999ZZ

Ingred Name:MINERAL OIL, PETROLEUM DISTILLATES, SOLVENT REFINED HEAVY  
 NAPHTHENIC (EXPOSURE REGULATED AS OIL MIST)  
 CAS:64741-96-4  
 RTECS #:PY8040000  
 OSHA PEL:5 MG/M3  
 ACGIH TLV:5 MG/M3; 10 STEL

Ingred Name:MINERAL OIL (EXPOSURE REGULATED AS 'OIL MIST')  
 CAS:8012-95-1  
 RTECS #:PY8030000  
 OSHA PEL:5 MG/M3  
 ACGIH TLV:5 MG/M3;10 STEL

Ingred Name:ALUMINUM; (ALUMINUM SOAP COMPLEX (AS AL))  
 CAS:7429-90-5  
 RTECS #:BD0330000  
 OSHA PEL:15MG/M3 DUST; 5 FUME  
 ACGIH TLV:10MG/M3 DUST; 5 FUME

Ingred Name: SUPP DATA: AVOID PROLONGED SKIN CONT. LABEL ALL UNATTENDED CONTAINERS. OPERATIONS SUCH AS MAINTENANCE, REPAIR, (ING 5)  
RTECS #: 9999999ZZ

Ingred Name: ING 4: CLEAN-UP/SAMPLING INCREASES POTENTIAL FOR EXPOSURE TO MATL. PERS INVOLVED IN THESE TYPES OF OPERATIONS (ING 6)  
RTECS #: 9999999ZZ

Ingred Name: ING 5: SHOULD WEAR PROT EQUIP & CLTHG & EXERCISE SPECIAL PRECAUTIONS TO AVOID EXPOSURE. CERTAIN OPERATIONS (ING 7)  
RTECS #: 9999999ZZ

Ingred Name: ING 6: INCREASE POTENTIAL FOR EXPOS TO MATL. TANKS, PIPES & CNTNRS RETAIN MATL/RESIDUE. FAILURE TO EXERCISE (ING 8)  
RTECS #: 9999999ZZ

Ingred Name: ING 7: CAUTION DURING CLEANING, REPAIR OR SAMPLING CAN BE HAZARDOUS AND LEAD TO INJURY.  
RTECS #: 9999999ZZ

=====  
===== Hazards Identification =====

LD50 LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.

Routes of Entry: Inhalation: YES Skin: YES Ingestion: YES

Reports of Carcinogenicity: NTP: NO IARC: NO OSHA: NO

Health Hazards Acute and Chronic: PRLNGD CONT MAY IRRITATE SKIN.

EXPOSURE TO FUMES/MISTS IF GENERATED MAY IRRITATE EYES & UPPER RESP TRACT. EYE: MAY CAUSE IRRIT. DIRECT CONT/EXPOSURE TO MISTS/FUMES WHICH MAY BE GENERATED AT HIGH TEMPS MAY CAUSE BURNING, TEARING & REDNESS. SKIN: MAY CAUSE IRRIT. PRLNGD/RPTD CONT MAY CAUSE (EFTS OF OVEREXPOS)

Explanation of Carcinogenicity: NOT RELEVANT

Effects of Overexposure: HLTH HAZ: BURNING, REDNESS & DERM. INHAL:

EXPOSURE TO OIL MISTS OR FUMES GENERATED WHEN MATL IS HEATED OR BURNED MAY CAUSE IRRIT OF NOSE, THROAT & UPPER RESP TRACT. INGEST: ACCIDENTALLY SWALLOWING MAT L CAN CAUSE IRRIT OF THE STOMACH & INTESTINAL TRACT. CHRONIC/OTHER: NONE KNOWN FOR THIS MATL OR ITS COMPONENTS.

Medical Cond Aggravated by Exposure: PRE-EXISTING SKIN CONDITIONS.

PRE-EXISTING RESPIRATORY CONDITIONS IF MISTS OR FUMES ARE GENERATED.

=====  
===== First Aid Measures =====

First Aid: ATTN: IF NOT BRTHG/IF BRTHG DFCLTS DEVELOP, ARTF RESP/O\*2 SHOULD BE ADMINISTERED BY QUALIFIED PERS. EYE: FLUSH W/WATER FOR AT LEAST 15 MIN. IF IRRIT DEVELOPS, SEEK MD ASSISTANCE. SKIN: REMOVE CONTAMD CL THG & WIPE MATL FROM SKIN. THORO WASH W/SOAP & WATER. USE A WATERLESS SKIN CLEANSER, IF NEC. IF IRRIT DEVELOPS & PERSISTS, SEEK MD ASSISTANCE. INGEST: IF CONSCIOUS & ALERT, GIVE MILK/WATER (SUPP DATA)

=====  
===== Fire Fighting Measures =====

Flash Point Method: COC

Flash Point: >400F, >204C

Extinguishing Media: CARBON DIOXIDE, DRY CHEMICAL, FOAM, AND WATER SPRAY. WATER SPRAY OR FOAM MAY CAUSE FROTHING.

Fire Fighting Procedures: WEAR NIOSH/MSHA APPRVD SCBA & FULL PROT EQUIP .USE WATER SPRAY TO COOL FIRE-EXPOS CNTNRS, DILUTE & DISPERSE VAPS,

PROTECT PERS & TO FLUSH (SUPP DATA)

Unusual Fire/Explosion Hazard:MATL CAN IGNITE & BURN WHEN HEATED ABOVE ITS FLASH POINT. EMPTY TANKS/CNTNRS RETAIN MATL RESIDUE & MAY, IF HEATED, GENERATE VAPS WHICH CAN IGNITE OR EXPLODE.

===== Accidental Release Measures =====

Spill Release Procedures:WEAR RECD PROT CLTHG & EQUIP & PROVIDE ADEQ VENT. DO NOT ALLOW TO ENTER SEWERS/STREAMS/SURF WATERS. DIKE & CONTAIN SPILLS. PICK UP LG SPILLS FOR LATER RECLAMATION & DISP. USE AN INERT ABSORBENT TO PICK UP RESIDUE/SM SPILLS & COLLECT FOR LATER DISP.

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

===== Handling and Storage =====

Handling and Storage Precautions:STORE IN CLOSED CONTAINERS IN A COOL, DRY, WELL-VENTILATED AREA AWAY FROM HEAT AND STRONG OXIDIZING AGENTS. PROTECT CONTAINERS FROM PHYSICAL DAMAGE.

Other Precautions:MISUSE OF EMPTY CNTNRS CAN BE HAZ.COMPLETLY DRAIN & COMMERCIALY CLEAN BEFORE REUSE.KEEP CLSD & DO NOT USE TO STORE/MIX OTHER MATLS BEFORE HAVING COMMERCIALY CLEANED.DO NOT CUT/WELD/DRILL/EXPOSE TO HEAT/FLAME. VAPS MAY BE HAZ. (SUPP DATA)

===== Exposure Controls/Personal Protection =====

Respiratory Protection:RESPIRATORY PROT MAY BE NEC TO MINIMIZE EXPOSURE TO MISTS/FUMES. WEAR A NIOSH/MSHA APPROVED PARTICULATE RESPIRATOR IN SITUATIONS WHERE MIST CONC MAY EXCEED RECD EXPOSURE LIMS. USE NIOSH/MSHA APPROVED SCBA FOR EMERGENCIES.

Ventilation:GENERAL MECHANICAL VENT OR LOCAL EXHAUST IS RECD TO MAINTAIN MIST OR FUME CONC BELOW RECOMMENDED EXPOSURE LIMITS.

Protective Gloves:IMPERVIOUS GLOVES .

Eye Protection:CHEMICAL WORKERS GOGGLES .

Other Protective Equipment:PROT CLTHG ARE RECD TO PVNT SKIN CONT. BARRIER CREAMS SPECIFIC FOR PETRO-BASED MATLS MAY BE USED WHEN GLOVES (ING 9)

Work Hygienic Practices:WASH THORO AFTER HANDLING. CLEAN/LAUNDER CONTAMD SHOES & CLTHG BEFORE RESUE. (ING 10)

Supplemental Safety and Health

FIRE FIGHT PROC:UNIGNITED MATL SPILLS AWAY FROM FIRE. FIRST AID PROC:TO DRINK. SEEK MD ASSISTANCE. NOTE TO MD:MATL IS COMPLEX SOLID/SEMI-SOLID MIX W/LOW ORDER OF ACUTE TOX. OTHER PREC:USE IN WELL VENT ED AREA & WEAR RECD PROT CLTHG & EQUIP.AVOID BRTHG MISTS/FUMES GENERATED WHEN MATL IS HEATED/BURNED. (ING 4)

===== Physical/Chemical Properties =====

HCC:V6

Boiling Pt:B.P. Text:>600F,>316C

Vapor Pres:NEGLIGIBLE

Vapor Density:HVR/AIR

Spec Gravity:0.9-1

Evaporation Rate & Reference:NEGLIGIBLE

Solubility in Water:NEGLIGIBLE

Appearance and Odor:A SEMI-SOLID TO SOLID BLUE COLORED GREASE WITH A FAINT PETROLEUM ODOR.

Percent Volatiles by Volume:NEGLIG

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid: YES  
INCOMPATIBLE WITH STRONG OXIDIZING AGENTS.  
Stability Condition to Avoid: NONE SPECIFIED BY MANUFACTURER.  
Hazardous Decomposition Products: BURNING PRODUCES CO, CO\*2, NO\*X, SO\*X.

===== Disposal Considerations =====

Waste Disposal Methods: DISPOSE OF I/A/W FEDERAL, STATE AND LOCAL  
REGULATIONS. EMPTY TANKS AND CONTAINERS SHOULD BE COMMERCIALY  
CLEANED AND RECONDITIONED BEFORE REUSE.

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assume responsibility for the suitability of this information to their  
particular situation.





# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **BREWER COTE CRACK FILLER**  
 Item Number: **13405C** Date: **March 4, 2003**  
 Chemical Name: **Modified Asphalt Mixture and Clay Emulsion.**  
 Common Products: 13406C, 13490, 13490C  
 Company Information: The Brewer Company  
 1354 U.S. Hwy. 50  
 Milford, OH 45150

Emergency Phone: CHEMTREC 800-424-9300 24 HOURS  
 General Information 800-394-0086

## 2. COMPOSITION/ INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS NO.</u>	<u>% by Weight</u>
Petroleum Asphalt	8052-42-4	80 ± 20
Vacuum Distillate	64741-53-3	25 ± 15
Styrene-Butadiene Block Copolymer	9003-55-8	5 ± 10
Ethylene-Butadiene Block Copolymer	66070-58-4	5 ± 10
Vulcanized Rubber Compound	N / A	0 ± 10
Limestone	1317-65-3	25 ± 50

**This document is not for technical or purchase specification, but is to be used for hazard purposes only.**

These are typical values based on material testing, but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

Appearance and odor: A Dark Brown - Black liquid consistency asphalt emulsion crack filler with a slight petroleum odor.

### WARNING STATEMENTS:

Harmful if swallowed. Direct contact with hot material may cause thermal burns and possible blindness.

### POTENTIAL HEALTH EFFECTS:

#### Likely Routes of Exposure:

**EYE CONTACT:** Conjunctivitis, irritation, tearing. Direct contact to hot material will cause thermal burns and may cause blindness.

**SKIN CONTACT:** Irritation, redness, dryness, dermatitis or irritation. Contact with hot material may cause thermal burns.

**INHALATION:** Mists and vapors may cause irritation, pulmonary edema or hypoxia.

**INGESTION:** Considered unlikely.

Refer to Section 11 for toxicological information.

## 4. FIRST AID MEASURES

**IF IN EYES:** If contact with hot material occurs **SEEK MEDICAL ATTENTION IMMEDIATELY.** If prolonged exposure to vapors cause irritation, remove person away from exposure source and into fresh air, flush eyes for at least 15 minutes, if irritation continues **SEEK MEDICAL ATTENTION.**

IF ON SKIN: If contact with hot material wash with soap and water. Do not attempt to remove congealed solid from skin, cool area with water and **SEEK MEDICAL ATTENTION**. Do not attempt to remove congealed solid from skin with petroleum solvents.

IF INHALED: If inhaled, remove to fresh air, if irritation continues, seek medical attention. If not breathing, give artificial respiration or oxygen as needed. **SEEK MEDICAL ATTENTION**.

IF SWALLOWED: If ingested, DO NOT INDUCE VOMITING. Give water or clear liquids. **Consult local Poison Control Center, IMMEDIATELY! SEEK MEDICAL ATTENTION**

---

## 5. FIRE FIGHTING MEASURES

---

FLASH POINT: >400°F minimum

HAZARDOUS PRODUCTS OF COMBUSTIONS: CO, CO<sub>2</sub>, H<sub>2</sub>S and sulfur dioxide

EXTINGUISHING MEDIA: CO<sub>2</sub> or dry chemical extinguishers

UNUSUAL FIRE AND EXPLOSION HAZARDS: Stable. Foam and Water may cause frothing

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## 6. ACCIDENTAL RELEASE MEASURES

---

If your facility or operation has an "oil or hazardous substance contingency plan", activate the procedure. Take immediate steps to stop and contain the spill.

Shut off all sources of ignition.

- Keep people away.
- Recover free product, add limestone, earth, or other suitable absorbents.
- Minimize skin contact and avoid breathing vapors.
- Ventilate confined spaces.
- Keep product out of sewers and waterways by diking or impounding.
- Advise authorities if product has entered sewers, waterways or extensive land areas.
- Assure conformity with all applicable government regulations.

Dispose of in an approved facility; see Section 13, Disposal Considerations.

---

## 7. HANDLING AND STORAGE

---

HANDLING: Where protective clothing, gloves and OSHA approved eye protection. When not in use, securely replace lid on open containers

STORAGE: Store in a cool dry, away from heat and corrosion sources.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

---

EYE PROTECTION: OSHA approved glasses, goggles or full-face shield. Have eye baths readily available. Do not wear contact lenses.

SKIN PROTECTION: Wear impervious gloves and clothing to prevent skin contact.

RESPIRATORY PROTECTION: Not applicable

VENTILATION: Maintain positive flow of fresh air.

AIRBORNE EXPOSURE LIMITS:	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Petroleum Asphalt	No STEL recommended	5 mg/m <sup>3</sup>
Vacuum Distillate	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Styrene-Butadiene Block Copolymer	Not Established	Not Established
Ethylene-Butadiene Block Copolymer	Not Established	Not Established
Vulcanized Rubber Compound	Not Established	Not Established
Limestone	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>

Limestone contained in this product is totally encapsulated and does not present a respirable dust hazard.

Components referred to herein, may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be use.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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CHEMICAL FORMULA:	Not applicable, mixture
APPEARANCE:	A dark brown to black liquid consistency asphalt emulsion crack filler.
ODOR:	Slight petroleum odor
pH:	Not Determined
MELTING POINT (°F):	Not applicable
DENSITY (lb./gal):	Not Determined
SOLUBILITY IN WATER:	Negligible
NOTE:	These are typical values based on material testing, but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

---

**10. STABILITY AND REACTIVITY**

---

STABILITY:	Stable.
MATERIALS TO AVOID:	Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS:	H <sub>2</sub> S, CO, CO <sub>2</sub> and sulfur oxide
HAZARDOUS POLYMERIZATION:	None

---

**11. TOXICOLOGICAL INFORMATION**

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Oral – rat LD50 (mg/kg):	No data available
Dermal – rabbit LD50 (mg/kg):	No data available
Eye Irritation – rabbit:	No data available
Skin Irritation – rabbit (24-hr exposure):	No data available

---

**12. ECOLOGICAL INFORMATION**

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This product may cause adverse environmental effects if used improperly or release to the environment through a spill. Employ best management practices to prevent this material from entering storm sewer systems, waterways or otherwise impacting plant and animal species.

---

**13. DISPOSAL CONSIDERATIONS**

---

This product, when discarded or disposed of, is not specifically listed as a hazardous waste in federal regulations. It could be designated as a hazardous waste according to state regulations. This product could also become a hazardous waste if it is mixed with or comes in contact with a hazardous waste. If such contact occurs, consult 40 CFR, to determine whether it is a hazardous waste.

The transportation, storage, treatment and dispose of this waste must be conducted in accordance with all applicable federal, state and local regulations.

---

**14. TRANSPORT INFORMATION**

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The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT: Not classified as a hazardous material under HM-181

CANADIAN TDG: Not determined

---

**15. REGULATORY INFORMATION**

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TSCA INVENTORY:	Not determined
DSL INVENTORY:	Not determined
WHMIS CLASSIFICATION:	Not determined

SARA HAZARD NOTIFICATION:

Hazardous Categories Under Title III Rules (40 CFR 370): Not applicable
Section 302 Extremely Hazardous Substances: Not applicable
Section 313 Toxic Chemical(s): Not applicable

Other: This substance contains components subject to the provisions of the Pennsylvania Worker and Community Right to Know Act. Specific chemical identities are a trade secret under the provisions of 35 Pennsylvania State Section 7311.

CERCLA REPORTABLE QUANTITY: Component % by Wt.

CA Proposition 65 Warning: This product may contain chemicals known to the State of California to cause cancer, birth defects, and/or other reproductive harm.

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) and Section 13 for RCRA classification.

16. OTHER INFORMATION

This material has been defined as a hazardous chemical under the criteria of the OSHA Hazard Communication Standard(29 CFR 1910.1200).

Table with 5 columns: Health, Fire, Reactivity, Additional Information. Rows include Suggested NFPA1 Rating and Suggested HMIS1 Rating.

Reason for revision: Updated format Supersedes MSDS Dated: June 13, 2002

The information and recommendations contained herein are to the best of THE BREWER COMPANY'S knowledge and belief, accurate and reliable as of the date issued.

The information and recommendations are offered for the users consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use.

The Environmental Information included, as well as the Hazardous Material Identification System (HMIS) and National Fire Protection Association (NFPA) ratings, have been included by THE BREWER COMPANY in order to provide additional health and hazard classification information.

For Other Product Information Contact:

The Brewer Company
1354 U.S. Hwy. 50
Milford, OH 45150

TELEPHONE: 513/576-6300

FAX: 513/576-1414

8/06 *Welding Maintenance*

DATE OF ISSUE: JUNE 1, 1992  
(REV. 7/95)



SMITH PIPE & STEEL COMPANY  
725 NORTH 19TH AVENUE  
PHOENIX, ARIZONA 85009  
(602) 257-9494

# 1

**MATERIAL SAFETY DATA SHEET**

TRADE NAME (Common Name or Synonym)  
**CARBON AND ALLOY STEELS**

CHEMICAL NAME  
**AISI/SAE Grades 10xx thru 93xx**

**I. INGREDIENTS**

Material or Component	CAS Number	% Weight	8 Hour TWA OSHA PEL (mg/m <sup>3</sup> )		EXPOSURE LIMITS		8 Hour TWA ACGIH TLV (mg/m <sup>3</sup> )	NTP Listed	IARC Listed
			Dust	Fume	Dust	Fume			
<b>Base Metal</b> Iron (Fe)	7439-89-8	88.5-99.5	-	10	-	-	-	No	No
<b>Alloying Elements</b>									
Aluminum (Al)	74299-0-5	0.1-0.5	15	-	10	5	No	No	
Bismuth (Bi)	7440-88-9	0.2-0.5	NA	NA	NA	NA	No	No	
Boron (B)	7440-42-0	.01-1.0	-	15	-	10	No	No	
Carbon (C)	7440-44-0	.10-1.5	NA	NA	3.5	-	No	No	
Chromium (Cr)	7440-47-3	.40-1.0	1.0	-	.5	-	Yes	Yes	
Columbium (Cb)	7440-03-1	.15-.35	NA	NA	NA	NA	No	No	
Copper (Cu)	7440-50-8	.30-1.90	1.0	1.0	1.0	1.0	No	No	
Lead (Pb)	7439-92-1	.01-.15	.05	.05	.15	.15	No	Yes	
Manganese (Mn)	7439-98-5	.04-0.7	5	5	5	1	No	No	
Molybdenum (Mo)	7439-98-7	.15-1.10	15	-	15	-	No	No	
Nickel (Ni)	7440-02-0	.01-10	1	-	1	-	Yes	Yes	
Phosphorus (P)	7723-14-0	.040-12	0.1	0.1	0.1	0.1	No	No	
Silicon (Si)	7440-21-3	.15-2.00	15	-	10	-	No	No	
Sulfur (S)	7704-34-9	.050-.35	-	15	-	5	No	No	
Vanadium (V)	7440-62-2	.01-0.15	.5	.1	0.05	0.05	No	No	
Zinc Coating	1314-13-2	2 oz/ft <sup>2</sup>	-	5	10	10	No	No	
Aluminum Coating	7429-90-5	.5 oz/ft <sup>2</sup>	NA	NA	10	5	No	No	

NOTE: The above listing is a summary of elements used in alloying steel. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minimum amounts. No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel. Values shown are applicable to component elements.

**II. PHYSICAL DATA**

<b>MATERIAL IS (At Normal Conditions)</b> ( ) LIQUID (X) SOLID ( ) GAS ( ) OTHER	<b>APPEARANCE AND ODOR</b> GREY-BLACK, ODORLESS	<b>% VOLATILE BY VOLUME</b> N/A	<b>VAPOR DENSITY</b> N/A
<b>ACIDITY/ALKALINITY</b> pH = N/A	<b>Melting Point</b> Approx. 2800°F <b>Boiling Point</b> N/A °F	<b>Specific Gravity (H<sub>2</sub>O = 1)</b> Approx. 7 <b>Solubility in water (% by weight)</b> N/A	<b>VAPOR PRESSURE</b> (MM Hg AT 20°C) N/A

**III. PERSONAL PROTECTIVE EQUIPMENT**

<b>RESPIRATORY PROTECTION.</b> Appropriate dust/mist/fume respirator should be used to avoid excessive inhalation of particulates. If exposure limits are reached or exceeded, use NIOSH approved equipment.	<b>HANDS, ARMS AND BODY.</b> Protective gloves should be worn as required for welding burning or handling operations.
<b>EYES AND FACE.</b> Safety glasses should be worn when grinding or cutting. Face shields should be worn when welding or cutting or burning.	<b>OTHER CLOTHING AND EQUIPMENT.</b> As required depending on operations and safety codes.

**IV. EMERGENCY MEDICAL PROCEDURES**

<b>INHALATION:</b>	Remove to fresh air. If condition continues, consult a physician.
<b>EYE CONTACT:</b>	Flush thoroughly with running water to remove particulate; obtain medical attention.
<b>SKIN CONTACT:</b>	Remove particles by washing thoroughly with soap and water. Seek medical attention if condition persists.
<b>INGESTION:</b>	If significant amounts of metal are ingested, consult physician.

**V. HEALTH SAFETY INFORMATION**

<b>HEALTH</b>	<p>Steel products in their solid state present no inhalation, ingestion, or contact health hazard. Operations such as burning, welding, sawing, grinding, and machining, which result in elevating the temperature of the product to, or above its melting point, or result in the generation of airborne particulates may present hazards. The major exposure hazard is inhalation. Effects of exposure to fume and dust are as follows:</p> <p><b>ACUTE:</b> Excessive inhalation of metallic fumes and dust may result in irritation of eyes, nose and throat. High concentrations of fumes and dust of iron oxide, manganese, cobalt and lead may result in metal fume fever. Typical symptoms last from 12 to 48 hours and consist of metallic taste in the mouth, dryness and irritation of the throat, chills and fever.</p> <p><b>CHRONIC:</b> Chronic and prolonged inhalation of high concentrations of fumes or dust of the following elements may lead to the conditions listed opposite the element:                  Aluminum: May initiate fibrotic changes of lung tissue.                  Bismuth: No chronic debilitating symptoms indicated.                  Boron: No chronic debilitating symptoms indicated.                  Chromium: Lesions of the skin and mucous membranes, possible cancer of the nose or lungs-bronchogenic carcinoma.                  Copper: No chronic debilitating symptoms indicated.                  Iron: Siderosis, pulmonary effects. No chronic debilitating symptoms indicated.                  Lead: Anemia, urinary dysfunction, weak heart, constipation, nausea, nervous disorders.                  Manganese: Bronchitis, lack of coordination.                  Molybdenum: Respiratory tract irritation, possible liver and kidney damage, bone deformity.                  Nickel: Lesions of the skin and mucous membranes, possible cancer of the nose or lungs-bronchogenic carcinoma.                  Phosphorus: Necrosis of the mandible.                  Sulfur: (As sulfur dioxide) Edema of the lungs.                  Vanadium: (As vanadium pentoxide) Emphysema, pneumoconiosis.                  Zinc: Gastrointestinal inflammation reported in animal studies.</p> <p><b>MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:</b> Individuals with chronic respiratory disorders (i.e.: asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any fume or airborne particulate matter exposure.</p> <p><b>OCCUPATIONAL EXPOSURE LIMITS:</b> See Product Ingredients Section I. Chromium and Nickel have been identified by the International Agency for Research on Cancer (IARC) and/or the National Toxicology Program (NTP) as potential cancer causing agents.</p>			
	<p><b>FLASH POINT</b> N/A °F</p>		<p><b>AUTO IGNITION TEMPERATURE</b> N/A</p>	
<b>FIRE &amp; EXPLOSION</b>	<p><b>FLAMMABLE LIMITS IN AIR</b> Lower N/A % Upper N/A %</p>		<p><b>EXTINGUISHING MEDIA</b> For molten metal use dry powder or sand.</p>	
	<p><b>FIRE AND EXPLOSION HAZARDS</b> Steel products do not present fire or explosion hazards under normal conditions. Fine metal particles such as produced in grinding or sawing can burn. High concentrations of metallic fumes in the air may present an explosion hazard.</p>		<p><b>EXTINGUISHING MEDIA</b> Do not use water on molten metal.</p>	
<b>REACTIVITY</b>	<p><b>STABILITY</b> Stable (X) Unstable ( )</p>		<p><b>INCOMPATIBILITY (MATERIALS TO AVOID)</b> Reacts with strong acids to form hydrogen gas.</p>	
	<p><b>CONDITIONS TO AVOID:</b> Steel at temperatures above the melting point may liberate fume containing oxides of iron and alloying elements. Avoid generation of airborne fume and dust.</p>			
	<p><b>HAZARDOUS DECOMPOSITION PRODUCTS:</b> Metallic Dust or fumes may be produced during welding, burning, grinding and possible machining. Refer to ANSI Z49.1.</p>			

**VI. ENVIRONMENTAL**

<p><b>SPILL OR LEAK PROCEDURES</b> Flue savings and small chips should be swept or vacuumed. Scrap metal can be reclaimed for re-use.</p> <p><b>WASTE DISPOSAL METHOD*</b> Used or unused product should be disposed of in accordance with Federal, State or Local Laws and Regulations. *D sponsor must comply with Federal, State and Local disposal or discharge laws.</p>
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**VII. ADDITIONAL INFORMATION**

<p>In welding, precautions should be taken for airborne contaminants which may originate from components of the welding rod.</p> <p>Arc or spark generated when welding or burning could be a source of ignition for combustible and flammable materials.</p>
<p><b>DISCLAIMER</b></p>
<p>The information in this MSDS was obtained from sources which we believe are reliable, however, the information is provided without representation or warranty, expressed or implied, regarding the accuracy or 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

## CAT COOLING SYSTEM CLEANER

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>TRADE NAME</b>	CAT COOLING SYSTEM CLEANER
<b>PART No.</b>	Chemtool, 846800, Caterpillar, 4C-4609, 4C-4610, 4C-4611, 4C-4612, 4C-4613
<b>SUPPLIER</b>	Chemtool Incorporated P.O. Box 538 8200 Ridgefield Road Crystal Lake, IL 60039-0538 USA Tel: (815) 459-1250 Fax: (815) 459-1955
<b>EMERGENCY TELEPHONE</b>	Rocky Mountain Poison Center Denver, Colorado In USA and Canada - (800) 458-5924 Outside USA and Canada - +01-303-893-1322
<b>*Date of last issue</b>	2007-02-22

### 2. COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	WEIGHT
WATER	7732-18-5	60-80 %
ETHANOL, 2,2',2''-NITRILOTRIS-, 2-HYDROXY-1,2,3-PROPANETRICARBOXYLATE (SALT)	29340-81-6	10-20 %
1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-, DIAMMONIUM SALT (COMMON NAME: AMMONIUM CITRATE)	3012-65-5	7-13 %

<b>COMPOSITION COMMENTS</b>	Refer to section eight for exposure limits on ingredients. Chemical ingredients not regulated by OSHA, SARA, state or federal agencies are treated confidentially.
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### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

DO NOT ADD NITRITES to this product. Addition of nitrites may lead to the formation of nitrosamines which are known to cause cancer.

	Irritating to eyes, respiratory system and skin.
<b>SENSITIZATION</b>	No known information.
<b>CARCINOGENICITY</b>	IARC: Not listed as a Group 1, 2A, or 2B agent. NTP: Not listed. OSHA: Not regulated.
<b>TERATOGENICITY</b>	No known information.
<b>HEALTH WARNINGS</b>	SKIN CONTACT. Slightly irritating. Repeated or prolonged contact can result in drying of the skin. EYE CONTACT. Irritating. INGESTION. Can cause stomach ache and vomiting. INHALATION. Spray mist can irritate airways and lungs.
<b>ROUTE OF ENTRY</b>	Skin and/or eye contact. Ingestion. Inhalation.

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#### 4. FIRST AID MEASURES

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<b>INHALATION</b>	Remove victim immediately from source of exposure. Get medical attention if any discomfort continues. For breathing difficulties oxygen may be necessary. If breathing stops, provide artificial respiration.
<b>EYES</b>	Important! Immediately rinse with water for at least 15 minutes. Get medical attention if any discomfort continues.
<b>SKIN</b>	Immediately remove contaminated clothing. Wash skin thoroughly with soap and water.
<b>INGESTION</b>	DO NOT INDUCE VOMITING! Drink large amounts of water. Get medical attention immediately!

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#### 5. FIRE FIGHTING MEASURES

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<b>FLASH POINT (°C)</b>	N/A
<b>FLAMMABILITY LIMIT - LOWER(%)</b>	N/A
<b>FLAMMABILITY LIMIT - UPPER(%)</b>	N/A
<b>EXTINGUISHING MEDIA</b>	Use: Foam. Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc. Product contains water and should not support combustion. Will burn if sufficiently heated to drive off water.
<b>SPECIAL FIRE FIGHTING PROCEDURES</b>	Use water to keep fire exposed containers cool and disperse vapors. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures. Keep run-off water out of sewers and water sources. Dike for water control. Avoid water in straight hose stream; will scatter and spread fire. Use special protective clothing. Regular protection may not be safe. Prevent inhalation of fumes and gases.
<b>UNUSUAL FIRE &amp; EXPLOSION HAZARDS</b>	Volume and pressure increases strongly when heated. Risk of container explosion in fire.
<b>HAZARDOUS COMBUSTION PRODUCTS</b>	Acrid smoke/fumes. Oxides of: Carbon. Nitrogen.

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#### 6. ACCIDENTAL RELEASE MEASURES

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<b>PERSONAL PRECAUTIONS</b>	Minimize skin contact. Avoid breathing vapors. Wear an appropriate respirator if exposure exceeds recommended guidelines.
<b>PRECAUTIONS TO PROTECT THE ENVIRONMENT</b>	Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas. Assure conformity with applicable government regulations.
<b>SPILL CLEAN-UP PROCEDURES</b>	Carefully collect spilled material in closed containers and leave for disposal according to local regulations. Provide good ventilation. Use appropriate protective clothing. Rinse area with water. Do not let washing down water contaminate ponds or waterways.

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## 7. HANDLING AND STORAGE

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<b>HANDLING PRECAUTIONS</b>	Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Containers to be kept tightly closed. Eye wash and emergency shower must be available at the work place. Do not add nitrites or other nitrosating agents. Nitrosamines, which may cause cancer, may be formed.
<b>STORAGE PRECAUTIONS</b>	Keep away from heat, sparks and open flame. Store separated from: Acids. Oxidizing materials.
<b>STORAGE CRITERIA</b>	Chemical storage.

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

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### PROTECTIVE EQUIPMENT



<b>ENGINEERING CONTROLS</b>	Use engineering controls to reduce air contamination to permissible exposure level.
<b>VENTILATION</b>	No specific ventilation requirements noted, but forced ventilation may still be required if air contamination exceeds acceptable level.
<b>RESPIRATORS</b>	No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.
<b>PROTECTIVE GLOVES</b>	For prolonged or repeated skin contact use suitable protective gloves.
<b>EYE PROTECTION</b>	Wear splash-proof eye goggles to prevent any possibility of eye contact.
<b>PROTECTIVE CLOTHING</b>	Wear appropriate clothing to prevent repeated or prolonged skin contact.
<b>HYGIENIC WORK PRACTICES</b>	Wash at the end of each work shift and before eating, smoking and using the toilet.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>APPEARANCE/PHYSICAL STATE</b>	Clear. Liquid.		
<b>COLOR</b>	Green.		
<b>ODOR</b>	Mild (or faint).		
<b>SOLUBILITY DESCRIPTION</b>	Soluble in water.		
<b>DENSITY</b>	1.095	<b>Temperature (°C)</b>	15.6 (60°F)
<b>VAPOR DENSITY (air=1)</b>	> 1		
<b>VAPOR PRESSURE</b>	N/D	<b>Temperature (°C)</b>	
<b>EVAPORATION RATE</b>	< 1	<b>Reference</b>	BuAc=1
<b>pH-VALUE, CONC. SOLUTION</b>	6.5		

## 10. STABILITY AND REACTIVITY

<b>STABILITY</b>	Normally stable.
<b>CONDITIONS TO AVOID</b>	Avoid contact with acids and oxidizing substances. nitrites or other nitrosating agents. Nitrosamines may be formed.
<b>HAZARDOUS POLYMERIZATION</b>	Will not polymerize.
<b>MATERIALS TO AVOID</b>	Strong acids. Strong oxidizing agents. Inorganic nitrites.
<b>*HAZARDOUS DECOMPOSITION PRODUCTS</b>	Oxides of: Carbon. Nitrogen.

## 11. TOXICOLOGICAL INFORMATION

<b>TOXICOLOGICAL INFORMATION</b>	No experimental toxicological data on the preparation as such is available.
<b>COMPONENT</b>	<b>ETHANOL, 2,2',2''-NITRILOTRIS-, 2-HYDROXY-1,2,3-PROPANETRICARBOXYLATE (SALT)</b>
<b>TOXIC DOSE - LD 50</b>	N/A.
<b>TOXIC CONC. - LC 50</b>	N/A.
<b>COMPONENT</b>	<b>1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-, DIAMMONIUM SALT (COMMON NAME: AMMONIUM CITRATE)</b>
<b>TOXIC DOSE - LD 50</b>	N/A.
<b>TOXIC CONC. - LC 50</b>	N/A.

## 12. ECOLOGICAL INFORMATION

<b>ECOLOGICAL INFORMATION</b>	No data on possible environmental effects have been found.
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### 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHODS** Dispose of in accordance with Local Authority requirements. Confirm disposal procedures with environmental engineer and local regulations.

### 14. TRANSPORT INFORMATION

**DOT HAZARD CLASS** Non-Hazardous (No label required).  
**IDENTIFICATION No.** N/A  
**REPORTABLE QUANTITY (RQ)** No  
**U.S. DOT HAZARD LABEL** No DOT label requirement  
**TDGR CLASS** Not Regulated.  
**SEA TRANSPORT NOTES** Not regulated per IMDG.  
**AIR TRANSPORT NOTES** Not regulated per IATA.

### 15. REGULATORY INFORMATION

#### US FEDERAL REGULATIONS

COMPONENT	SARA 302	CERCLA	SARA 313
ETHANOL, 2,2',2''-NITRILOTRIS-, 2-HYDROXY-1,2,3-PROPANETRICARBOXYLATE (SALT)	No	No	No
1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-, DIAMMONIUM SALT (COMMON NAME: AMMONIUM CITRATE)	No	5 000 lbs	No

#### CLEAN AIR ACT

**SARA HAZARD CATEGORIES** Acute Chronic

#### US STATE REGULATIONS

COMPONENT	CA	MA	FL	MN	NJ	PA	RI
1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-, DIAMMONIUM SALT (COMMON NAME: AMMONIUM CITRATE)						EH	

**\*STATE REGULATORY STATUS** PENNSYLVANIA RIGHT-TO-KNOW: This product contains the following chemicals that the state of Pennsylvania has identified as Special Hazardous Substances (SHS), Environmental Hazards (EH), or both (ESHS). The PA regulations require that the MSDS identify all SHS or EH chemicals by chemical name, common name, and CAS Number if they comprise 0.01% or more.

#### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**CONTROLLED PRODUCT CLASSIFICATION**

Not a controlled product.

COMPONENT	GLOBAL INVENTORIES							
	CAN	US	EU	AUS	JAP	KOR	PHLP	CHN
1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-, DIAMMONIUM SALT (COMMON NAME: AMMONIUM CITRATE)	DSL	Yes	EINECS	Yes	Salt	Yes	Yes	Yes
ETHANOL, 2,2',2''-NITRILOTRIS-, 2-HYDROXY-1,2,3-PROPANETRICARBOXYLATE (SALT)	DSL	Yes	EINECS	Yes	Salt	No		Yes

CANADA CEPA: All components of this product comply with new substance notification requirements under the Canadian Environmental Protection Act (CEPA).

**\*USA (TSCA)**

All components in this product are listed on the US Toxic Substances Control Act (TSCA) Inventory or are exempt from TSCA Inventory requirements.

**\*CANADA (DSL)**

All components in this product are listed on the Canada Domestic Substances List (DSL) or are exempt from DSL requirements.

**\*EUROPE (EINECS/ELINCS/NLP)**

All components in this product are listed on the European Inventory of New and Existing Chemical Substances (EINECS), the European List of Notified Chemical Substances (ELINCS), or the No Longer Polymers (NLP) list, or are exempt from EU listing requirements.

**\*AUSTRALIA (AICS)**

All components in this product are listed on the Australian Inventory of Chemical Substances (AICS) or are exempt from AICS requirements.

**\*KOREA (ECL)**

This product contains one or more components that are NOT LISTED on the Korea Existing Chemicals List (ECL) and are NOT EXEMPT from KECL requirements.

**16. OTHER INFORMATION**

**NFPA-HMIS HAZARD RATING**

<b>HEALTH</b>	Irritation, minor residual injury (1) - HMIS/NFPA
<b>FLAMMABILITY</b>	Will not burn (0) - HMIS/NFPA
<b>REACTIVITY</b>	Normally Stable (0) - HMIS/NFPA
<b>PERSONAL PROTECTION INDEX</b>	B - Safety Eyewear and Gloves
<b>REVISION COMMENTS</b>	* Information revised since previous MSDS version.
<b>PREPARED BY</b>	John Dingess James W. Hermann
<b>*Replacement of MSDS generated</b>	2005-07-22
<b>*DATE</b>	2007-02-22
<b>DISCLAIMER</b>	While the information and recommendations set forth herein are believed to be

accurate as of the date thereof, the company makes no warranty with respect thereto and disclaims all liability from reliance therein.

\* Information revised since previous MSDS version

PRINTING DATE: 2007-02-22



# Material Safety Data Sheet

Page 1 of 7

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**CHEVRON DELO 300 Motor Oil SAE 10W-40**

PRODUCT NUMBER(S): CPS224602

### COMPANY IDENTIFICATION

Chevron USA Products Company  
Environmental, Safety, and Health  
575 Market St., Room 2900  
San Francisco, CA 94105-2856

### EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)231-0623 or  
(510)231-0623 (International)  
TRANSPORTATION (24 hr): CHEMTREC  
(800)424-9300 or (202)483-7616

PRODUCT INFORMATION: MSDS Requests: (800) 228-3500  
Environmental, Safety, & Health Info: (415) 894-1899  
Product Information: (800) 582-3835

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 % CHEVRON DELO 300 Motor Oil SAE 10W-40

### CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
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LUBRICATING BASE OIL CONTAINING ONE OR MORE OF THE FOLLOWING  
> 70.0%

HYDROTREATED DIST., HVY PARA

Chemical Name: DISTILLATES, HYDROTREATED HEAVY PARAFFINIC	5 mg/m3 (mist)	ACGIH TWA
CAS64742547	10 mg/m3 (mist)	ACGIH STEL
	5 mg/m3 (mist)	OSHA PEL

SOLVENT DEWAXED DIST., HVY PAR

Chemical Name: DISTILLATES, SOLVENT DEWAXED HEAVY PARAFFINIC	5 mg/m3 (mist)	ACGIH TWA
CAS64742650	10 mg/m3 (mist)	ACGIH STEL

Revision Number: 2      Revision Date: 11/03/93      MSDS Number: 004467  
NDA - No Data Available      NA - Not Applicable

Prepared according to the OSHA Hazard Communication Standard  
(29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology  
and Health Risk Assessment Unit, CRTC, P.O. Box 4054, Richmond, CA 94804

5 mg/m3 (mist) OSHA PEL

ADDITIVES INCLUDING THE FOLLOWING  
< 30.0%

**ZINC ALKYL DITHIOPHOSPHATE**

Chemical Name: PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALT  
CAS68649423 < 1.5%

**COMPOSITION COMMENT:**

All the components of this material are on the Toxic Substances Control Act Chemical Substances Inventory.

This product fits the ACGIH definition for mineral oil mist. The ACGIH TLV is 5 mg/m3, the OSHA PEL is 5 mg/m3.

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	PEL - Permissible Exposure Limit
C - Ceiling Limit	CAS - Chemical Abstract Service Number
Al-5 - Appendix A Categories	() - Change Has Been Proposed

**3. HAZARDS IDENTIFICATION****POTENTIAL HEALTH EFFECTS****EYE:**

This substance is not expected to cause prolonged or significant eye irritation. This hazard evaluation is based on the data from similar materials.

**SKIN:**

This substance is not expected to cause prolonged or significant skin irritation. The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets on the skin. This hazard evaluation is based on data from similar materials.

**INGESTION:**

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if swallowed. This hazard evaluation is based on data from similar materials.

**INHALATION:**

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if inhaled. This hazard evaluation is based on data from similar materials.

**4. FIRST AID MEASURES****EYE:**

No first aid procedures are required. However, as a precaution flush eyes with fresh water for 15 minutes. Remove contact lenses if worn.

Revision Number: 2      Revision Date: 11/03/93      MSDS Number: 004467  
NDA - No Data Available      NA - Not Applicable

**SKIN:**

No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

**INGESTION:**

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

**INHALATION:**

Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required.

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**5. FIRE FIGHTING MEASURES**

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**FLAMMABLE PROPERTIES**

FLASH POINT: COC 392F (200C) Min.

AUTOIGNITION: NDA

FLAMMABILITY LIMITS (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA:

CO2, Dry Chemical, Foam, Water Fog.

NFPA RATINGS: Health 1; Flammability 1; Reactivity 0.

**FIRE FIGHTING INSTRUCTIONS:**

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**COMBUSTION PRODUCTS:**

Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorous. Incomplete combustion can produce carbon monoxide.

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**6. ACCIDENTAL RELEASE MEASURES**

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CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (202)483-7616

**ACCIDENTAL RELEASE MEASURES:**

Stop the source of the leak or release. Clean up releases as soon as possible. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

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**7. HANDLING AND STORAGE**

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**HANDLING AND STORAGE:**

DO NOT weld, heat or drill container. Residue may ignite with explosive violence if heated sufficiently. CAUTION! Do not use pressure to empty drum or drum may rupture with explosive force.

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NDA - No Data Available

NA - Not Applicable



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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### PERSONAL PROTECTIVE EQUIPMENT

#### EYE/FACE PROTECTION:

No special eye protection is usually necessary.

#### SKIN PROTECTION:

No special skin protection is usually necessary. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing protective clothing.

#### RESPIRATORY PROTECTION:

No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards, the use of an approved respirator is required.

#### ENGINEERING CONTROLS:

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### PHYSICAL DESCRIPTION:

Dark brown liquid.

pH: NDA

VAPOR PRESSURE: NA

VAPOR DENSITY

(AIR=1): NA

BOILING POINT: NA

FREEZING POINT: NDA

MELTING POINT: NA

SOLUBILITY: Soluble in hydrocarbon solvents; insoluble in water.

SPECIFIC GRAVITY: 0.87 @ 15.6/15.6C

DENSITY: NDA

EVAPORATION RATE: NA

VISCOSITY: 13.6 cSt @ 100C (Min.)

PERCENT VOLATILE

(VOL): NA

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## 10. STABILITY AND REACTIVITY

---

### HAZARDOUS DECOMPOSITION PRODUCTS:

NDA

### CHEMICAL STABILITY:

Stable.

### CONDITIONS TO AVOID:

No data available.

### INCOMPATIBILITY WITH OTHER MATERIALS:

May react with strong oxidizing agents, such as chlorates, nitrates,

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NDA - No Data Available

NA - Not Applicable

peroxides, etc.

**HAZARDOUS POLYMERIZATION:**

Polymerization will not occur.

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**11. TOXICOLOGICAL INFORMATION**

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**EYE EFFECTS:**

No product toxicology data available.

**SKIN EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data from similar materials.

**ACUTE ORAL EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data from similar materials.

**ACUTE INHALATION EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data from similar materials.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains zinc alkyl dithiophosphates (ZDDPs). Several ZDDPs have been reported to have weak mutagenic activity in cultured mammalian cells but only at concentrations that were toxic to the test cells. We do not believe that there is any mutagenic risk to workers exposed to ZDDPs.

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water. See Chevron Material Safety Data Sheet No. 1793 for additional information on used motor oil.

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**12. ECOLOGICAL INFORMATION**

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**ECOTOXICITY:**

No data available.

**ENVIRONMENTAL FATE:**

This material is not expected to present any environmental problems other than those associated with oil spills.

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NDA - No Data Available

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NA - Not Applicable

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**13. DISPOSAL CONSIDERATIONS****DISPOSAL CONSIDERATIONS:**

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

**14. TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: NOT DESIGNATED AS A HAZARDOUS MATERIAL BY THE  
FEDERAL DOT  
DOT HAZARD CLASS: NOT APPLICABLE  
DOT IDENTIFICATION NUMBER: NOT APPLICABLE  
DOT PACKING GROUP: NOT APPLICABLE

**15. REGULATORY INFORMATION**

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects:	NO
2. Delayed (Chronic) Health Effects:	NO
3. Fire Hazard:	NO
4. Sudden Release of Pressure Hazard:	NO
5. Reactivity Hazard:	NO

**REGULATORY LISTS SEARCHED:**

01=SARA 313	11=NJ RTK	21=TSCA Sect 4(e)
02=MASS RTK	12=CERCLA 302.4	22=TSCA Sect 5(a)(2)
03=NTP Carcinogen	13=MN RTK	23=TSCA Sect 6
04=CA Prop 65-Carcin	14=ACGIH TWA	24=TSCA Sect 12(b)
05=CA Prop 65-Repro Tox	15=ACGIH STEL	25=TSCA Sect 8(a)
06=IARC Group 1	16=ACGIH Calc TLV	26=TSCA Sect 8(d)
07=IARC Group 2A	17=OSHA PEL	27=TSCA Sect 4(a)
08=IARC Group 2B	18=DOT Marine Pollutant	28=Canadian WHMIS
09=SARA 302/304	19=Chevron TWA	29=OSHA CEILING
10=PA RTK	20=EPA Carcinogen	30=Chevron STEL

The following components of this material are found on the regulatory lists indicated.

DISTILLATES, HYDROTREATED HEAVY PARAFFINIC  
is found on lists: 14,15,17,

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NDA - No Data Available      NA - Not Applicable



# Material Safety Data Sheet

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**CHEVRON DELO 300 Motor Oil SAE 15W-40**

PRODUCT NUMBER(S): CPS238121

### COMPANY IDENTIFICATION

Chevron Products Company  
Global Lubricants  
555 Market St.  
Room 803  
San Francisco, CA 94105-2870

### EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)231-0623 or  
(510)231-0623 (International)  
TRANSPORTATION (24 hr): CHEMTREC  
(800)424-9300 or (703)527-3887  
Emergency Information Centers  
are located in U.S.A.  
Int'l collect calls accepted

PRODUCT INFORMATION: MSDS Requests: (800) 414-MSDS or (800) 414-6737  
Environmental, Safety, & Health Info: (415) 894-0703  
Product Information: (800) 582-3835

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 % CHEVRON DELO 300 Motor Oil SAE 15W-40

### CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
------------	--------	-----------	-------------

LUBRICATING BASE OIL CONTAINING ONE OR MORE OF THE FOLLOWING  
> 74.00%

HYDROTREATED DIST., HVY PARA

Chemical Name: DISTILLATES, HYDROTREATED HEAVY PARAFFINIC

CAS64742547

5 mg/m3 (mist)	ACGIH TWA
10 mg/m3 (mist)	ACGIH STEL
5 mg/m3 (mist)	OSHA PEL

SOLVENT DEWAXED DIST., HVY PAR

Chemical Name: DISTILLATES, SOLVENT DEWAXED HEAVY PARAFFINIC

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CAS64742650	5 mg/m3 (mist)	ACGIH TWA
	10 mg/m3 (mist)	ACGIH STEL
	5 mg/m3 (mist)	OSHA PEL

ADDITIVES INCLUDING THE FOLLOWING  
< 26.00%

**ZINC ALKYL DITHIOPHOSPHATE**

Chemical Name: PHOSPHORODITHIOIC ACID,O,O-DI-C1-14-ALKYL ESTERS, ZINC SALT  
CAS68649423 < 3.00% NONE NA

**N-HEXANE**

Chemical Name: N-HEXANE  
CAS110543 < 0.10% 50 ppm ACGIH TWA  
500 ppm OSHA PEL  
5,000 LBS CERCLA 302.4 RQ

**COMPOSITION COMMENT:**

All the components of this material are on the Toxic Substances Control Act Chemical Substances Inventory.

This product fits the ACGIH definition for mineral oil mist. The ACGIH TLV is 5 mg/m3, the OSHA PEL is 5 mg/m3.

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**3. HAZARDS IDENTIFICATION**

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**POTENTIAL HEALTH EFFECTS**

**EYE:**

Not expected to cause prolonged or significant eye irritation.

**SKIN:**

Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.

**INGESTION:**

Not expected to be harmful if swallowed.

**INHALATION:**

Contains a petroleum-based mineral oil that may cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of airborne levels above the recommended exposure limit.

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**4. FIRST AID MEASURES**

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**EYE:**

No specific first aid measures are required because this material is not expected to cause eye irritation. As a precaution remove contact lenses, if worn, and flush eyes with water.

**SKIN:**

No specific first aid measures are required because this material is not expected to be harmful if it contacts the skin. As a precaution, remove

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clothing and shoes if contaminated. Use a waterless hand cleaner, mineral oil, or petroleum jelly to remove the material. Then wash skin with soap and water. Wash or clean contaminated clothing and shoes before reuse.

**INGESTION:**

No specific first aid measures are required because this material is not expected to be harmful if swallowed. Do not induce vomiting. As a precaution, give the person a glass of water or milk to drink and get medical advice. Never give anything by mouth to an unconscious person.

**INHALATION:**

If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

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**5. FIRE FIGHTING MEASURES**

**FIRE CLASSIFICATION:**

Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

**FLAMMABLE PROPERTIES:**

FLASH POINT: COC 399F (204C) Min.

AUTOIGNITION: NDA

FLAMMABILITY LIMITS (% by volume in air): Lower: NA Upper: NA

**EXTINGUISHING MEDIA:**

CO<sub>2</sub>, Dry Chemical, Foam, Water Fog

**NFPA RATINGS:** Health 1; Flammability 1; Reactivity 0.

**FIRE FIGHTING INSTRUCTIONS:**

This material will burn although it is not easily ignited.

**COMBUSTION PRODUCTS:**

Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorus.

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**6. ACCIDENTAL RELEASE MEASURES**

**CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (703)527-3887**

International Collect Calls Accepted

**ACCIDENTAL RELEASE MEASURES:**

Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Exposure Controls/Personal Protection. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

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**7. HANDLING AND STORAGE**

Do not use pressure to empty drum or drum may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder

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drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### ENGINEERING CONTROLS

Use in a well-ventilated area. If user operations generate an oil mist, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

#### EYE/FACE PROTECTION:

No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

#### SKIN PROTECTION:

No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances. Suggested materials for protective gloves include: <Viton> <Nitrile> <Silver Shield> <4H>

#### RESPIRATORY PROTECTION:

No special respiratory protection is normally required. If user operations generate an oil mist, determine if airborne concentrations are below the recommended exposure limits. If not, select a NIOSH/MSHA approved respirator that provides adequate protection from concentrations of this material. Use the following elements for air-purifying respirators: particulate.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### PHYSICAL DESCRIPTION:

Dark brown liquid.

pH: NDA

VAPOR PRESSURE: NA

VAPOR DENSITY

(AIR=1): NA

BOILING POINT: NA

FREEZING POINT: NDA

MELTING POINT: NA

SOLUBILITY: Soluble in hydrocarbon solvents; insoluble in water.

SPECIFIC GRAVITY: 0.88 @ 15.6/15.6C

EVAPORATION RATE: NA

VISCOSITY: 13.6 cSt @ 100C (Min.)

PERCENT VOLATILE

(VOL): NA

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## 10. STABILITY AND REACTIVITY

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### HAZARDOUS DECOMPOSITION PRODUCTS:

No data available.

### CHEMICAL STABILITY:

Stable.

### CONDITIONS TO AVOID:

No data available.

### INCOMPATIBILITY WITH OTHER MATERIALS:

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

### HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

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## 11. TOXICOLOGICAL INFORMATION

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### EYE EFFECTS:

The eye irritation hazard is based on data for a similar material.

### SKIN EFFECTS:

The skin irritation hazard is based on data for a similar material.

### ACUTE ORAL EFFECTS:

The acute oral toxicity is based on data for a similar material.

### ACUTE INHALATION EFFECTS:

The acute respiratory toxicity is based on data for a similar material.

### ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

This product contains zinc alkyl dithiophosphates (ZDDPs). Several ZDDPs have been reported to have weak mutagenic activity in cultured mammalian cells but only at concentrations that were toxic to the test cells. We do not believe that there is any mutagenic risk to workers exposed to ZDDPs.

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water. See Chevron Material Safety Data Sheet No. 1793 for additional information on used motor oil.

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## 12. ECOLOGICAL INFORMATION

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### ECOTOXICITY:

No data available.

### ENVIRONMENTAL FATE:

This material is not expected to be readily biodegradable.

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## 13. DISPOSAL CONSIDERATIONS

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Oil collection services and collection centers are available for used motor oil recycling or disposal. Some service stations, automotive service centers, and retailers provide motor oil collection facilities.

Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

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## 14. TRANSPORT INFORMATION

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The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: NONE

DOT HAZARD CLASS: NONE

DOT IDENTIFICATION NUMBER: NONE

DOT PACKING GROUP: N/A

ADDITIONAL INFO: Petroleum Lubricating Oil - Not Hazardous by U.S. DOT.  
ADR/RID Hazard class - Not applicable.

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## 15. REGULATORY INFORMATION

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SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects:	NO
2. Delayed (Chronic) Health Effects:	NO
3. Fire Hazard:	NO
4. Sudden Release of Pressure Hazard:	NO
5. Reactivity Hazard:	NO

### REGULATORY LISTS SEARCHED:

01=SARA 313	11=NJ RTK	22=TSCA Sect 5(a)(2)
02=MASS RTK	12=CERCLA 302.4	23=TSCA Sect 6
03=NTP Carcinogen	13=MN RTK	24=TSCA Sect 12(b)
04=CA Prop 65-Carcin	14=ACGIH TWA	25=TSCA Sect 8(a)

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05=CA Prop 65-Repro Tox	15=ACGIH STEL	26=TSCA Sect 8(d)
06=IARC Group 1	16=ACGIH Calc TLV	27=TSCA Sect 4(a)
07=IARC Group 2A	17=OSHA PEL	28=Canadian WHMIS
08=IARC Group 2B	18=DOT Marine Pollutant	29=OSHA CEILING
09=SARA 302/304	19=Chevron TWA	30=Chevron STEL
10=PA RTK	20=EPA Carcinogen	

The following components of this material are found on the regulatory lists indicated.

**N-HEXANE**

is found on lists: 01,02,10,11,12,13,14,17,27,28,

**DISTILLATES, HYDROTREATED HEAVY PARAFFINIC**

is found on lists: 14,15,17,

**DISTILLATES, SOLVENT DEWAXED HEAVY PARAFFINIC**

is found on lists: 14,15,17,

**PHOSPHORODITHIOIC ACID,O,O-DI-CL-14-ALKYL ESTERS, ZINC SALTS**

is found on lists: 01,11,

**EU RISK AND SAFETY STATEMENTS:**

May cause long-term adverse effects in the aquatic environment.

**NEW JERSEY RTK CLASSIFICATION:**

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A.

34:5A-1 et. seq., the product is to be identified as follows:

PETROLEUM OIL

**WHMIS CLASSIFICATION:**

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

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**16. OTHER INFORMATION**

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**NFPA RATINGS: Health 1; Flammability 1; Reactivity 0;**

**HMIS RATINGS: Health 1; Flammability 1; Reactivity 0;**

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**REVISION STATEMENT:**

MSDS DISCONTINUED - This Material Safety Data Sheet will no longer be updated. See MSDS 7005 for information on this material.

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	PEL - Permissible Exposure Limit
C - Ceiling Limit	CAS - Chemical Abstract Service Number
AI-5 - Appendix A Categories	() - Change Has Been Proposed
NDA - No Data Available	NA - Not Applicable

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Prepared according to the OSHA Hazard Communication Standard

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(29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology and Health Risk Assessment Unit, CRTC, P.O. Box 1627, Richmond, CA 94804

\*\*\*\*\*

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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THIS IS THE LAST PAGE OF THIS MSDS

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# Material Safety Data Sheet

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### Chevron Delo ® 300 Motor Oil

**Product Use:** Engine Oil

**Product Number(s):** CPS224603, CPS224604

**Synonyms:** Chevron Delo ® 300 Motor Oil SAE 30, Chevron Delo® 300 Motor Oil SAE 40

#### Company Identification

ChevronTexaco Global Lubricants

6001 Bollinger Canyon Rd.

San Ramon, CA 94583

United States of America

www.chevron-lubricants.com

#### Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

#### Health Emergency

ChevronTexaco Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

#### Product Information

email : lubemsds@chevrontexaco.com

Product Information: (800) LUBE TEK

MSDS Requests: (800) 414-6737

## SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	80 - 100 %weight
Zinc dialkyldithiophosphate	68649-42-3	1 - 5 %weight

## SECTION 3 HAZARDS IDENTIFICATION

#### IMMEDIATE HEALTH EFFECTS

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

## SECTION 4 FIRST AID MEASURES

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

## SECTION 5 FIRE FIGHTING MEASURES

### **FIRE CLASSIFICATION:**

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

### **FLAMMABLE PROPERTIES:**

**Flashpoint:** (Cleveland Open Cup) 215 °C (419 °F) (Min)

**Autoignition:** No Data Available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

### **PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

## SECTION 7 HANDLING AND STORAGE

**Precautionary Measures:** Keep out of the reach of children.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### **GENERAL CONSIDERATIONS:**

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other

substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**ENGINEERING CONTROLS:**

Use in a well-ventilated area.

**PERSONAL PROTECTIVE EQUIPMENT**

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

**Occupational Exposure Limits:**

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	-	-
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	-	-	-

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Attention: the data below are typical values and do not constitute a specification.

**Color:** Brown

**Physical State:** Liquid

**Odor:** Petroleum odor

**pH:** Not Applicable

**Vapor Pressure:** <0.01 mmHg @ 37.8 °C (100 °F)

**Vapor Density (Air = 1):** >1

**Boiling Point:** >315 °C (599°F)

**Solubility:** Soluble in hydrocarbons; insoluble in water

**Freezing Point:** Not Applicable

**Melting Point:** Not Applicable

**Specific Gravity:** 0.89 @ 15.6 °C (60.1°F) / 15.6°C (60.1°F)

**Viscosity:** 11.7 cSt @ 100 °C (212°F) (Min)

**SECTION 10 STABILITY AND REACTIVITY**

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous Decomposition Products:** None known (None expected)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**IMMEDIATE HEALTH EFFECTS**

**Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product

components.

**Skin Sensitization:** No product toxicology data available.

**Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

#### **ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

### **SECTION 12 ECOLOGICAL INFORMATION**

#### **ECOTOXICITY**

The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

#### **ENVIRONMENTAL FATE**

This material is not expected to be readily biodegradable.

### **SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

### **SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**DOT Shipping Description:** PETROLEUM LUBRICATING OIL

**IMO/IMDG Shipping Description:** PETROLEUM LUBRICATING OIL

**ICAO/IATA Shipping Description:** PETROLEUM LUBRICATING OIL

### **SECTION 15 REGULATORY INFORMATION**

- EPCRA 311/312 CATEGORIES:**
1. Immediate (Acute) Health Effects: NO
  2. Delayed (Chronic) Health Effects: NO
  3. Fire Hazard: NO
  4. Sudden Release of Pressure Hazard: NO

5. Reactivity Hazard: NO

**REGULATORY LISTS SEARCHED:**

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Zinc dialkyldithiophosphate 03, 06

**CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: IECSC (China).

**NEW JERSEY RTK CLASSIFICATION:**

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Motor oil)

**WHMIS CLASSIFICATION:**

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

**SECTION 16 OTHER INFORMATION**

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

**HMIS RATINGS:** Health: 1 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE: - Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**LABEL RECOMMENDATION:**

Label Category : ENGINE OIL 1

**REVISION STATEMENT:** This revision updates the following sections of this Material Safety Data Sheet: 1 -16

**Revision Date:** 09/30/2004

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - ChevronTexaco	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the ChevronTexaco Energy Research & Technology Company, 100



Chevron Way, Richmond, California 94802.

**The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.**

Dear Customer: This Bulletin contains important environmental, health and toxicology information for your employees who recently ordered this product. Please make sure this information is given to them. If you resell this product, this Bulletin should be given to the Buyer. This Form may be reproduced without permission.

Chevron U.S.A. Inc.

# Material Safety Data Sheet

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



CHEVRON DELO 400 Motor Oil SAE 30

CPS 225003

**CAUTION! MAY CAUSE EYE IRRITATION  
KEEP OUT OF REACH OF CHILDREN**

## TYPICAL COMPOSITION

Highly refined base oils (CAS 64742-57-0 and/or 64742-01-4, 64742-54-7, 64742-65-0, 64742-55-8, 72623-87-1, 72623-85-9, 64741-96-4/64742-52-5, 64742-62-7 or 72623-83-7) >85%

Additives including inhibitors, dispersants, zinc alkyl dithiophosphate (CAS 68649-42-3) and calcium longchain alkylphenate sulfide <15%

## EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. Based upon information reviewed to date, this product fits the definition for mineral oil mist. The applicable Federal OSHA exposure standard and ACGIH TLV (1985-86) for mineral oil mist is 5 mg/m<sup>3</sup>.

## PHYSIOLOGICAL & HEALTH EFFECTS

May cause eye irritation. Application of similar material into the eyes of rabbits produced moderate membrane irritation without corneal injury.

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

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

Not expected to have acute systemic toxicity by ingestion.

## EMERGENCY & FIRST AID PROCEDURES

### Eyes

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

### Skin

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

### Inhalation

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

### Ingestion

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

## ADDITIONAL HEALTH DATA

See following pages

### SPECIAL PROTECTIVE INFORMATION

**Eye Protection:** Do not get in eyes. Eye contact can be avoided by wearing chemical safety goggles.

**Skin Protection:** No special skin protection is necessary.

**Respiratory Protection:** No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standard, the use of an approved respirator is recommended.

**Ventilation:** Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

### FIRE PROTECTION

**Flash Point:** (COC) 428°F (220°C) Min.

**Autoignition Temp.:** NDA

**Flammability Limits:** n/a

**Extinguishing Media:** CO<sub>2</sub>, Dry Chemical, Foam, Water Fog.

**Special Fire Fighting Procedures:** For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

### SPECIAL PRECAUTIONS

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

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

## ENVIRONMENTAL PROTECTION

**Environmental Impact:** This material is not expected to present any environmental problems other than those associated with oil spills.

**Precautions if Material is Released or Spilled:** Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Special Protective Information. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

**Waste Disposal Methods:** Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

### REACTIVITY DATA

**Stability (Thermal, Light, etc.):** Stable.

**Incompatibility (Materials to Avoid):** May react with strong oxidizing materials.

**Hazardous Decomposition Products:** Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur, nitrogen and phosphorus; incomplete combustion can produce carbon monoxide.

**Hazardous Polymerization:** Will not occur.

### PHYSICAL PROPERTIES

**Solubility:** Insoluble in water. Miscible with hydrocarbon solvents.

**Appearance (Color, Odor, etc.):** Dark brown liquid.

**Boiling Point:** n/a

**Melting Point:** n/a

**Specific Gravity:** 0.88-0.92 @ 15.6/15.6°C

**Vapor Pressure:** n/a

**Vapor Density (Air=1):** n/a

**Percent Volatile (Volume %):** n/a

**Evaporation:** n/a

**Pour Point:** -18°C (Max.)

**Viscosity:** 11.7-12.5 cSt @ 110°C

n/a = Not Applicable

NDA = No Data Available

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

# Material Safety Data Sheet

CHEVRON DELO 400 Motor Oil SAE 30

CPS 225003

## ADDITIONAL HEALTH DATA

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

Several zinc alkyl dithiophosphates (ZDDPs) have been reported to have weak mutagenic activity in cultured mammalian cells but only at concentrations that were toxic to the test cells. Also, in the past, a ZDDP similar to the one used in this product was reported to cause adverse effects on the testicles of rabbits but not of rats after applications to the skin for several weeks. However, follow-up studies in rabbits indicated that the testicular effects were due to a species-specific reaction to stress caused by severe skin irritation and weight loss and not a direct chemical effect of the ZDDP. While toxicologists at Chevron do not believe that there is any mutagenic or testicular risk to workers exposed to ZDDPs as described above, the precautions outlined in this MSDS should be followed.

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

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

This product may contain petroleum base oils refined by a combination of severe hydrocracking and hydrotreating. The carcinogenic potential of paraffinic base oils prepared by this process is not specifically addressed by OSHA, NTP, or IARC. However, the process conditions, chemical analyses, and the results of Ames tests all support our opinion that these oils are not carcinogenic.

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water. See Chevron Material Safety Data Sheet No. 1793 for additional information on used motor oil.



# Material Safety Data Sheet

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### RPM® Universal Gear Lubricant

**Product Use:** Gear Lubricant

**Product Number(s):** 225039, 225040

**Synonyms:** Chevron RPM® Universal Gear Lubricant SAE 80W-90, Chevron RPM® Universal Gear Lubricant SAE 85W-140

**Company Identification**

Chevron Products Company  
a division of Chevron U.S.A. Inc.  
6001 Bollinger Canyon Rd.  
San Ramon, CA 94583  
United States of America  
www.chevronlubricants.com

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**

email : lubemsds@chevron.com  
Product Information: (800) LUBE TEK

## SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15-C50)	Mixture	70 - 99 %wt/wt

## SECTION 3 HAZARDS IDENTIFICATION

\*\*\*\*\*

**EMERGENCY OVERVIEW**

- HARMFUL TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT

\*\*\*\*\*

**IMMEDIATE HEALTH EFFECTS**

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

**SECTION 4 FIRST AID MEASURES**

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

**SECTION 5 FIRE FIGHTING MEASURES**

**FIRE CLASSIFICATION:**

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

**FLAMMABLE PROPERTIES:**

**Flashpoint:** (ASTM D92) 180 °C (356 °F) Minimum

**Autoignition:** No data available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

## SECTION 7 HANDLING AND STORAGE

**Precautionary Measures:** Keep out of the reach of children.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

### ENGINEERING CONTROLS:

Use in a well-ventilated area.

### PERSONAL PROTECTIVE EQUIPMENT

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

### Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15-C50)	ACGIH	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	--	--
Highly refined mineral oil (C15-C50)	OSHA Z-1	5 mg/m <sup>3</sup>	--	--	--

Consult local authorities for appropriate values.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

**Color:** Brown

**Physical State:** Liquid

**Odor:** Petroleum odor

**pH:** Not Applicable

**Vapor Pressure:** <0.01 mmHg @ 37.8 °C (100 °F)

**Vapor Density (Air = 1):** >1

**Boiling Point:** 315°C (599°F)

**Solubility:** Soluble in hydrocarbons; insoluble in water

**Freezing Point:** Not Applicable

**Specific Gravity:** 1 @ 15°C (59°F) (Typical)

**Density:** @ 15°C (59°F)

**Viscosity:** 13.7 mm<sup>2</sup>/s @ 100°C (212°F) Minimum

**Evaporation Rate:** No data available

## SECTION 10 STABILITY AND REACTIVITY

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous Decomposition Products:** None known (None expected)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

## SECTION 11 TOXICOLOGICAL INFORMATION

### IMMEDIATE HEALTH EFFECTS

**Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for similar materials or product components.

**Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

### ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not



been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

**SECTION 12 ECOLOGICAL INFORMATION**

**ECOTOXICITY**

This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

**ENVIRONMENTAL FATE**

**Ready Biodegradability:** This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

**SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**DOT Shipping Description:** PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

**IMO/IMDG Shipping Description:** PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

**SECTION 15 REGULATORY INFORMATION**

<b>EPCRA 311/312 CATEGORIES:</b>	1. Immediate (Acute) Health Effects:	NO
	2. Delayed (Chronic) Health Effects:	NO
	3. Fire Hazard:	NO
	4. Sudden Release of Pressure Hazard:	NO
	5. Reactivity Hazard:	NO

**REGULATORY LISTS SEARCHED:**

- |                     |                      |
|---------------------|----------------------|
| 01-1=IARC Group 1   | 03=EPCRA 313         |
| 01-2A=IARC Group 2A | 04=CA Proposition 65 |
| 01-2B=IARC Group 2B | 05=MA RTK            |
| 02=NTP Carcinogen   | 06=NJ RTK            |
|                     | 07=PA RTK            |

No components of this material were found on the regulatory lists above.

**CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

**NEW JERSEY RTK CLASSIFICATION:**

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Gear oil)

**WHMIS CLASSIFICATION:**

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

**SECTION 16 OTHER INFORMATION**

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

**HMIS RATINGS:** Health: 1 Flammability: 1 Reactivity: 0  
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**LABEL RECOMMENDATION:**

Label Category : INDUSTRIAL OIL 1 - IND1

**REVISION STATEMENT:** This revision updates the following sections of this Safety Data Sheet: 2, 16.  
**Revision Date:** August 20, 2013

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

**The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the**

date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

# Material Safety Data Sheet



**SECTION 1 PRODUCT AND COMPANY IDENTIFICATION**

## Chevron SRI Grease 2

**Product Use:** Grease  
**Product Number(s):** 254521  
**Company Identification**  
Chevron Products Company  
a division of Chevron U.S.A. Inc.  
6001 Bollinger Canyon Rd.  
San Ramon, CA 94583  
United States of America  
www.chevronlubricants.com

**Transportation Emergency Response**  
CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**  
Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**  
email : lubemsds@chevron.com  
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

**SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS**

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt

**SECTION 3 HAZARDS IDENTIFICATION**

\*\*\*\*\*

### EMERGENCY OVERVIEW

- HARMFUL TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT

\*\*\*\*\*

### IMMEDIATE HEALTH EFFECTS

**Eye:** Not expected to cause prolonged or significant eye irritation.  
**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an

accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

**SECTION 4 FIRST AID MEASURES**

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

**Note to Physicians:** In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

**SECTION 5 FIRE FIGHTING MEASURES**

**FIRE CLASSIFICATION:**

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

**FLAMMABLE PROPERTIES:**

**Flashpoint:** (Cleveland Open Cup) 246 °C (475 °F) (Typical)

**Autoignition:** No data available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection section. Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

## SECTION 7 HANDLING AND STORAGE

**Precautionary Measures:** Do not get in eyes, on skin, or on clothing. Keep out of the reach of children.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

### ENGINEERING CONTROLS:

Use in a well-ventilated area.

### PERSONAL PROTECTIVE EQUIPMENT

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Neoprene, Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational

exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

**Occupational Exposure Limits:**

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Attention: the data below are typical values and do not constitute a specification.

- Color:** Light to Brown
- Physical State:** Semi-solid
- Odor:** Petroleum odor
- pH:** Not Applicable
- Vapor Pressure:** <0.01 mmHg Maximum @ 37.8 °C (100 °F)
- Vapor Density (Air = 1):** >1 Minimum
- Boiling Point:** 315°C (599°F) Minimum
- Solubility:** Soluble in hydrocarbons; insoluble in water
- Freezing Point:** Not Applicable
- Melting Point:** No data available
- Specific Gravity:** 0.9 @ 15.6°C (60.1°F) (Typical)
- Density:** No data available
- Viscosity:** 11.8 mm2/s @ 100°C (212°F) Minimum
- Evaporation Rate:** No data available

**SECTION 10 STABILITY AND REACTIVITY**

- Reactivity:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
- Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
- Incompatibility With Other Materials:** Not applicable
- Hazardous Decomposition Products:** None known (None expected)
- Hazardous Polymerization:** Hazardous polymerization will not occur.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**IMMEDIATE HEALTH EFFECTS**

- Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.
- Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.
- Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for similar materials or product components.
- Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

**SECTION 12 ECOLOGICAL INFORMATION**

**ECOTOXICITY**

This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

**ENVIRONMENTAL FATE**

**Ready Biodegradability:** This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

**SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**DOT Shipping Description:** PETROLEUM LUBRICATING GREASE; NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

**IMO/IMDG Shipping Description:** PETROLEUM LUBRICATING GREASE; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** PETROLEUM LUBRICATING GREASE; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO



## SECTION 15 REGULATORY INFORMATION

<b>EPCRA 311/312 CATEGORIES:</b>	1. Immediate (Acute) Health Effects:	NO
	2. Delayed (Chronic) Health Effects:	NO
	3. Fire Hazard:	NO
	4. Sudden Release of Pressure Hazard:	NO
	5. Reactivity Hazard:	NO

### REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated. No components of this material were found on the regulatory lists above.

### CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: IECSC (China), PICCS (Philippines), TSCA (United States).

### NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Grease)

## SECTION 16 OTHER INFORMATION

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

**HMIS RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

### LABEL RECOMMENDATION:

Label Category : GREASE 1 - GRS1

**REVISION STATEMENT:** This is a new Safety Data Sheet.

**Revision Date:** November 04, 2014

### ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)

IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

**The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.**

# Safety Data Sheet



**SECTION 1 PRODUCT AND COMPANY IDENTIFICATION**

## Chevron Ultra-Duty Grease EP NLGI 0, 1, 2

**Product Use:** Grease

**Product Number(s):** 238011, 238012, 238013

**Company Identification**

Chevron Products Company  
a division of Chevron U.S.A. Inc.  
6001 Bollinger Canyon Rd.  
San Ramon, CA 94583  
United States of America  
www.chevronlubricants.com

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**

email : lubemsds@chevron.com  
Product Information: 1 (800) 582-3835, LUBETEK@chevron.com

**SECTION 2 HAZARDS IDENTIFICATION**

**CLASSIFICATION:** Acute aquatic toxicant: Category 3. Chronic aquatic toxicant: Category 3.

**Environmental Hazards:** Harmful to aquatic life with long lasting effects.

**PRECAUTIONARY STATEMENTS:**

**Prevention:** Avoid release to the environment.

**Disposal:** Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

**HAZARDS NOT OTHERWISE CLASSIFIED:** Not Applicable

**SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS**

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %wt/wt
Zinc dialkyldithiophosphate	68649-42-3	1 - 5 %wt/wt

**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures**

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

**Most important symptoms and effects, both acute and delayed**

**IMMEDIATE HEALTH EFFECTS**

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation

may include coughing and difficulty breathing.

**DELAYED OR OTHER HEALTH EFFECTS:** Not classified

**Indication of any immediate medical attention and special treatment needed**

**Note to Physicians:** In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

**SECTION 5 FIRE FIGHTING MEASURES**

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. See Section 7 for proper handling and storage. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection section. Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

**SECTION 7 HANDLING AND STORAGE**

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Precautionary Measures:** Keep out of the reach of children.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this

material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**GENERAL CONSIDERATIONS:**

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**ENGINEERING CONTROLS:**

Use in a well-ventilated area.

**PERSONAL PROTECTIVE EQUIPMENT**

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Neoprene, Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

**Occupational Exposure Limits:**

Component	Agency	TWA	STEL	Ceiling	Notation

Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Zinc dialkyldithiophosphate	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Attention: the data below are typical values and do not constitute a specification.**

**Color:** Red

**Physical State:** Semi-solid

**Odor:** Petroleum odor

**Odor Threshold:** No data available

**pH:** Not Applicable

**Vapor Pressure:** <0.01 mmHg Maximum @ 100 °C (212 °F)

**Vapor Density (Air = 1):** >1 Minimum

**Initial Boiling Point:** 260°C (500°F) Minimum

**Solubility:** Soluble in hydrocarbons; insoluble in water

**Freezing Point:** No data available

**Melting Point:** 165°C (329°F) (Min)

**Specific Gravity:** 1.10 @ 15.6°C (60.1°F) (Estimated)

**Density:** No data available

**Viscosity:** No data available

**Evaporation Rate:** No data available

**Decomposition temperature:** No data available

**Octanol/Water Partition Coefficient:** No data available

### FLAMMABLE PROPERTIES:

**Flammability (solid, gas):** No Data Available

**Flashpoint:** 274 °C (525 °F) Minimum

**Autoignition:** No data available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

## SECTION 10 STABILITY AND REACTIVITY

**Reactivity:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Incompatibility With Other Materials:** Not applicable

Revision Number: 10

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Chevron Ultra-Duty Grease EP NLGI 0,  
1, 2

Revision Date: June 10, 2016

SDS : 6790

**Hazardous Decomposition Products:** None known (None expected)  
**Hazardous Polymerization:** Hazardous polymerization will not occur.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

**Serious Eye Damage/Irritation:** The eye irritation hazard is based on evaluation of data for product components.

**Skin Corrosion/Irritation:** The skin irritation hazard is based on evaluation of data for product components.

**Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for product components.

**Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for product components.

**Acute Toxicity Estimate:** Not Determined

**Germ Cell Mutagenicity:** The hazard evaluation is based on data for components or a similar material.

**Carcinogenicity:** The hazard evaluation is based on data for components or a similar material.

**Reproductive Toxicity:** The hazard evaluation is based on data for components or a similar material.

**Specific Target Organ Toxicity - Single Exposure:** The hazard evaluation is based on data for components or a similar material.

**Specific Target Organ Toxicity - Repeated Exposure:** The hazard evaluation is based on data for components or a similar material.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).



## SECTION 12 ECOLOGICAL INFORMATION

### ECOTOXICITY

This material is expected to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

The product has not been tested. The statement has been derived from the properties of the individual components.

### MOBILITY

No data available.

### PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

The product has not been tested. The statement has been derived from the properties of the individual components.

### POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

## SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

## SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**DOT Shipping Description:** PETROLEUM LUBRICATING GREASE; NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

**IMO/IMDG Shipping Description:** PETROLEUM LUBRICATING GREASE; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** PETROLEUM LUBRICATING GREASE; NOT REGULATED AS

DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:  
Not applicable

**SECTION 15 REGULATORY INFORMATION**

- EPCRA 311/312 CATEGORIES:**
- |                                       |    |
|---------------------------------------|----|
| 1. Immediate (Acute) Health Effects:  | NO |
| 2. Delayed (Chronic) Health Effects:  | NO |
| 3. Fire Hazard:                       | NO |
| 4. Sudden Release of Pressure Hazard: | NO |
| 5. Reactivity Hazard:                 | NO |

**REGULATORY LISTS SEARCHED:**

- |                     |                      |
|---------------------|----------------------|
| 01-1=IARC Group 1   | 03=EPCRA 313         |
| 01-2A=IARC Group 2A | 04=CA Proposition 65 |
| 01-2B=IARC Group 2B | 05=MA RTK            |
| 02=NTP Carcinogen   | 06=NJ RTK            |
|                     | 07=PA RTK            |

The following components of this material are found on the regulatory lists indicated.

Zinc dialkyldithiophosphate 06

**CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan).

**NEW JERSEY RTK CLASSIFICATION:**

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Grease)

**SECTION 16 OTHER INFORMATION**

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

**HMIS RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**REVISION STATEMENT:** This revision updates the following sections of this Safety Data Sheet: 9, 16

**Revision Date:** June 10, 2016

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

## Material Safety Data Sheet: Chlorine

### 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name

Chlorine

Effective date

February, 1999

Synonyms

Bertholite

Chemical formula

Cl<sub>2</sub>

CAS name & no.

Chlorine, 7782-50-5

Manufacturer's name and address

Georgia Gulf Corporation  
P.O. Box 629  
Plaquemine, LA 70765-0629

Emergency telephone number

Chemtec (800) 424-9300  
Use only in the event of chemical emergencies involving spill, leak, fire or exposure or accident involving chemicals.

MSDS contact

Steve I. Varnado, Health & Safety Manager  
P.O. Box 629  
Plaquemine, LA 70765-0629  
Phone Number (225) 685-2640  
Monday - Friday 7:30 a.m. until 4:00 p.m. C.S.T.



## Material Safety Data Sheet: Chlorine

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Wt. %.
Chlorine	7782-50-5	>99

### 3. HAZARDS IDENTIFICATION

#### PRECAUTIONARY INFORMATION

**DANGER:** Corrosive. Strong oxidizer. Eye and skin burns on contact. Inhalation hazard. Inhalation may be fatal. Severe eye and respiratory tract irritant at low levels. Can react explosively with organic products.

#### POTENTIAL HEALTH EFFECTS

##### Primary Routes Of Exposure

Inhalation, skin, and eye contact.

##### Acute Effects

Chlorine is a potent irritant to the mucous membranes of the eyes, nose and throat, and to the linings of the entire respiratory tract. The extent of injury depends upon concentration and duration of exposure. Estimated clinical effects are as follows:

Exposure (in ppm)	Effects
0.2-3	Mild mucous membrane irritation
5-15	Moderate irritation of the upper respiratory tract
7-8	Eye irritation
30	Immediate chest pain, vomiting, difficult or labored breathing, and cough
40-60	Toxic pneumonia and pulmonary edema

Death may occur under severe exposure. In high concentrations, chlorine may cause skin irritation, with sensations of burning and prickling, inflammation, and blister formation. Liquid chlorine may cause serious eye and skin burns on contact.

## Material Safety Data Sheet: Chlorine

### 3. HAZARDS IDENTIFICATION CONTINUED

#### HAZARD CLASSIFICATION

##### Chronic Effects

Chronic exposure to chlorine gas can cause corrosion of the teeth, diseases of the lung, and may predispose the individual to lung infections, including tuberculosis.

##### Potential Adverse Chemical Interactions

Persons with pre-existing lung or skin diseases may be at increased risk to the toxic effects of chlorine on these organs. Smoking activity exacerbates the pulmonary toxicity of chlorine gas. A significant decrease in air flow rates have been noted in smokers exposed to chlorine as compared with non-smokers exposed to chlorine.

##### Carcinogen Status

Chlorine is not considered carcinogenic by OSHA, NIOSH, NTP, IARC, or EPA.

### 4. FIRST AID MEASURES

#### Inhalation

Remove victim to fresh air without delay. Make sure that rescuers wear self-contained breathing apparatus and have protective clothing. If minimal exposure with minor sensations of burning of nose, throat, eyes, and respiratory tract (with perhaps slight cough), no specific treatment required beyond removal from chlorine atmosphere. In most instances these victims will be symptom free within an hour or less. However, because of possible delayed pulmonary effect, they should receive medical attention and be observed for several days.

Those individuals experiencing more severe symptoms (i.e., tightness in chest, dyspnea, persistent cough, anxiety) must be treated with oxygen and other supportive measures. Move victim to fresh air and get medical attention. Monitor for respiratory distress. Emergency airway support and 100% humidified supplemental oxygen with artificial respiration may be needed. If clothing is contaminated with chlorine, remove and wash skin with plenty of water. Transfer to hospital or emergency medical facility.

#### Skin Contact

Wash skin with extreme thoroughness using soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. The affected skin areas should be examined by a physician for evidence of corrosion, especially if pain persists.

## Material Safety Data Sheet: Chlorine

### 4. FIRST AID MEASURES CONTINUED

#### Eye Contact

Wash eyes with large amounts of room temperature water for at least 15 minutes occasionally lifting the lower and upper lids. Get medical attention immediately. Victim should be examined by an ophthalmologist. Contact lenses should not be worn when working with chlorine.

**Ingestion** Not applicable.

### 5. FIRE FIGHTING MEASURES

**Flash Point** Not Applicable

#### Flammable Limits (% By Vol.)

Lower Explosive Limit (LEL) Not Applicable  
Upper Explosive Limit (UEL) Not Applicable

**Autoignition Temperature** Not Applicable

#### Fire Fighting Procedures/Fire Extinguishing Media

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind and out of low areas; ventilate closed areas before entering. Prevent human exposure to fire, smoke, fumes, or products of combustion. Self-contained positive pressure breathing equipment, fully enclosed protective clothing, and structural firefighter's protective clothing should be used by firefighters. Move containers from the fire zone, if they can be moved without risk. Tank cars or barges should be disconnected and pulled out of the danger area. This should be attempted only by properly trained personnel using prescribed protective equipment. For small fires use dry chemical or carbon dioxide fire extinguishers. Use alcohol foam for large fires. Use water sprays to cool containers exposed to flames, until well after the fire is out. Stay away from ends of tanks. Containers may explode in heat of fire. For massive fires in cargo areas, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

#### Unusual Fire and Explosion Hazards

Strong oxidizer. Chlorine itself is non-combustible, but most combustibles will burn in chlorine as in oxygen, forming irritating and toxic gases. Chlorine may ignite other combustible materials (wood, paper, oil, etc.). Chlorine reacts explosively, or forms explosive compounds, with many chemicals such as acetylene, turpentine, ether, ammonia, hydrogen and finely divided metals.

## Material Safety Data Sheet: Chlorine

### 5. FIRE FIGHTING MEASURES CONTINUED

#### National Fire Protection Association Hazard Rating

- 4 = Extreme
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant
- OX = Oxidizer



### 6. ACCIDENTAL RELEASE MEASURES

Shut off all ignition sources. Restrict access to spill area; move unprotected personnel upwind of the area. Evacuate the spill area for at least 150 feet in all directions for small spills from drums or small containers and evacuate for at least 300 feet initially for large spills. For large spills then evacuate for at least 0.8 mile width and 1.5 mile length downwind of spill. Allow only trained personnel in the vicinity of the spill. Wear NIOSH approved positive pressure self-contained respirator and fully encapsulated protective clothing in the vicinity of the spill. Only trained personnel should try to stop leak, if they can do so without risk. Never apply water to a chlorine leak. Application of water makes chlorine much more corrosive. Keep combustibles (wood, paper, oil, etc.) away from the spill area. Chlorine represents an explosion hazard if it comes into contact with incompatible materials. Chlorine can be neutralized by absorbing into an alkaline material such as caustic soda, soda ash (NaOH), lime, etc. Control large spills by diking and cover the spill with foam to reduce air contamination. Dispose spill material in accordance with federal, state, and local regulations. Chlorine spills over the reportable quantity (10 lbs) should be reported to the National Response Center (800-424-8802).

### 7. HANDLING AND STORAGE

#### Storage

Store chlorine in a cool, dry, well-ventilated place, in accordance with 29 CFR 1910.106. Store away from heat and sources of ignition. Store in an area equipped with automatic sprinklers or fire extinguishing system. Store in an area with automatic sprinklers or fire extinguishing system. Chlorine containers should be segregated from other compressed gases and should never be stored near acetylene, hydrogen, hydrocarbons, finely divided metals, turpentine, ether, anhydrous ammonia, or other flammable material. Wear appropriate protective equipment when handling chlorine. All chlorine process equipment including pipes, valves, and containers should be kept dry. Follow all federal, state, and local regulations as well as insurance codes when storing and handling chlorine.



## Material Safety Data Sheet: Chlorine

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Respiratory Protection

Use appropriate NIOSH approved respirators in accordance with 29 CFR 1910.132 and 1910.134, to prevent overexposure. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

#### Eye Protection

Use splash proof safety goggles or appropriate full-face respirator. Follow the eye and face protection guidelines of 29 CFR 1910.132 and 1910.133. Where there is any possibility that an individual's eyes may be exposed to chlorine, an eye wash fountain (in accordance with 29 CFR 1910.151) should be within the immediate work area for emergency use. Contact lenses should not be worn when working with this chemical.

#### Protective Gloves

Use protective gloves in accordance with 29 CFR 1910.132.

#### Ventilation

Provide local ventilation to maintain exposure levels below recommended exposure limits.

#### Exposure Guidelines

OSHA PEL Ceiling Limit for chlorine is 1.0 ppm. ACGIH TWA TLV for chlorine is 0.5 ppm and the STEL TLV is 1.0ppm.

#### Other

Where there is any possibility of exposure of an individual's body to liquid chlorine, facilities for quick drenching of the body should be provided (in accordance with 29 CFR 1910.151) within the immediate work area for emergency use. Such individuals should be provided with and required to use impervious clothing in accordance with 29 CFR 1910.132.

#### Animal Toxicity

Inhalation:	Rat LC <sub>50</sub>	293 ppm (1 hr)
	Mouse LC <sub>50</sub>	137 ppm (1 hr)
	Human LC <sub>10</sub>	874 ppm (30 min)

LC<sub>50</sub> = Air concentration that is lethal to 50% of a given species in a given period of time.

LC<sub>10</sub> = Lowest air concentration that is lethal to a given species in a given time.

## Material Safety Data Sheet: Chlorine

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Amber colored liquid, vaporizes to greenish yellow gas
Odor	Pungent odor
Molecular Weight	70.9
Boiling Point	-34.5° C
Melting Point	-101° C
Solubility	Moderately miscible in water (0.073% at 20° C)
Specific Gravity (Water = 1.0)	Gas 2.49 (air = 1) at 0° C; liquid 1.47 (water = 1) at 0/4° C
Vapor Density (Air = 1.0)	2.67 at 20° C
Vapor Pressure	4996 mm Hg at 20° C
pH	Not Available

### 10. STABILITY AND REACTIVITY

#### Stability

Stable under normal conditions

#### Polymerization

Hazardous polymerization does not occur

#### Hazardous Decomposition Products

Chlorine forms corrosive solution in water: hydrochloric acid, hypochlorous acid.

#### Incompatible Materials

Alkalies, reducing agents, combustible substances, finely divided metals, and organic material. Moist chlorine is highly corrosive to most metals. Chlorine reacts with most metals at high temperatures. Chlorine reacts with hydrogen sulfide and water to form hydrochloric acid; with carbon monoxide and sulfur dioxide to form phosgene and sulfuryl chloride. Chlorine is a strong oxidizer.

### 11. DISPOSAL CONSIDERATIONS

**Waste Management Information:** Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

## Material Safety Data Sheet: Chlorine

### 12. TRANSPORTATION INFORMATION

Proper Shipping Name	Chlorine
DOT Hazard Class	2.3, (Poisonous gas)
DOT Shipping ID No.	UN 1017
DOT Labeling	Poison gas, Corrosive

### 13. ECOLOGICAL INFORMATION

Chlorine gas will disperse to the atmosphere leaving no residue. Chlorine is toxic to fish. Keep out of lakes, streams or ponds.

#### Aquatic Toxicity

Fresh water fish/cold water fish: (Trout) - LC(50) = 0.006 - 0.60 mg/l of total residue chlorine at different life stages for different species.

Fresh water fish/warm water fish: LC(50) = 0.09 - 0.30 mg/l of total residue chlorine.

Waterfowl toxicity: 10 ppm/1 hr/tunicates/killed/saltwater

### 14. REGULATORY INFORMATION

#### SARA Title III

Section 302 and 304 of the Act; Extremely Hazardous Substances (40 CFR 355)

<u>COMPONENT</u>	<u>CAS No.</u>	<u>TPQ (lbs)</u>	<u>RQ (lbs)</u>
Chlorine	7782-50-5	100	10

Note: TPQ - Threshold Planning Quantity RQ - Reportable Quantity

Section 311 Hazard Categorization (40 CFR 370)

<u>ACUTE</u>	<u>CHRONIC</u>	<u>FIRE</u>	<u>PRESSURE</u>	<u>REACTIVE</u>
X	X	X	X	X

Section 313 Toxic Chemicals (40 CFR 372.65)

<u>COMPONENT</u>	<u>CAS No.</u>	<u>WT. %</u>
Chlorine	7782-50-5	> 99%

## Material Safety Data Sheet: Chlorine

### 14. REGULATORY INFORMATION CONTINUED

#### CERCLA

Section 102(a) Hazardous Substances (40 CFR 302.4)

<u>COMPONENT</u>	<u>CAS No.</u>	<u>WT. %</u>	<u>RO (lbs)</u>
Chlorine	7782-50-5	>99	10

#### RCRA

Not applicable.

#### TSCA

Chlorine is listed on the TSCA inventory.

### 15. OTHER INFORMATION

**IMPORTANT:** The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. **GEORGIA GULF MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION AND DATA HEREIN.** Georgia Gulf will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading. This information relates to the material designated and may not be valid for such material used in combination with any other materials nor in any process.

MSDS Status: Revision Date 2/18/99

Supersedes 11/16/95

# SAFETY DATA SHEET

SDS NUMBER: 000120-15-LPI

SDS REVISIONS: FORMAT

DATE OF ISSUE: 01/13/15

CLEAN AMINE®

SUPERSEDES: 12/12/12

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 PRODUCT IDENTIFIER:

TRADE NAME: CLEAN AMINE®

1.2 RECOMMENDED USE: FOR SELECTIVE BROADLEAF WEED CONTROL IN CERTAIN CROPS, TURF AND NON-CROP AREAS

### 1.3 SUPPLIER DETAILS:

LOVELAND PRODUCTS, INC.

P.O. Box 1286 • Greeley, CO 80632-1286

1.4 24 Hour Emergency Phone: 1-800-424-9300 - Medical Emergencies: 1-866-944-8565

U.S. Coast Guard National Response Center: 1-800-424-8802

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification according to 29 CFR 1910.1200

Eye Damage

Category 1

H318

Oral acute toxicity

Category 4

H302

### 2.2 Label elements



Signal word:

DANGER

Hazard Statement:

H318 – Causes serious eye damage.

H302 – Harmful if swallowed.

Precautionary

Statement:

P262 – Do not get in eyes, on skin, or on clothing.

P264 - Wash thoroughly after handling.

(Prevention):

P271 – Use only outdoors or in a well-ventilated area.

P280 – Wear protective gloves / eye protection / face protection.

P102 – Keep out of reach of children.

Precautionary

Statement:

P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

(Response):

P101 – If medical advice is needed, have the product container or label at hand.

P363 – Wash contaminated clothing before reuse.

P391 – Collect spillage.

Precautionary

Statement:

(Storage):

P402+P234 – Do not store below 25°F (-3.9°C). If frozen, warm to 70°F (21.2°C). Keep only in original container.

P405 – Store locked up.

### 2.3 Other hazards

None known

### KEEP OUT OF REACH OF CHILDREN –

Appearance and odor: Amber to nearly black liquid with “fishy” amine-like odor.

#### Potential Health effects

##### Routes of exposure

Eye contact. Ingestion.

##### Eyes

Causes serious eye damage.

##### Skin

Not a skin irritant.

##### Inhalation

No data available.

##### Ingestion

Harmful if swallowed.

#### Target organs

Eyes. Ingestion.

#### Signs and symptoms

Causes serious eye damage.

#### Potential environmental effects

This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have harmful or damaging effect on the environment.

**SAFETY DATA SHEET**

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**3. COMPOSITION, INFORMATION ON INGREDIENTS**

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**3.1 Substances****3.2 Mixtures****Classification according to 29 CFR 1910.1200**

Chemical Name:	CAS No.	Classification	Concentration [%]
Dimethylamine salt of 2,4-D	2008-39-1	Eye Dam. 1; H318 Oral tox. 4; H302	46.50
*Other ingredients	n/a		53.50

\*Ingredients not specifically listed are non-hazardous and are to be considered proprietary or confidential business information per 29 CFR 1910.1200(i)

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**4. FIRST AID MEASURES**

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**4.1 Description of First Aid Measures**

General Advice: Get medical attention if symptoms occur.

- If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
- If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
- If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

**4.2 Most Important Symptoms and Effects, Acute and Delayed**

Symptoms: Eyes: Causes serious eye damage.  
Oral: Harmful if swallowed.

**4.3 Immediate Medical Attention and Special Treatment**

Treatment: Treat symptomatically. Symptoms may be delayed.

**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565**

Take container, label or product name with you when seeking medical attention.

**NOTES TO PHYSICIAN:** Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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**5. FIRE FIGHTING MEASURES**

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**5.1 EXTINGUISHING MEDIA:**

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO<sub>2</sub>), alcohol foam, foam, water spray or fog.

**5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:**

Specific Hazards During Firefighting: Ammonia, oxides of nitrogen, chlorine-containing compounds and other unknown materials may be formed in a fire situation.

**5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS**

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

# SAFETY DATA SHEET

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CLEAN AMINE®

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water.  
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination.  
Never return spills to original containers for re-use.

## 7. HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### 7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Do not store below temperature of 25° F. If frozen, warm to 70° F. and redissolve before using by rolling or shaking the container. Store in a safe manner. Store in original container only. Store in cool, dry place. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength. Personnel should use clothing and equipment consistent with good pesticide handling. Do not contaminate water, food or feed by storage or disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS:

#### OCCUPATIONAL EXPOSURE LIMITS

##### U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
2,4-D Acid	TLV	10 mg/m <sup>3</sup>
Dimethylamine	TLV	9.2 mg/m <sup>3</sup>

##### U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
2,4-D Acid	TLV	10 mg/m <sup>3</sup>
Dimethylamine	TLV	18 mg/m <sup>3</sup>

#### Biological limit values

##### ACGIH Biological Exposure Indices

Components	Value	Specimen
No listings		

### 8.2 EXPOSURE CONTROLS:

#### Engineering Measures

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

#### Individual Protection Measures:

Eye / Face Protection: Goggles or shielded safety glasses are recommended.

Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves, such as polyethylene or polyvinylchloride. Shoes plus socks.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapors, use suitable respiratory equipment such as MSHA/NIOSH TC-84A with NIOSH equipped N, R, or P class filter media. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

# SAFETY DATA SHEET

SDS NUMBER: 000120-15-LPI

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CLEAN AMINE®

SUPERSEDES: 12/12/12

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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9.1 APPEARANCE :	Liquid
ODOR:	Fishy, amine-like.
ODOR THRESHOLD:	No data available.
COLOR:	Amber to nearly black.
pH:	6.6
MELTING POINT / FREEZING POINT:	No data available
BOILING POINT:	No data available
FLASH POINT:	Does not flash.
FLAMMABILITY (solid, gas):	No data available.
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	No data available.
VAPOR PRESSURE:	0.00141 mmHg @ 20°C.
SOLUBILITY:	Miscible.
PARTITION CO-EFFICIENT, n-OCTANOL / WATER:	No data available.
AUTO-IGNITION TEMPERATURE:	No data available.
DECOMPOSITION TEMPERATURE:	No data available.
VISCOSITY: (kinematic):	No data available
SPECIFIC GRAVITY (Water = 1):	1.158 g/ml
BULK DENSITY:	9.66 lbs./gal / 1.16 kg/L

Note: These physical data are typical values based on material tested but may vary from sample to sample.  
Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

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## 10. STABILITY AND REACTIVITY

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### 10.1 REACTIVITY

Stable

### 10.2 CHEMICAL STABILITY

Stable under normal temperature conditions

### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No data available. Will not polymerize.

### 10.4 CONDITIONS TO AVOID

Excessive heat and moisture.

### 10.5 INCOMPATIBLE MATERIALS

Strong acids.

### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Ammonia, oxides of nitrogen, chlorine-containing compounds and other unknown hazardous material may be formed in a fire situation. Oxides of carbon and/or other asphyxiants may be formed from incomplete combustion.

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## 11 TOXICOLOGICAL INFORMATION

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### 11.3 LIKELY ROUTES OF EXPOSURE

Eye contact. Harmful if swallowed.

**LC<sub>50</sub> (rat):** >5.28 mg/L (4 HR)

**LD<sub>50</sub> Oral (rat):** 1,670 mg/kg

**LD<sub>50</sub> Dermal (rat):** > 2,000 mg/kg

**Acute Toxicity Estimates:** No data available

**Skin Irritation (rabbit):** not an irritant.

**Eye Irritation (rabbit):** Corrosive; causes irreversible eye damage.

**Specific Target Organ Toxicity:** Skin, CNS, liver, kidneys.

**Aspiration:** No data available

**Skin Sensitization (guinea pig):** Not a sensitizer

**Carcinogenicity:** IARC Group 2B (limited evidence for carcinogenicity in humans).

**Germ Cell Mutagenicity:** No data available

**Interactive Effects:** None known



**SAFETY DATA SHEET**

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**CLEAN AMINE®**

SUPERSEDES: 12/12/12

**12 ECOLOGICAL INFORMATION****12.3 ECOTOXICITY**

The product may be toxic to fish and aquatic invertebrates. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Information below is based on the technical ingredient 2,4-D acid.

**Ecotoxicological Data**

	<b>Species</b>	<b>Test Results</b>
2,4-D Acid	Rainbow trout	245 mg/L – 96-hour LC <sub>50</sub>
	Bluegill	524 mg/L – 96-hour LC <sub>50</sub>
	Fathead minnow	344 mg/L – 96-hour LC <sub>50</sub>
	Pink shrimp	181 mg/L – 96-hour LC <sub>50</sub>
	Daphnia magna	184 mg/L – 96-hour LC <sub>50</sub>
	Tidewater silverside	469 mg/L – 96-hour LC <sub>50</sub>
	Eastern oyster	136 mg/L – 48-hour EC <sub>50</sub>

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water.

Do not contaminate water when disposing of equipment wash water.

Do not apply when weather conditions favor drift from target area.

**12.2 PERSISTENCE AND DEGRADABILITY**

Biodegradability: Biochemical oxygen demand is 0.72 for 5, 10 and 20 days. Chemical oxygen demand is 0.72. Under aerobic soil conditions the half-life is 4 – 23 days. Under aerobic aquatic conditions, the half-life is 0.5 – 11 days.

**12.3 BIOACCUMULATIVE POTENTIAL**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or log Pow < 3).

**12.4 MOBILITY IN SOIL**

High (50 < Koc < 150). Soil organic carbon/water partition coefficient (Koc) is 72-136.

**12.5 OTHER ADVERSE EFFECTS**

Assessment: No data available.

**13 DISPOSAL CONSIDERATIONS****13.1 WASTE TREATMENT METHODS**

Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at <http://www.acrecycle.org/>. Do not contaminate water, food or feed by storage or disposal.

**14 TRANSPORT INFORMATION****14.3 LAND TRANSPORT**

DOT Shipping Description: Less than 27 gallons: NOT REGULATED BY DOT

DOT Shipping Description: Greater than 27 gallons: RQ UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III (2,4-D), ERG GUIDE 171

U.S. Surface Freight Classification: COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: CLASS: 60)

**15 REGULATORY INFORMATION****15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS****NFPA & HMIS Hazard Ratings:**

NFPA

HMIS

3 Health

0 Least

3 Health

0 Flammability

1 Slight

0 Flammability

0 Instability

2 Moderate

0 Reactivity

3 High

H PPE

4 Severe

**SARA Hazard Notification/Reporting****SARA Title III Hazard Category:**

Immediate

Y

Fire

N

Sudden Release of Pressure

N

Delayed

N

Reactive

N

# SAFETY DATA SHEET

SDS NUMBER: 000120-15-LPI

SDS REVISIONS: FORMAT

DATE OF ISSUE: 01/13/15

**CLEAN AMINE®**

SUPERSEDES: 12/12/12

Reportable Quantity (RQ) under U.S. CERCLA: 2,4-D Acid (CAS: 94-75-7) 100 pounds.

SARA, Title III, Section 313: 2,4-D Acid (CAS: 94-75-7) 38.6% acid equivalent

RCRA Waste Code: U240; D016

CA Proposition 65: Not listed.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

## DANGER

Corrosive

Causes irreversible eye damage.

Harmful if swallowed.

Do not get in eyes or on clothing.

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## 16 OTHER INFORMATION

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**SDS STATUS:** Format revised.

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental Health and Safety

**EPA REG. NO.:** 34704-120

*®Clean Amine is a registered trademark of Loveland Products, Inc.*

**Disclaimer and Limitation of Liability:** This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and LOVELAND PRODUCTS, INC. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: CRC Battery Cleaner  
(aerosol)

Product Number (s) 095023

Manufactured By: CRC Industries, Inc.

885 Louis Dr.

Warminster, PA 18974

CRC: (215)674-4300

Chemtrec 24-Hour Emergency Information: (800)424-9300

Section 2: Composition/Information on Ingredients

Component CAS ACGIH OSHA OTHER %

NUMBER TLV PEL LIMITS

Sodium Bicarbonate 144-55-8 NE NE NE <10

Water 7732-18-5 NE NE NE >90

2-Butoxy Ethanol 111-76-2 25 ppm 25 ppm (skin) <10

Detergent Mixture NE NE NE <10

Propane 74-98-6 NE 1000ppm NE <10

Isobutane 75-28-5 NE NE 1000ppm <10

Section 3: Hazards Identification

Emergency Overview

Appearance & Odor: Clear liquid, no odor.

Caution: Contents Under Pressure

Potential Health Effects:

Inhalation: NA

Eyes: Irritation

Skin: Irritation

Ingestion: NA

Carcinogenicity: OSHA: No IAARC: No NTP: No

Chronic Overexposure: NA

Medical Conditions Aggravated by Exposure: NA

Section 4: First Aid Measures

Inhalation: Remove to fresh air. Give artificial respiration if necessary.

Eyes: Flush with large amounts of water for 15 minutes.

Skin: Remove contaminated clothing and wash area with soap and water.

Ingestion: Induce vomiting on the advice of a physician.

Section 5: Fire-Fighting Measures

Flashpoint: <20 deg. F. Method: TCC LEL: ND UEL: ND

Extinguishing Media: CO<sub>2</sub>, foam

Hazardous Combustion Products: NA

Fire-Fighting Instructions: Remove containers from fire area if possible. Use self-contained breathing apparatus for fire fighting. Aerosol cans may explode if heated above 120 deg F.

NFPA: Health: 1 Flammability: 4 Reactivity: 0

HMIS: Health: 1 Flammability: 4 Reactivity: 0 PPE: B

Section 6: Accidental Release Measures

Spill/Leak Procedures: Area should be ventilated. Absorbent should be used to pick up excess material. All used and unused product should be disposed of in accordance with federal, state and local regulations.

Section 7: Handling and Storage

Handling Procedures: Store in a cool, dry area. Aerosol cans must be maintained below 120 deg. F to prevent cans from exploding. NFPA rating of 4 is due to the propellant only.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Adequate to prevent accumulation of vapors.

Use mechanical means if necessary to maintain levels below the exposure limits. If working in a confined space, follow applicable OSHA regulations.

Respiratory: Use NIOSH/MSHA compliant respirators or self contained breathing apparatus above exposure limits. Follow OSHA regulations 29 CFR 1910.134

Protective Clothing/Equipment: Wear chemically protective gloves and safety glasses. Use a splash apron and boots if splashing occurs.

Section 9: Physical & Chemical Properties

Physical State: Liquid Appearance & Odor: Clear liquid,  
Specific Gravity: 1.04 no odor  
Boiling Point: c.a.212 deg. F.  
Freezing Point: c.a. 32 deg.F Vapor Pressure: water

Evaporation Rate: NA Vapor density (air=1) ND  
pH: NA Solubility: Soluble in water.

Volatile Organic Compounds:%: 3.0 g/l: 30.000 lbs./gal: 0.250

Section 10: Stability and Reactivity

Stability: Stable Hazardous Polymerization: No  
Chemical Incompatibilities: Strong oxidizers  
Materials to Avoid: NA  
Hazardous Decomposition Products: None

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. See section 3 of this MSDS for acute symptoms of over-exposure and carcinogenicity information.

Section 12: Ecological Information

Ecotoxicity: No data available  
Environmental Fate: No data available for biogradation

Section 13: Disposal Considerations

Disposal: This material if discarded may be hazardous waste under U.S EPA RCRA regulations. All disposal activities must comply with federal, state and local regulations. Contact your local or state environmental agency for specific rules. Do not dump into sewers, on the ground or into any body of water.

Section 14: Transportation Information

Shipping Name: Consumer Commodity  
Hazard Class: ORM-D UN Number: NA Packing Group: NA  
Label: NA Placard: NA  
Special Provisions: NA

Section 15: Regulatory Information

TSCA: All components are either listed under TSCA or are exempt.  
SARA Title III: Section 311/312: Acute,Pressure  
Section 313\*: 2-Butoxy Ethanol  
CERCLA/Superfund (RQ): NA  
Extremely Hazardous Substances: NO  
California Prop 65: NO  
\*See section 2 for percentage

Section 16: Additional Information

Prepared By: Adam M. Selisker Date:December 21,1999  
Technical Information: (800)521-3168 CRC: 530A  
This information is accurate to the best CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and

directions on the label.

CAS: Chemical Abstract Service NA: Not Applicable

ppm: Parts per Million ND: Not Determined

TCC: Tag Closed Cup NE: Not Established

LEL: Lower Exposure Limit g/L: grams per Liter

UEL: Upper Exposure Limit lbs./gal: pounds per gallon

PPE: Personal Protection Equipment RQ: Reportable Quantity

COC: Cleveland Closed Cup

**MATERIAL SAFETY DATA SHEET:DAB-N-SET**

DATE OF ISSUE: 10/29/2001

SUPERCEDES: 01/02/1998

**SECTION I - GENERAL INFORMATION****Chemical Name & Synonyms:**

BRUSHABLE SOLDER PASTE

**Trade Name & Synonyms:**

DAB-N-SET

**Chemical Family:**

LEAD/TIN

**Formula Mixture: X****Manufacturer's Name:**

DYNA SYSTEMS A PARTSMaster CO DIV OF NCH

**Address:**

P.O. BOX 655326

DALLAS, TEXAS 75265-5326

**Prepared By:**

a santiago/Chemist

**Product Code Number**

28300000

**Emergency Phone Number**

972-438-1381

**SECTION II - HAZARDOUS INGREDIENTS**

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

<b>Chemical Name (Ingredients)</b>	<b>Hazard</b>	<b>TLV</b>	<b>PEL</b>	<b>STEL</b>	<b>CAS #</b>
TIN	IRRITANT	2 MG/M3 2.	NOT EST.3.	N/A	7440-31-5
LEAD	#	0.15MG/KG	0.05MG/KG	N/A	7439-92-1
ROSIN* (FORMALDEHYDE PYROLYSIS PRODUCT)	SENSITIZER	0.1 MG/M3	0.1 MG/M3	N/A	8050-09-7
DIETHYLENE GLYCOL MONOBUTYL ETHER , ACETATE	PRIM IRR	NOT EST	NOT EST	N/A	124-17-4
#CARC & CUMULATIVE POISON					
* REDUCE EXPOSURE					

**SECTION III - PHYSICAL DATA")%>**

<b>Boiling Point (f):</b>	450 F	<b>Specific Gravity (H2O=1):</b>	9.0
<b>Vapor Pressure (MM HG):</b>	.01mmHg	<b>Color:</b>	GREY
<b>Vapor Density (Air=1):</b>	7	<b>Odor:</b>	SLIGHT
<b>PH @ 100% :</b>	N/A	<b>Clarity</b>	OPAQUE
<b>% Volatile by Volume:</b>	4-8	<b>Evaporation Rate (BU A/C=1):</b>	N/A
<b>H2O Solubility:</b>	1%	<b>Viscosity:</b>	PASTE

**SECTION IV - FIRE AND EXPLOSION HAZARD**

<b>Flash Point:</b>	<b>Flammable Limits:</b>	<b>LEL:</b>	<b>UEL:</b>
240 F / COC		N/A	N/A

**Extinguishing Media:**

Foam: Alcohol Foam: CO2:X Dry Chemical:X Water Spray:X Other:

**Special Fire Fighting Procedures:**

USE FULL BODY PROTECTIVE CLOTHING AND FULL-FACE PIECE, SELF-CONTAINED BREATHING APPARATUS OPERATED IN A POSITIVE MODE.

**Unusual Fire and Explosion Hazards:**

DO NOT USE WATER ON FIRES WHERE MOLTEN METAL IS PRESENT. HIGH TEMPERATURES MAY PRODUCE HEAVY METAL FUMES, DUST AND/OR VAPOR.

**NFPA Hazard Rating:** (0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)

Health:3

Flammability:0

Instability:0

Special:W\*

**SECTION V - HEALTH HAZARD DATA****Threshold Limit Value:**

GENERALLY ESTABLISHED AT 5 MG/M3. MAY BE LOWER FOR SOME CONSTITUENTS. SEE SECTION II.

**Effects of Overexposure:****-Acute(Short Term Exposure)**

FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH. SHORT TERM OVEREXPOSURE TO FUMES MAY RESULT IN DISCOMFORT SUCH AS DIZZINESS, NAUSEA, OR DRYNESS OR IRRITATION OF THE NOSE, THROAT AND EYES. EYE EXPOSURE MAY CAUSE IRRITATION, REDNESS, TEARING AND BLURRED VISION. LEAD IS TOXIC AND CUMULATIVE. LEAD AND ITS INORGANIC COMPOUNDS ARE NEUROTOXINS WHICH MAY PRODUCE NEUROPATHY. ROSIN IS AN ALLERGEN. FUMES CONTAINING ROSIN AND SOLVENT FUMES HAVE LOW TOXICITY BUT CAN CAUSE SENSITISATION BY SKIN CONTACT CAUSING SKIN RASH, WEALS AND/OR PUSTULES TO DEVELOP.

**-Chronic (Long Term Exposure)**

LEAD CAN CAUSE WEAKNESS, INSOMNIA, HYPERTENSION, AND SLIGHT IRRITATION OF THE EYES, HEADACHE, AND POSSIBLE PARALYSIS. CHRONIC OVEREXPOSURE TO LEAD MAY RESULT IN DAMAGE TO BLOOD FORMING TISSUE, NERVOUS, URINARY, AND REPRODUCTIVE SYSTEMS. LEAD IS CLASSIFIED AS A 2B CARCINOGEN BY THE IARC. EVIDENCE FOR CARCINOGENICITY IS ADEQUATE FOR ANIMALS BUT INADEQUATE FOR HUMANS. SEVERE LEAD TOXICITY HAS LONG BEEN KNOWN TO CAUSE STERILITY, ABORTION AND NEONATAL MOTILITY AND MORBIDITY. FORMALDEHYDE FORMED DURING DECOMPOSITION OF ROSIN IS LISTED AS A SUSPECTED CARCINOGEN BY ACGIH.

**Primary Routes of Entry:**

Inhalation:X

Ingestion:

Absorption:

**Emergency and First Aid Procedures:****-Inhalation:**

REMOVE FROM EXPOSURE AREA AND CALL FOR MEDICAL AID. ADMINISTER RESPIRATION. IF NO DETECTABLE PULSE, BEGIN EXTERNAL HEART MASSAGE. EMPLOY FIRST AID TECHNIQUES RECOMMENDED BY THE AMERICAN RED CROSS.

**-Eye Contact:**

FLUSH WITH WATER 20 MINUTES RETRACTING EYELIDS OFTEN. GET IMMEDIATE MEDICAL ATTENTION.

**-Skin Contact:**

WASH SKIN THOROUGHLY WITH SOAP AND WATER. IF IRRITATION DEVELOPS OR PERSISTS GET MEDICAL ATTENTION.

**-Ingestion:**

IF SWALLOWED, CALL A PHYSICIAN IMMEDIATELY. DO NOT INDUCE VOMITING.

**-Notes to Physician:**

NONE

**SECTION VI - TOXICITY INFORMATION****Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:****IARC:** Yes**NTP:** No**OSHA:** No**ACGIH:** Yes**OTHER:** No**LEAD - BIOLOGICAL EXPOSURE INDEX:** 50 MICROGRAMS/100 ML 2.

ORL-RAT TDLO: 790MG/KG (MGN) 1.

ORL-WMN TDLO: 450MG/KG/6Y:CNS 1.

ORL-PGN LDLO: 160MG/KG 1.

TIN

IMP RAT TDLO: 395G/KG:ETA 1.

IMP-MUS TDLO: 840G/KG:ETA 1.

**SECTION VII - REACTIVITY DATA**

**Stability:** Stable:X Unstable:

Conditions to Avoid: CONTAMINATION; CONTACT WITH AIR AND WATER.

**Incompatibility (Materials to Avoid):**

PEROXIDES; METALS; STRONG ACIDS; STRONG OXIDIZING AGENTS; STRONG REDUCING AGENTS; ACIDS; CHLORIDE; MOISTURE; STRONG ALKALIES.

**Hazardous Decomposition Products:**

HIGH TEMPERATURES MAY PRODUCE HEAVY METAL FUMES, DUST AND/OR VAPOR.

**Hazardous Polymerization:** May Occur: Will Not Occur:X

Conditions to Avoid: NONE KNOWN

**SECTION VIII - SPILL OR LEAK PROCEDURES****Steps to be Taken if Material is Released or Spilled:**

PARTICULATE MATTER SHOULD BE STORED IN DRY CONTAINERS FOR LATER DISPOSAL. DUST MATERIAL SHOULD BE VACUUMED OR WET SWEEPED. DO NOT USE COMPRESSED AIR OR DRY SWEEPING AS A MEANS OF CLEANING, AND FOLLOW INSTRUCTIONS ON SECTION IX ON PERSONAL PROTECTION.

**Waste Disposal Method(s):**

DISPOSE OF HAZARDOUS WASTES IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. CONSULT A LICENSED HAZARDOUS WASTE COMPANY.

**Neutralizing Agent:**

NONE

**SECTION IX - SPECIAL PROTECTION INFORMATION****Required Ventilation:**

USE LOCAL EXHAUSTION OR OTHER ENGINEERING CONTROL TO MINIMIZE AND MAINTAIN OPERATOR COMFORT. ENGINEERING CONTROL MUST BE DESIGNED TO MEET THE OSHA CHEMICAL SPECIFIC STANDARD IN 29 CFR 1910. VENTILATION IS REQUIRED TO MAINTAIN OPERATOR EXPOSURE BELOW PUBLISHED EXPOSURE LIMITS. USE PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION, OR OTHER ENGINEERING CONTROLS TO CONTROL AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS.

**Respiratory Protection:****Glove Protection:**

WEAR PROTECTIVE GLOVES. INSPECT GLOVES FOR CHEMICAL BREAK-THROUGH AND REPLACE AT REGULAR INTERVALS. CLEAN PROTECTIVE EQUIPMENT REGULARLY. WASH HANDS AND OTHER EXPOSED AREAS WITH MILD SOAP AND WATER BEFORE EATING, DRINKING, AND LEAVING WORK.

**Eye Protection:**

WEAR CHEMICALLY RESISTANT SAFETY GLASSES WITH SIDE SHIELDS WHEN HANDLING THIS PRODUCT. DO NOT WEAR CONTACT LENSES.

**Other Protection:**

WHERE CONTACT IS LIKELY, WEAR CHEMICAL RESISTANT GLOVES, A CHEMICAL SUIT, RUBBER BOOTS, AND CHEMICAL SAFETY GOGGLES PLUS A FACE SHIELD.

**SECTION X - STORAGE AND HANDLING INFORMATION**

**Storage Temperature:** Indoors:X Outdoors: Heated: Refrigerated:  
Minimum Temperature:NA Maximum Temperature:120 F



**Precautions to be taken in Handling and Storing:**

NO ESPECIAL REQUIREMENTS. STORE IN A TIGHTLY CLOSED CONTAINER. KEEP AWAY FROM FOOD AND DRINKING WATER. STORE IN A COOL DRY PLACE. KEEP AWAY FROM HEAT, SPARKS, AND FLAMES.

**Other Precautions:**

WASH HANDS THOROUGHLY BEFORE EATING OR SMOKING. AVOID BREATHING VAPORS WHEN HEATED. USE ADEQUATE VENTILATION. EYE IRRITANT. HARMFUL IF SWALLOWED. KEEP OUT OF REACH OF CHILDREN.

**SECTION XI - REGULATORY INFORMATION**

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Upper % Limit</u>
LEAD	7439-92-1	> 60
FORMALDEHYDE (ROSIN PYROLYSIS PRODUCTS)	50-00-0	5

Those Ingredients listed above are subject to the reporting requirements of 313 of Title III& of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

**CALIFORNIA PROPOSITION 65**

WARNING: This product contains the following chemical(s) know to the State of California to cause (1) Cancer or (2) Birth Defects or other reproductive harm. THIS PRODUCT CONTAINS FORMALDEHYDE, LEAD

**SECTION XII - REFERENCES**

1. DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, 10TH EDITION, N. IRVING SAX.
2. "THRESHOLD LIMIT VALUES AND BIOLOGICAL EXPOSURE INDICES FOR 1989-1990", AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGEINISTS.
3. "AIR POLLUTANTS - PERMISSIBLE LIMITS" CFR 29 (1910.1000), U.S. DEPARTMENT OF LABOR,
4. REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, CCINFODisc, 2001.

ALL COMPONENTS IN THIS PRODUCT CAN BE FOUND IN THE CURRENT TSCA INVENTORY. -----

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE IN LIGHT OF CURRENT FORM DYNASYS A PARTSMASER CO DIV OF NCH ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE C

**DuPont™ Escort® XP Herbicide**

Version 2.0

Revision Date 06/30/2015

Ref. 130000036195

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : DuPont™ Escort® XP Herbicide  
Tradename/Synonym : DPX-T6376 60 XP  
Metsulfuron Methyl 60 XP  
Escort 60 XP  
B11495142  
METSULFURON METHYL (Methyl 2-[[[(4-methoxy-6-methyl-1,3,4-triazin-2-yl)amino]carbonyl]amino]sulfonyl]benzoate)

Product Use : Herbicide

Restrictions on use :  
Do not use product for anything outside of the above specified uses

Manufacturer/Supplier : DuPont  
4417 Lancaster Pike  
Wilmington, DE 19805, USA

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)  
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)  
Transport Emergency : CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

**SECTION 2. HAZARDS IDENTIFICATION**

Not classified as a hazardous substance or mixture according to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard 2012.

**Other hazards**

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 37.52 %


**DuPont™ Escort® XP Herbicide**

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
Metsulfuron methyl	74223-64-6	60 %
Modified Aromatic Sulfonate Salt		1 - 5 %
Phosphate Salt		1 - 5 %
Other Ingredients		30 - 38 %

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

**SECTION 4. FIRST AID MEASURES**

- General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.  
For medical emergencies involving this product, call toll free 1-800-441-3637.  
See Label for Additional Precautions and Directions for Use.
- Inhalation : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
- Skin contact : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- Eye contact : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.


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- Ingestion : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
- Most important symptoms/effects, acute and delayed : No applicable data available.
- Protection of first-aiders : No applicable data available.
- Notes to physician : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Water spray, Dry chemical, Foam, Carbon dioxide (CO<sub>2</sub>)
- Unsuitable extinguishing media : High volume water jet, (contamination risk)
- Specific hazards : No applicable data available.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear full protective equipment.
- Further information : (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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

- Safeguards (Personnel) : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus.
- Environmental precautions : Prevent material from entering sewers, waterways, or low areas.
- Spill Cleanup : Sweep up and shovel into suitable containers for disposal. If spill area is on ground near valuable plants or trees, remove 5 cm of top soil after initial clean-up.



**DuPont™ Escort® XP Herbicide**

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Accidental Release Measures : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

**SECTION 7. HANDLING AND STORAGE**

- Handling (Personnel) : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Handling (Physical Aspects) : No applicable data available.
- Dust explosion class : No applicable data available.
- Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in original container. Store in a cool, dry place. Keep out of the reach of children.
- Storage period : No applicable data available.
- Storage temperature : No applicable data available.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- Personal protective equipment
  - Skin and body protection : Applicators and other handlers must wear:
    - Long sleeved shirt and long pants
    - Shoes plus socks
    - PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
      - Coveralls
      - Shoes plus socks
  - Protective measures : Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Guidelines  
Exposure Limit Values

Metsulfuron methyl			
AEL *	(DUPONT)	10 mg/m3	8 & 12 hr. TWA Total dust.

**DuPont™ Escort® XP Herbicide**

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Modified Aromatic Sulfonate Salt  
No applicable data available.

Phosphate Salt  
No applicable data available.

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

## Appearance

Physical state : solid  
Form : solid, granular  
Color : light brown

Odor : odourless

Odor threshold : No applicable data available.

pH : 5.0

Melting point/range : No applicable data available.

Boiling point/boiling range : No applicable data available.

Flash point : Not applicable

Evaporation rate : No applicable data available.

Flammability (solid, gas) : No applicable data available.

Upper explosion limit : No applicable data available.

Lower explosion limit : No applicable data available.

Vapour Pressure : No applicable data available.

**DuPont™ Escort® XP Herbicide**

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Vapour density	: No applicable data available.
Specific gravity (Relative density)	: 1.47 at 25 °C (77 °F)
Bulk density	: Tapped
Water solubility	: dispersible
Solubility(ies)	: No applicable data available.
Partition coefficient: n-octanol/water	: No applicable data available.
Auto-ignition temperature	: No applicable data available.
Decomposition temperature	: No applicable data available.
Viscosity, kinematic	: No applicable data available.
Viscosity, dynamic	: No applicable data available.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: No applicable data available.
Chemical stability	: Stable at normal temperatures and storage conditions.
Possibility of hazardous reactions	: No applicable data available.
Conditions to avoid	: None reasonably foreseeable.
Incompatible materials	: No materials to be especially mentioned.
Hazardous decomposition products	: No applicable data available.

**SECTION 11. TOXICOLOGICAL INFORMATION**

DuPont™ Escort® XP Herbicide	
Dermal LD50	: > 5,000 mg/kg , Rat
Oral LD50	: > 5,000 mg/kg , Rat


**DuPont™ Escort® XP Herbicide**

Version 2.0

Revision Date 06/30/2015

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Skin irritation : No skin irritation, Rabbit

Eye irritation : slight irritation, Rabbit

Sensitisation : Animal test did not cause sensitization by skin contact., Guinea pig

## Metsulfuron methyl

Inhalation 4 h LC50 : > 5.3 mg/l , Rat

Repeated dose toxicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

## Oral

Rat

-

Reduced body weight gain, Organ weight changes, Liver

## Dermal

Rabbit

-

Skin irritation

Carcinogenicity : Not classifiable as a human carcinogen.  
Did not show carcinogenic effects in animal experiments.

Mutagenicity : Animal testing did not show any mutagenic effects.  
Did not cause genetic damage in cultured bacterial cells.  
Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.

Reproductive toxicity : No toxicity to reproduction  
Animal testing did not show any effects on fertility.

Teratogenicity : Animal testing showed no developmental toxicity.

## Phosphate Salt

Inhalation : Rat  
An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.  
Information given is based on data obtained from similar substances.

Repeated dose toxicity : Ingestion




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Dog

- 90 d

NOAEL: 322.88 mg/kg

LOAEL: 1,107.12 mg/kg

No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Information given is based on data obtained from similar substances.

- Mutagenicity** : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.  
Evidence suggests this substance does not cause genetic damage in animals.  
Information given is based on data obtained from similar substances.
- Reproductive toxicity** : No toxicity to reproduction  
Animal testing showed no reproductive toxicity.  
Information given is based on data obtained from similar substances.
- Teratogenicity** : Animal testing showed no developmental toxicity.  
Information given is based on data obtained from similar substances.

**Carcinogenicity**

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

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

**SECTION 12. ECOLOGICAL INFORMATION**
**Aquatic Toxicity**
**Metsulfuron methyl**

- 96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 150 mg/l
- 72 h EC50 : Anabaena flos-aquae (cyanobacteria) 0.066 mg/l
- 14 d EC50 : Lemna minor (common duckweed) 0.00036 mg/l


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48 h EC50	:	Daphnia magna (Water flea) > 120 mg/l
Phosphate Salt		
96 h LC50	:	Oncorhynchus mykiss (rainbow trout) > 100 mg/l OECD Test Guideline 203 Information given is based on data obtained from similar substances.
72 h ErC50	:	Desmodesmus subspicatus (green algae) > 100 mg/l OECD Test Guideline 201 Information given is based on data obtained from similar substances.
72 h NOEC	:	Desmodesmus subspicatus (green algae) > 100 mg/l OECD Test Guideline 201 Information given is based on data obtained from similar substances.
48 h EC50	:	Daphnia magna (Water flea) > 100 mg/l OECD Test Guideline 202 Information given is based on data obtained from similar substances.
Environmental Fate		
DuPont™ Escort® XP Herbicide		
Bioaccumulation	:	This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT). This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).
Additional ecological information	:	Environmental Hazards: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste disposal methods - Product	:	Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.
Waste disposal methods - Container	:	Refer to the product label for instructions. Do not transport if this container is damaged or leaking.


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In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

Contaminated packaging : No applicable data available.

**SECTION 14. TRANSPORT INFORMATION**

IATA_C	UN number	: 3077
	Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Metsulfuron methyl)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9MI
IMDG	UN number	: 3077
	Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Metsulfuron methyl)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Metsulfuron methyl)

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA special provision A197, and ADR/RID special provision 375.

**SECTION 15. REGULATORY INFORMATION**

Other regulations : This Safety Data Sheet is for a pesticide product registered by the US Environmental Protection Agency (USEPA) and is therefore also subject to certain labeling requirements under US pesticide law (FIFRA). These requirements differ from the classification criteria and hazard information required by OSHA for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the mandatory hazard information required by USEPA on the pesticide label:

CAUTION!

10 / 12



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Causes eye irritation. Avoid contact with skin, eyes and clothing. Avoid breathing dust or spray mist.

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

PA Right to Know Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Sucrose, Phosphate Salt

NJ Right to Know Regulated Chemical(s) : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Phosphate Salt

Title III hazard classification : Acute Health Hazard: Yes  
Chronic Health Hazard: No  
Fire: No  
Reactivity/Physical hazard: No  
Pressure: No

EPA Reg. No. : 352-439  
In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

**SECTION 16. OTHER INFORMATION**

	NFPA
Health :	1
Flammability :	1
Reactivity/Physical hazard :	0

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® Registered trademark of E.I. du Pont de Nemours and Company



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Revision Date : 06/30/2015

Contact person : DuPont Crop Protection, Wilmington, DE, 19898, Phone: 1-888-638-7668

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

Significant change from previous version is denoted with a double bar.

MANUFACTURER: Pioneer Research Corporation 3110 N. 19TH Avenue, Suite 200 Phoenix, Arizona 85015

GENERAL INFORMATION TELEPHONE: 602-230-0012

EMERGENCY TELEPHONE: 800-255-3924

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### SECTION I. IDENTIFICATION OF PRODUCT

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**PRODUCT NAME:** FLEET MASTER

**PRODUCT DESCRIPTION:** Super Safe Vehicle Wash

**PRODUCT CODE:** 075

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### SECTION II. HAZARDOUS INGREDIENTS

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This material is non-hazardous and non-polluting to the environment as defined in 29CFR 1901 1200

**NOTE:** The only hazard associated with this product is that it is moderately alkaline and accidental splashing of the concentrated into the eyes could result in severe irritation if it is not quickly and thoroughly rinsed. Consult Section VI for

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### SECTION III. PHYSICAL DATA

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**Boiling Point:** 212 Degrees F

**Vapor Density (AIR = 1):** N/A

**Appearance/Odor:** Green liquid; bland odor

**Flash Point PMCC:** >300F

**pH:** Approximately 10-10.2

**Vapor Pressure (mm Hg):** N/A

**Solubility in Water:** COMPLETE

**Specific Gravity (H2O = 1):** 1.005/20C

**LEL/VEL:** N/A

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### SECTION IV. FIRE AND EXPLOSIVE DATA

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**Flammability Data:** Not Flammable or explosive

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### SECTION V. REACTIVITY DATA

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Not reactive. Will not polymerize. The mixture is stable under the common conditions of use.

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### SECTION VI. HEALTH HAZARD DATA

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**Carcinogenicity:** NTP: No      ARC Monographs: No      OSHA Regulated: No

**Eye Contact:** Concentrate may irritate eyes.

**Skin Contact:** The product is essentially non-irritating, but may aggravate any pre-existing dermatitis. In such cases, protective gloves may be used.

**Inhalation:** No hazardous fumes or vapors are expected from the normal use of this product. Steam application should be in a well ventilated area.

**Ingestion:** Ingestion of concentrate may cause gastric distress depending on quantity.

**Emergency/First Aid Procedures:**

**Eyes:** Flush with water for 5 to 10 minutes. If irritation persists, get medical attention

**Ingestion:** Drink plenty of water. Get medical attention, if symptoms persist.

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### SECTION VII. SPILL, LEAK, DISPOSAL PROCEDURES

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May be flushed into ground, sanitary or sewage system when properly diluted with water where permitted by local ordinance.

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### SECTION VIII. CONTROL MEASURES

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No special precautions other than to practice standard industrial hygiene procedure. As with any chemical, keep out of the reach of children. This product for industrial use only.

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DOD Hazardous Materials Information System

DoD 6050.5-L

AS OF July 1998

FSC: 6850  
NIIN: 004666879  
Manufacturer's CAGE: 86035  
Part No. Indicator: A  
Part Number/Trade Name: GAS LEAK DETECTOR, 4180

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General Information  
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Item Name: LEAK TEST COMPOUND  
Company's Name: CAGON VESTAL LABORATORIES  
Company's Street: 5035 MANCHESTER AVENUE  
Company's P. O. Box:  
Company's City: ST LOUIS  
Company's State: MO  
Company's Country: US  
Company's Zip Code: 63110  
Company's Emerg Ph #: 314-535-1395; 800-424-9300 (CHEMTREC)  
Company's Info Ph #: 314-535-1810  
Distributor/Vendor # 1:  
Distributor/Vendor # 1 Cage:  
Distributor/Vendor # 2:  
Distributor/Vendor # 2 Cage:  
Distributor/Vendor # 3:  
Distributor/Vendor # 3 Cage:  
Distributor/Vendor # 4:  
Distributor/Vendor # 4 Cage:  
Safety Data Action Code:  
Safety Focal Point: N  
Record No. For Safety Entry: 005  
Tot Safety Entries This Stk#: 005  
Status: SMJ  
Date MSDS Prepared: 11APR91  
Safety Data Review Date: 17MAY94  
Supply Item Manager:  
MSDS Preparer's Name: D. GODWARD  
Preparer's Company: SAME  
Preparer's St Or P. O. Box:  
Preparer's City:  
Preparer's State:  
Preparer's Zip Code:

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Other MSDS Number:  
MSDS Serial Number: BDZMY  
Specification Number:  
Spec Type, Grade, Class:  
Hazard Characteristic Code: N1  
Unit Of Issue:  
Unit Of Issue Container Qty:  
Type Of Container:  
Net Unit Weight:

Report for NIIN: 004666879

NRC/State License Number: N/A  
Net Explosive Weight:  
Net Propellant Weight-Ammo: N/A  
Coast Guard Ammunition Code:

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Ingredients/Identity Information

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Proprietary: NO  
Ingredient: GLYCERIN  
Ingredient Sequence Number: 01  
Percent: 40  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: MA8050000  
CAS Number: 56-81-5  
OSHA PEL: 15 MG/M3 TDUST  
ACGIH TLV: 10 MG/M3 (MIST) 9293  
Other Recommended Limit:

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Proprietary: NO  
Ingredient: TRIETHANOL AMINE  
Ingredient Sequence Number: 02  
Percent: 5  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: KL9275000  
CAS Number: 102-71-6  
OSHA PEL:  
ACGIH TLV:  
Other Recommended Limit:

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Proprietary: NO  
Ingredient: ISOPROPYL ALCOHOL (SARA III)  
Ingredient Sequence Number: 03



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Percent: 5  
Ingredient Action Code:  
Ingredient Focal Point: N  
NIOSH (RTECS) Number: NT8050000  
CAS Number: 67-63-0  
OSHA PEL: 400 PPM/500 STEL  
ACGIH TLV: 400 PPM/500STEL;9192  
Other Recommended Limit:

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Physical/Chemical Characteristics

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Appearance And Odor: CLEAR SOLUTION, ISOPROPANOL ODOR  
Boiling Point: N/K  
Melting Point: N/A  
Vapor Pressure (MM Hg/70 F): N/K  
Vapor Density (Air=1): N/K  
Specific Gravity: SUPDAT  
Decomposition Temperature: N/K  
Evaporation Rate And Ref: NOT KNOWN

Report for NIIN: 004666879

Solubility In Water: COMPLETE  
Percent Volatiles By Volume: N/K  
Viscosity:  
pH: N/A  
Radioactivity:  
Form (Radioactive Matl):  
Magnetism (Milligauss): N/P  
Corrosion Rate (IPY): N/K  
Autoignition Temperature:

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Fire and Explosion Hazard Data

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Flash Point: >200F,>93C  
Flash Point Method: N/P  
Lower Explosive Limit: N/K  
Upper Explosive Limit: N/K  
Extinguishing Media: FOAM, DRY CHEM., OR CO\*2.  
Special Fire Fighting Proc: EXERCISE CAUTION WHEN FIGHTING ANY CHEMICAL  
FIRE. RESPIRATORY PROTECTION IS ESSENTIAL. USE NIOSH/MSHA APPROVED SCBA &  
FULL PROTECTIVE EQUIPMENT (FP N).

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Unusual Fire And Expl Hazrds: NOT KNOWN.

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Reactivity Data

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Stability: YES

Cond To Avoid (Stability): STORE AWAY FROM HEAT & OPEN FLAME.

Materials To Avoid: STRONG OXIDIZERS.

Hazardous Decomp Products:

Hazardous Poly Occur: NO

Conditions To Avoid (Poly):

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Health Hazard Data

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LD50-LC50 Mixture:

Route Of Entry - Inhalation: N/P

Route Of Entry - Skin: N/P

Route Of Entry - Ingestion: N/P

Health Haz Acute And Chronic:

Carcinogenicity - NTP: N/P

Carcinogenicity - IARC: N/P

Carcinogenicity - OSHA: N/P

Explanation Carcinogenicity:

Signs/Symptoms Of Overexp: IRRITATION.

Med Cond Aggravated By Exp:

Emergency/First Aid Proc: EYE:FLUSH W/WATER AT LEAST 15 MINUTES, CALL MD.

SKIN-FLUSH W/WATER FOR AT LEAST 15 MINS. IF IRRITATION DEVELOPS, CALL MD.

WASH CLOTHING BEFORE REUSE.

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Precautions for Safe Handling and Use

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Steps If Matl Released/Spill: CONTAIN SPILL.ABSORB,PLACE ON IRON PAN & INCENERATE IN A HOODED AREA.

Neutralizing Agent:

Report for NIFN: 004666079

Waste Disposal Method: INCINERATE IAW FED., & STATE & LOCAL CODES.

Precautions-Handling/Storing:

Other Precautions:

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Control Measures

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Respiratory Protection: MFR STATES NOT REQUIRED.  
Ventilation:  
Protective Gloves: RUBBER.  
Eye Protection: SAFETY GLASES.  
Other Protective Equipment: LAB. COAT  
Work Hygienic Practices:  
Suppl. Safety & Health Data: 6 OZ BOTTLE. SP GRAV= 1.10-1.15.

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Transportation Data

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Transportation Action Code:  
Transportation Focal Point: N  
Trans Data Review Date: 95163  
DOT PSN Code: ZZZ  
DOT Symbol: N/R  
DOT Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION  
DOT Class: N/R  
DOT ID Number: N/R  
DOT Pack Group: N/R  
DOT Label: N/R  
DOT/DoD Exemption Number:  
IMO PSN Code: ZZZ  
IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATIO  
N  
IMO Regulations Page Number: N/R  
IMO UN Number: N/R  
IMO UN Class: N/R  
IMO Subsidiary Risk Label: N/R  
IATA PSN Code: ZZZ  
IATA UN ID Number: N/R  
IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATIO  
N  
IATA UN Class: N/R  
IATA Subsidiary Risk Class: N/R  
IATA Label: N/R  
AFI PSN Code: ZZZ  
AFI Symbols:  
AFI Prop. Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION  
AFI Class: N/R  
AFI ID Number: N/R  
AFI Pack Group: N/R  
AFI Label: N/R

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AFI Special Prov:  
AFI Basic Pac Ref:  
MMAC Code:  
N.O.S. Shipping Name:  
Additional Trans Data: NOT REGULATED FOR SHIPPING.

Report for NIIN: 004666879

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Disposal Data

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Disposal Data Action Code:  
Disposal Data Focal Point:  
Disposal Data Review Date:  
Rec # For This Disp Entry:  
Tot Disp Entries Per NSN:  
Landfill Ban Item:  
Disposal Supplemental Data:  
1st EPA Haz Wst Code New:  
1st EPA Haz Wst Name New:  
1st EPA Haz Wst Char New:  
1st EPA Acute Hazard New:  
2nd EPA Haz Wst Code New:  
2nd EPA Haz Wst Name New:  
2nd EPA Haz Wst Char New:  
2nd EPA Acute Hazard New:  
3rd EPA Haz Wst Code New:  
3rd EPA Haz Wst Name New:  
3rd EPA Haz Wst Char New:  
3rd EPA Acute Hazard New:

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Label Data

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Label Required: YES  
Technical Review Date: 17MAY94  
Label Date: 17MAY94  
MFR Label Number:  
Label Status: G  
Common Name: GAS LEAK DETECTOR, 4180  
Chronic Hazard: NO  
Signal Word: CAUTION!  
Acute Health Hazard-None:  
Acute Health Hazard-Slight: X  
Acute Health Hazard-Moderate:

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Acute Health Hazard-Severe:  
Contact Hazard-None:  
Contact Hazard-Slight: X  
Contact Hazard-Moderate:  
Contact Hazard-Severe:  
Fire Hazard-None:  
Fire Hazard-Slight: X  
Fire Hazard-Moderate:  
Fire Hazard-Severe:  
Reactivity Hazard-None: X  
Reactivity Hazard-Slight:  
Reactivity Hazard-Moderate:  
Reactivity Hazard-Severe:  
Special Hazard Precautions: KEEP FROM HEAT AND FLAME. ACUTE:EYE/SKIN  
CONTACT:MAY CAUSE IRRITATION. INGESTION:LARGE QUANTITIES MAY CAUSE UPS  
ET  
STOMACH. CHRONIC:NONE LISTED BY MANUFACTURER.  
Protect Eye: Y

Report for NIIN: 004666879

Protect Skin: Y  
Protect Respiratory: Y  
Label Name: CAGON VESTAL LABORATORIES  
Label Street: 5035 MANCHESTER AVENUE  
Label P.O. Box:  
Label City: ST LOUIS  
Label State: MO  
Label Zip Code: 63110  
Label Country: US  
Label Emergency Number: 314-535-1395;800-424-9300 (CHEMTREC)  
Year Procured:





# Material Safety Data Sheet

**SECTION 1 PRODUCT AND COMPANY IDENTIFICATION**

## CHEVRON HEAVY DUTY PREDILUTED 50/50 COOLANT/ANTIFREEZE PHOSPHATE FREE (CONTAINS BITTERANT) GREEN)

**Product Use:** Antifreeze/Coolant

**Product Number(s):** CPS275113

**Company Identification**

Chevron Products Company  
a division of Chevron U.S.A. Inc.  
6001 Bollinger Canyon Rd.  
San Ramon, CA 94583  
United States of America  
www.chevronlubricants.com

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**

email : lubemsds@chevron.com  
Product Information: (800) LUBE TEK  
MSDS Requests: (800) 414-6737

**SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS**

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	40 - 60 %volume
Diethylene glycol	111-46-6	1 - 5 %volume

**SECTION 3 HAZARDS IDENTIFICATION**

\*\*\*\*\*

**EMERGENCY OVERVIEW**

- HARMFUL OR FATAL IF SWALLOWED
- MAY CAUSE DIZZINESS, DROWSINESS AND REDUCED ALERTNESS
- POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL THAT MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA
- CAUSES DAMAGE TO:

- KIDNEY

\*\*\*\*\*

**IMMEDIATE HEALTH EFFECTS**

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

**Ingestion:** Toxic; may be harmful or fatal if swallowed.

**Inhalation:** The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death. If this material is heated, fumes may be unpleasant and produce nausea and irritation of the eye and upper respiratory tract.

**DELAYED OR OTHER HEALTH EFFECTS:**

**Reproduction and Birth Defects:** Contains material that may cause birth defects based on animal data.

**Target Organs:** Contains material that causes damage to the following organ(s) if swallowed: Kidney  
See Section 11 for additional information. Risk depends on duration and level of exposure.

**SECTION 4 FIRST AID MEASURES**

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Inhalation:** Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.

**SECTION 5 FIRE FIGHTING MEASURES**

**FIRE CLASSIFICATION:**

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

**NFPA RATINGS:** Health: 2 Flammability: 0 Reactivity: 0

**FLAMMABLE PROPERTIES:**

**Flashpoint:** Not Applicable

**Autoignition:** No Data Available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable



**EXTINGUISHING MEDIA:** Dry Chemical, CO2, AFFF Foam or alcohol resistant foam.

**PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will not burn.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

**SECTION 7 HANDLING AND STORAGE**

**Precautionary Measures:** Do not get in eyes, on skin, or on clothing. Do not breathe vapor or fumes from heated material. Do not breathe vapor or fumes. Wash thoroughly after handling.

**General Handling Information:** Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.

**General Storage Information:** Do not store in open or unlabeled containers.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**GENERAL CONSIDERATIONS:**

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**ENGINEERING CONTROLS:**

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT**

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.



**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).

**Respiratory Protection:** Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

**Occupational Exposure Limits:**

Component	Agency	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH	--	--	100 mg/m3	--

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Attention: the data below are typical values and do not constitute a specification.

**Color:** Green

**Physical State:** Liquid

**Odor:** Faint or Mild

**pH:** No data available

**Vapor Pressure:** 0.12 mmHg (Typical) @ 20 °C (68 °F)

**Vapor Density (Air = 1):** 2.1

**Boiling Point:** 108.9°C (228°F)

**Solubility:** Miscible

**Freezing Point:** -34°C (-29.2°F)

**Specific Gravity:** 1.08 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

**Density:** No Data Available

**Viscosity:** No data available

**Evaporation Rate:** No Data Available

**SECTION 10 STABILITY AND REACTIVITY**

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Hazardous Decomposition Products:** Aldehydes (Elevated temperatures), Ketones (Elevated temperatures)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**IMMEDIATE HEALTH EFFECTS**

**Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for similar materials or product components.No product toxicology data available.

**Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

**SECTION 12 ECOLOGICAL INFORMATION**

**ECOTOXICITY**

This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

**ENVIRONMENTAL FATE**

**Ready Biodegradability:** This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

**SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or

quantity-specific shipping requirements.

**DOT Shipping Description:** Anti-freeze Preparations, Proprietary

**Additional Information:** Bulk shipments with a reportable quantity (5000 pounds) of ethylene glycol are a hazardous material. The Proper Shipping Name is: Environmentally Hazardous Substance, Liquid, N.O.S. (ethylene glycol), 9, UN3082, III, RQ (ethylene glycol).

**IMO/IMDG Shipping Description:** MAY BE REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** Anti-freeze Preparations, Proprietary; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

**SECTION 15 REGULATORY INFORMATION**

<b>EPCRA 311/312 CATEGORIES:</b>	1. Immediate (Acute) Health Effects:	YES
	2. Delayed (Chronic) Health Effects:	YES
	3. Fire Hazard:	NO
	4. Sudden Release of Pressure Hazard:	NO
	5. Reactivity Hazard:	NO

**REGULATORY LISTS SEARCHED:**

- |                     |                      |
|---------------------|----------------------|
| 01-1=IARC Group 1   | 03=EPCRA 313         |
| 01-2A=IARC Group 2A | 04=CA Proposition 65 |
| 01-2B=IARC Group 2B | 05=MA RTK            |
| 02=NTP Carcinogen   | 06=NJ RTK            |
|                     | 07=PA RTK            |

The following components of this material are found on the regulatory lists indicated.

- |                   |                |
|-------------------|----------------|
| Diethylene glycol | 07             |
| Ethylene Glycol   | 03, 05, 06, 07 |

**CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: ENCS (Japan), KECL (Korea), PICCS (Philippines).

**NEW JERSEY RTK CLASSIFICATION:**

Refer to components listed in Section 2.

**WHMIS CLASSIFICATION:**

Class D, Division 1, Subdivision B: Toxic Material - Acute Lethality  
Class D, Division 2, Subdivision A: Very Toxic Material - Teratogenicity and Embryotoxicity

**SECTION 16 OTHER INFORMATION****NFPA RATINGS:** Health: 2 Flammability: 0 Reactivity: 0**HMIS RATINGS:** Health: 2\* Flammability: 0 Reactivity: 0  
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).**LABEL RECOMMENDATION:**

Label Category : ANTIFREEZE/COOLANT 1 - AFC1

**REVISION STATEMENT:** This revision updates the following sections of this Material Safety Data Sheet: 12, 16**Revision Date:** April 27, 2009**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Chevron Energy Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Revision Number: 1  
Revision Date: April 27, 2009

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CHEVRON HEAVY DUTY PREDILUTED  
50/50 COOLANT/ANTIFREEZE  
PHOSPHATE FREE (CONTAINS  
BITTERANT) GREEN)  
MSDS : 23726

# Material Safety Data Sheet



**SECTION 1 PRODUCT AND COMPANY IDENTIFICATION**

## Havoline® Multi-Vehicle ATF

**Product Use:** Transmission Fluid

**Product Number(s):** CPS222131

**Company Identification**

Chevron Products Company  
a division of Chevron U.S.A. Inc.  
6001 Bollinger Canyon Road  
San Ramon, CA 94583  
United States of America

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**

email : lubemsds@chevron.com  
Product Information: 800-LUBE-TEK

**SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS**

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	70 - 99 %weight

**SECTION 3 HAZARDS IDENTIFICATION**

**IMMEDIATE HEALTH EFFECTS**

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

#### SECTION 4 FIRST AID MEASURES

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

**Note to Physicians:** In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

#### SECTION 5 FIRE FIGHTING MEASURES

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

##### FIRE CLASSIFICATION:

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

##### FLAMMABLE PROPERTIES:

**Flashpoint:** (Cleveland Open Cup) 180 °C (356 °F) Minimum

**Autoignition:** No data available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

##### PROTECTION OF FIRE FIGHTERS:

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with

applicable regulations.

**Reporting:** Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

## SECTION 7 HANDLING AND STORAGE

**Precautionary Measures:** DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

Do not get in eyes, on skin, or on clothing. Keep out of the reach of children.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

### ENGINEERING CONTROLS:

Use in a well-ventilated area.

### PERSONAL PROTECTIVE EQUIPMENT

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.



**Occupational Exposure Limits:**

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m3	--	--	--

Consult local authorities for appropriate values.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Attention: the data below are typical values and do not constitute a specification.

- Color:** Red
- Physical State:** Liquid
- Odor:** Petroleum odor
- pH:** Not Applicable
- Vapor Pressure:** <0.01 mmHg @ 37.8 °C (100 °F)
- Vapor Density (Air = 1):** >1
- Boiling Point:** >315°C (599°F)
- Solubility:** Soluble in hydrocarbons; insoluble in water
- Freezing Point:** Not Applicable
- Specific Gravity:** 0.863 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
- Density:** 7.2 lb/gal @ 15.6°C (60°F) (Typical)
- Viscosity:** 6.8 mm<sup>2</sup>/s @ 100°C (212°F) (Min)
- Evaporation Rate:** No data available

**SECTION 10 STABILITY AND REACTIVITY**

- Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
- Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
- Hazardous Decomposition Products:** None known (None expected)
- Hazardous Polymerization:** Hazardous polymerization will not occur.

**SECTION 11 TOXICOLOGICAL INFORMATION**

**IMMEDIATE HEALTH EFFECTS**

- Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.
- Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.
- Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for similar materials or product components.
- Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
- Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
- Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

**SECTION 12 ECOLOGICAL INFORMATION**

**ECOTOXICITY**

This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

**ENVIRONMENTAL FATE**

**Ready Biodegradability:** This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

**SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**DOT Shipping Description:** PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

**IMO/IMDG Shipping Description:** PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

**SECTION 15 REGULATORY INFORMATION**

<b>EPCRA 311/312 CATEGORIES:</b>	1. Immediate (Acute) Health Effects:	NO
	2. Delayed (Chronic) Health Effects:	NO
	3. Fire Hazard:	NO
	4. Sudden Release of Pressure Hazard:	NO
	5. Reactivity Hazard:	NO

**REGULATORY LISTS SEARCHED:**

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

No components of this material were found on the regulatory lists above.

**CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: AICS (Australia).

**NEW JERSEY RTK CLASSIFICATION:**

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

**WHMIS CLASSIFICATION:**

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

**SECTION 16 OTHER INFORMATION**

**NFPA RATINGS:** Health: 0 Flammability: 1 Reactivity: 0

**HMIS RATINGS:** Health: 1 Flammability: 1 Reactivity: 0 (0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**LABEL RECOMMENDATION:**

Label Category : INDUSTRIAL OIL 1 - IND1

**REVISION STATEMENT:** This is a new Material Safety Data Sheet.

**Revision Date:** JULY 19, 2011

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI

Revision Number: 0  
Revision Date: JULY 19, 2011

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Havoline® Multi-Vehicle ATF  
MSDS : 30545

MSDS Standard (Z400.1) by the Chevron Energy Technology Company, 100 Chevron Way,  
Richmond, California 94802.

**The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.**

26-15  
hae.

MATERIAL SAFETY DATA SHEET

FOR COATING, RESINS, AND RELATED MATERIALS

Date of Preparation- 11/14/89  
 Prepared by- ALAN E. KISIEL  
 Manufacturer: LILLY INDUSTRIAL COATINGS, INC.  
 Address : Athol Road, P. O. Box 188  
 Templeton, MA 01468

Telephone#: (508) 939-2166 Night: (508) 939-2166  
 Emergency#: (508) 939-2166 Night: (508) 939-2166

SECTION I PRODUCT IDENTIFICATION

Manufacturer's Code Identification: TN-2000  
 Product Class:  
 Trade Name: LACQUER THINNING LIQUID

HMIS Information: Health- 2\* Flammability- 3  
 Reactivity- 0 Personal Protective Equipment- X  
 HAZARD INDEX: 4= Severe 3= Serious 2= Moderate 1= Slight 0= Least  
 Ask your supervisor for specialized handling directions.

SECTION II HAZARDOUS INGREDIENTS

INGREDIENT	CAS#	% BY WT.	ACGIH TLV(TWA) PPM	OSHA PEL PPM OTHER	VAPOR PRESSURE LIMITS
08 MIBK	/108-10-1	/ 18.79	/ 50.00/	100.00/	16.00 /STEL = 75
09 N-BUTYL ACETATE	/123-86-4	/ 12.34	/ 150.00/	150.00/	8.00 /ACGIH /STEL = 200
10 N-BUTANOL	/71-36-3	/ 2.39	/ 50.00/	100.00/	6.50 /ACGIH
11 TOLUENE	/108-88-3	/ 53.75	/ 100.00/	200.00/	24.00 /* SKIN NOTATIO /STEL = 150 PPM /ACGIH /CEL = 300 PPM /OSHA
12 XYLENE	/1330-20-7	/ 6.08	/ 100.00/	100.00/	6.60 /STEL = 150 PPM /ACGIH
13 METHOXYPROPYLACETATE	/108-65-6	/ 3.39	/NOT EST/	NOT EST/	3.70
14 ISOPROPANOL	/67-63-0	/ 3.25	/ 400.00/	40.00/	33.00 /STEL = 500 PPM
% LEADED PIGMENT		.00			

\*\*\*\*\*  
SECTION III PHYSICAL DATA  
\*\*\*\*\*

Boiling Range: High- 302.0 F Low- 150.0 F  
Vapor Pressure: See Section II  
Vapor Density: Heavier Than Air  
Evaporation Rate: Slower than Ether  
Weight per Gallon: 7.1  
% Volatile by Weight: 100.00  
VOC: N/A  
Appearance: N/A  
pH: N/A  
\*\*\*\*\*

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

Flammability Classification: Class 1B DOT: Flammable Liquid  
Actual Flashpoint TCC: 40.0 F  
Explosion Level: Lower- 1.0 Upper- 12.0  
Upper Flammability Limit: N/A  
Auto Ignition Temperature: N/A  
The National Fire Protection Association Class B extinguisher is designed to extinguish NFPA class 1B flammable liquid fires.

SPECIAL FIRE FIGHTING PROCEDURES

Water spray may be ineffective. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable.

UNUSUAL FIRE AND EXPLOSION HAZARD:

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Closed container may explode when exposed to extreme heat. Do not apply to hot surfaces. Never use welding or cutting torch on or near container (even empty) because product (even residue) may ignite explosively.

HEAT PROTECTION PROCEDURES

Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture.

\*\*\*\*\*  
SECTION V HEALTH HAZARD DATA  
\*\*\*\*\*

EFFECTS OF EXCESSIVE OVEREXPOSURE

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Do not breathe vapors or spray mist. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use.

This product contains organic solvents which may cause eye, skin, and respiratory tract irritation. The symptoms of exposure are: tearing eyes; redness, drying and cracking of the skin; dizziness, nausea, and fatigue from inhalation; and vomiting from ingestion. Based on the presence of components (08, 13) ingestion of this product will cause irritation of the gastrointestinal tract and may cause effects resembling those from inhalation of vapor.

FIRST AID

- EYE CONTACT: Flush with luke warm water for 15 minutes. Seek physician immediately.
- SKIN CONTACT: Flush wash with copious amounts of luke warm water. Remove contaminated clothing promptly. Contact a physician immediately.
- INHALATION: Remove exposed individual to fresh air. Restore breathing if required. Contact a physician immediately.
- INGESTION: Rinse mouth immediately. Give exposed individual 6 to 8 ounces of liquid. (Never give anything by mouth to an unconscious person.) Do NOT induce vomiting unless advised by a physician. Contact a physician immediately.

\*\*\*\*\*  
SECTION VI REACTIVITY DATA  
\*\*\*\*\*

CONDITIONS TO AVOID

Avoid exposure to sparks, open flame, hot surfaces, and all sources of heat and ignition.  
May produce hazardous fumes when heated to decomposition as in welding. Fumes may contain carbon monoxide, carbon dioxide, and oxides of nitrogen.

INCOMPATIBILITY (Materials to Avoid)

This product is incompatible with strong acids.

STABILITY

This product is stable.

HAZARDOUS POLYMERIZATION

Will not occur.

\*\*\*\*\*

TN-2000

LILLY INDUSTRIAL COATINGS, INC.

MATERIAL SAFETY DATA SHEET

Page 4

LACQUER THINNING LIQUID

\*\*\*\*\*

\*\*\*\*\*

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Stay upwind and away from spill unless wearing appropriate protective equipment. Stop and/or contain discharge if it may be done safely. Keep all sources of ignition away. Ventilate area of spill. Use non-sparking tools for cleanup. Cover with inert material to reduce fumes. Keep out of drains, sewers, or waterways. Contact fire authorities. Notify local health and pollution control agencies. Call spill response teams if large spill.

WASTE DISPOSAL METHOD

DO NOT FLUSH TO SEWER, WATERSHED, OR WATERWAY.

Dispose of in accordance with local, state and federal regulations. Do not incinerate closed containers.

\*\*\*\*\*

SECTION VIII SAFE HANDLING AND USE INFORMATION

DISCRETION ADVISED

Lilly Industrial Coatings, Inc. takes no responsibility for determining what measures are required for personal protection in any specific application. The general information given should be used with discretion.

PROTECTIVE GLOVES

Required for prolonged or repeated contact. Wear resistant gloves such as natural rubber, neoprene, buna N or nitrile. An apron should be worn to avoid skin contact.

PROTECTIVE EYEWEAR

Avoid contact with eyes. Wear goggles if there is a likelihood of contact with eyes. Eyewash stations and safety showers should be readily available in handling areas. Use safety eyewear with perforated sideshields. Use safety eyewear with perforated sideshields.

RESPIRATORY PROTECTION

In outdoor or open areas use (NIOSH/MSHA approved) mechanical filter respirator to remove solid airborne particles of overspray during spray application. In restricted ventilation areas use (NIOSH/MSHA approved) chemical-mechanical filters designed to remove a combination of particulate and gas and vapor. In confined areas use (NIOSH/MSHA approved) air line type respirators or hoods. Respiratory protection may also be necessary in any later manufacturing operations in which the product may become airborne in the form of vapor or dust.

VENTILATION

Use ventilation as required to control vapor concentrations. Avoid prolonged or repeated breathing of vapors. If exposure exceeds TLV, use a NIOSH-approved respirator to prevent overexposure. Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV of the most hazardous ingredient in Section II below acceptable limit, LEL in Section IV below stated limit, and to remove decomposition products during welding or flame cutting on surfaces coated with this product.

HYGIENIC PRACTICES

WASH HANDS THOROUGHLY BEFORE EATING AND USING WASHROOM.

Remove contaminated clothing immediately and do not wear it until it has been properly laundered.



SECTION IX SPECIAL PRECAUTIONS

-----  
 HANDLING AND STORING PRECAUTIONS

Keep product containers cool, dry, and away from sources of ignition. Use and store this product with adequate ventilation. Do NOT smoke in storage areas.

Personnel should avoid inhalation of vapors. Personal contact with the product should be avoided. Should contact be made, remove saturated clothing and flush affected skin areas with water. 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 this sheet must be observed.

\*\*\*\*\*  
 SECTION X Section 313 Toxic Chemicals  
 \*\*\*\*\*

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material.

Chemical	CAS Number	Weight %
MIBK	108-10-1	18.79
N-BUTANOL	71-36-3	2.39
TOLUENE	108-88-3	53.75
XYLENE	1330-20-7	6.08

\*\*\*\*\*  
 THE INFORMATION CONTAINED HEREIN IS INFORMATION RECEIVED FROM OUR RAW MATERIAL SUPPLIERS AND OTHER SOURCES AND IS BELIEVED TO BE RELIABLE. THIS DATA IS NOT TO BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH LILLY INDUSTRIAL COATINGS, INC. ASSUMES LEGAL RESPONSIBILITY.  
 \*\*\*\*\*

# Material Safety Data Sheet

## QUICK IDENTIFIER

Common Name: (used on label and list)

Higgins Waterproof Black Drawing Ink

4415-4419

May be used to comply with OSHA's Hazard Communication Standard, 29CFR 1910.1200. Standard must be consulted for specific requirements.

### SECTION 1 -

Manufacturer's Name

Faber-Castell Corporation

Address

551 Spring Place Rd.

Emergency Telephone No.

615/359-1583

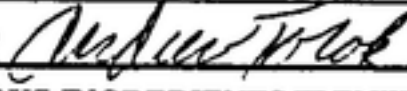
City, State, and ZIP

Lewisburg, Tn. 37091

Other Information Calls

201/483-4646

Signature of Person Responsible for Preparation (Optional)



Date Prepared

AUG. 25, 1986

### SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY

Hazardous Component(s) (chemical & common name(s))

OSHA PEL

ACGIH TLV

Other Exposure Limits

% (optional)

CAS NO.

Non-hazardous waterbased ink.

Contains no hazardous ingredients.

OWENS LAB SCS

MAY 13 1988

RECEIVED

### SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

Boiling Point

100°C

Specific Gravity (H<sub>2</sub>O=1)

1.03-1.04

Vapor Pressure (mm Hg)

NE

Vapor Density (Air = 1)

NE

Solubility in Water

Dispersible

Reactivity in Water

None

Appearance and Odor

Black India Ink - Odorless

Melting Point

NA

### SECTION 4 - FIRE & EXPLOSION DATA

Flash Point

NA

F.

C.

Method Used

NA

Flammable Limits in Air % by Volume

LEL Lower

NA

UEL Upper

NA

Auto-Ignition Temperature

NA

Extinguisher Media

--

Non-flammable

Special Fire Fighting Procedures

None-flammable

Unusual Fire and Explosion Hazards

None

**SECTION 5 - PHYSICAL HAZARDS (REACTIVITY DATA)**

Stability: Stable  Conditions to Avoid  None

Incompatibility (Materials to Avoid): None

Hazardous Decomposition Products: None

Hazardous Polymerization: May Occur  Conditions to Avoid  None

**SECTION 6 - HEALTH HAZARDS**

Irritation: 1. Acute None 2. Chronic None

Symptoms: Exposure None

Medical Conditions Generally Aggravated by Exposure: Unknown

Chemically Classified as Carcinogen or Potential Carcinogen: National Toxicology Program Yes  No  I.A.R.C. Monographs Yes  No  OSHA Yes  No

Emergency Procedures: See Below

- ROUTES OF EXPOSURE:
- 1. Inhalation: NA
  - 2. Eyes: Flush with water
  - 3. Skin: Wash with soap and water
  - 4. Ingestion: If large quantities ingested, see physician.

**SECTION 7 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES**

Precautions to be Taken in Handling and Storage: Keep from freezing.

Other Precautions: None

Steps to be Taken in Case of Release or Spill: Flush with water

Waste Disposal (Consult federal, state, and local regulations): Non-hazardous waste

**SECTION 8 - SPECIAL PROTECTION INFORMATION/CONTROL MEASURES**

Respiratory Protection: NA

Ventilation: Local Exhaust NA Mechanical (General) NA Special NA Other NA

Personal Protective Equipment: Eye Protection NA

Washing Practices: Wash with soap & water

IMPORTANT: Do not leave any blank spaces. If required information is unavailable, unknown, or does not apply, so indicate.

**DEERE & COMPANY**John Deere Road, Moline, IL 61265  
1-800-822-8262**Material Data Safety Sheet**

JOHN DEERE PRODUCT NAME: Hy-Gard Transmission and Hydraulic Oil

DATA SHEET NO: 8503-40,100  
LATEST REVISION DATE: 15 Aug. 1999  
DEERE CODE: Y3, Y38, XN, Y4  
JDM PART NO: AR69444, AR69445,  
TY6238, TY6354, TY22028,  
TY22062, TY22077, TY22078,  
TY22079, TY22080, TY22092,  
TY24496, TY24761

Part Nos. TY6237 TY6278 End 12/99

## ----- SECTION I - PRODUCT IDENTIFICATION -----

CHEMICAL NAME AND SYNONYMS: Lubricating Oil; Hydraulic Fluid; J20C  
CHEMICAL FAMILY: Hydrocarbon FORMULA: Complex

## ----- SECTION II - HAZARDOUS INGREDIENTS -----

INGREDIENT	PERCENT	TLV/PEL	V.P.	CAS.#
Solvent refined, hydrotreated, heavy paraffinic distillate	50-60	5 mg/m <sup>3</sup> *	-	64742547
Solvent refined, hydrotreated, middle distillate	0-25	5 mg/m <sup>3</sup> *	-	64742467
Severely hydrotreated light naphthenic distillate	0-25	5 mg/m <sup>3</sup> *	-	64742536
Polymeric additive in oil (poly-methacrylate)	10-15	None	-	None
Additive containing zinc dialkyl dithiophosphate	5- 6	None	-	Mixture

\*for oil mists

## ----- SECTION III - PHYSICAL DATA -----

BOILING POINT: N.A. SP. GRAVITY (WATER=1): 0.89  
% VOLATILE VOLUME: N.A. EVAPORATION RATE: N.A.  
VAPOR DENSITY: N.A. SOLUBILITY IN WATER: Insoluble  
APPEARANCE/ODOR: dark amber/slight odor N.A. - not available

## ----- SECTION IV - FIRE &amp; EXPLOSION HAZARD DATA -----

FLASH POINT: 390° F C.O.C. FLAMMABLE LIMIT - LEL: N.A.  
EXTINGUISHING MEDIA: Water fog, foam, dry chemical, carbon dioxide, or halogenated  
agents.  
SPECIAL FIRE FIGHTING PROCEDURES: Do not use a direct stream of water. Product will  
float and can be reignited on surface of water. Cool fire exposed containers with  
water. Use NIOSH approved self-contained breathing apparatus.  
UNUSUAL FIRE & EXPLOSION HAZARDS: None



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

EXPOSURE LIMIT: See Section II - Hazardous Ingredients  
EFFECTS OF OVEREXPOSURE: Exposure to vapors or mists of this product may cause mild upper respiratory tract irritation. Prolonged or repeated contact may cause various skin disorders such as dermatitis, oil acne, or folliculitis. Eye contact is minimally irritating. Effects of ingestion are expected to be relatively non-toxic. Exposure to product may aggravate preexisting skin and respiratory conditions.  
EMERGENCY & FIRST AID: Eyes - flush with water 15 minutes. Skin - remove contaminated clothing; wash skin with soap and water; if material is injected under the skin, do not wait for symptoms to develop - get medical attention promptly to prevent serious damage. Inhalation - remove victim to fresh air and provide oxygen if breathing is difficult. Ingestion - do NOT induce vomiting. In all cases seek medical attention.

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

STABILITY: Stable  
INCOMPATIBILITY: Avoid open flame, and oxidizing materials  
HAZARDOUS POLYMERIZATION: Will not occur  
DECOMPOSITION PRODUCTS: Dependent on combustion conditions. A complex mixture of airborne solid, liquid, and gas will evolve when this material undergoes pyrolysis or combustion. Oxides of carbon, sulfur, phosphorous, and other unidentified organic compounds may be formed.

----- SECTION VII - SPILL OR LEAK PROCEDURE -----

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dike and contain. Use vacuum or an absorbent such as clay or sand to pick up. Flush area with water to remove trace residue. NOTE: This product is classified as an oil under the Clean Water Act. Spills, entering surface waters or any watercourse or sewer leading to surface waters, must be reported to the National Response Center 800-424-9802.  
WASTE DISPOSAL METHOD: In accord with federal, state, and local regulations

----- SECTION VIII - PROTECTIVE EQUIPMENT INFORMATION -----

VENTILATION: Local exhaust to keep TLV/PEL below acceptable levels  
RESPIRATOR: NIOSH approved as needed EYE WEAR: Recommended  
GLOVES: Recommended to minimize skin contact OTHER:

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

Minimize skin contact. Wash with soap and water before eating, smoking, or using toilet facilities. Launder contaminated clothing before reuse. Properly dispose of contaminated articles including shoes that cannot be cleaned. Store in a cool, dry place with adequate ventilation. Keep away from open flames. Keep away from children.

----- SECTION X - DATA PREPARATION -----

NAME: T. M. Snyder, CIH TITLE: Industrial Hygienist  
SIGNATURE: DATE: October 7, 1999

-----  
The information contained herein is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendee assumes the risk in use of the material.

MATERIAL SAFETY DATA SHEET

Rev 19200.01A

For Coating, Resins, and Related Materials NPCA 1-84

MAR 23 1992

MANUFACTURER'S NAME  
BENJAMIN MOORE & CO.  
51 CHESTNUT RIDGE RD.  
MONTVALE, NJ 07645

EMERGENCY TELEPHONE NO. 800-424-9300  
INFORMATION TELEPHONE NO. 201-573-9600

DATE OF PREPARATION  
25-JUN-90

NSL

SECTION I - PRODUCT ID

PRODUCT CODE: 192	HMIS CODE	SARA TITLE 312
CLASS: SOLVENT THINNED PAINT	Health: 1*	Acute: NO
NAME: IRONCLAD SAFETY ZONE PAINT	Flammability: 3	Chronic: YES
COLOR: ALL	Reactivity: 0	Fire: YES
	Personal Prot.: G	Pressure: NO
		React: NO

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	MAX PCT	CAS NO.	TLV	PEL	STEL	CEIL	MM Hg	TEMP
Petroleum Distillates, n.o.s. (f)	19.7	8002059	300ppm	300ppm	400ppm		26	@100 f
Silica, Crystalline (f*)	0.6	14808607	.1mg/m3	.1mg/m3				N/A
Titanium Dioxide (f*n)	6.0	13463677	10mg/m3	10mg/m3				N/A
Calcium Carbonate (f*)	59.8	471341	10mg/m3	5mg/m3				N/A
Stoddard Solvent (fn)	2.3	8052413	100ppm	100ppm			2.0	@ 20 C
Hydrous Alum Silicates (f*)	7.6	1332587	10mg/m3	10mg/m3				N/A

f Federal Hazard List  
\* Hazardous only as dust when product is sanded.  
3 Sect. 313 of the Emergency Planning & Community Right-To-Know Act of 1986 and of 40 CFR 372 n New Jersey Label Law hazardous chemical

SECTION III - PHYSICAL DATA

BOILING RANGE: 256- 390°F VAPOR DENSITY: HEAVIER THAN AIR WEIGHT PER GAL: 12.6 - 13.1  
EVAPORATION RATE: SLOWER THAN ETHER % VOLATILE VOLUME: 43.3 - 44.6

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

D.O.T. FLAMMABILITY CLASSIFICATION: FLAMMABLE FLASH POINT: 50°F PMCC  
LEL: 1.0%

EXTINGUISHING MEDIA: FOAM CO2 DRY CHEMICAL WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS:  
Closed containers may burst if exposed to extreme heat or fire.  
Toxic gases may form when product burns.

SPECIAL FIREFIGHTING PROCEDURES:  
Do not use water stream on burning liquid.  
Cool exposed containers with water. Use self-contained breathing apparatus.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE - ACUTE:  
Inhalation - Harmful if inhaled. May affect the brain or nervous system, causing dizziness, headache or nausea.  
Contact - Causes eye irritation.

Contact - Causes skin irritation.

Ingestion - Irritation of the digestive tract and nervous system depression (drowsiness, dizziness, loss of coordination and fatigue). Aspiration Hazard - This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

**EFFECTS OF OVEREXPOSURE - CHRONIC:**

Skin Contact - Prolonged or repeated exposure may cause dermatitis.

Inhalation statement: Sanding dust inhalation may cause lung damage.

Crystalline silica has been classified as probably carcinogenic for humans (2A) by IARC.

NOTICE: Reports have associated permanent brain and nervous system damage with repeated, prolonged overexposure to solvents among persons engaged in the painting trade. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

**MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE:**

None expected when used in accordance with Safe Handling and Use Information (Section VIII).

PRIMARY ROUTE(S) OF ENTRY: DERMAL          INHALATION          INGESTION

**EMERGENCY AND FIRST AID PROCEDURES:**

Inhalation - Remove from hazard area, maintain breathing, call physician.

Skin Contact - Remove with soap and water.

Eye Contact - Flush immediately with large amounts of water. Call physician.

Ingestion - Drink 1 or 2 glasses of water to dilute. Do NOT induce vomiting. Call physician.

**SECTION VI - REACTIVITY DATA**

STABILITY: STABLE                                  HAZARDOUS POLYMERIZATION WILL NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS: Burning may produce carbon dioxide and carbon monoxide.

CONDITIONS TO AVOID: Elevated temperatures and build up of vapors.

INCOMPATIBILITY (MATERIALS TO AVOID): None reasonably foreseeable.

**SECTION VII - SPILL OR LEAK PROCEDURES**

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

Remove all sources of ignition. Avoid breathing vapors. Use non-sparking tools to return materials to container. Absorb residue with Fuller's earth.

**WASTE DISPOSAL METHOD:**

Conventional procedures in compliance with local, state and federal regulations. Do not incinerate sealed containers.

**SECTION VIII - SAFE HANDLING AND USE INFORMATION**

**RESPIRATORY PROTECTION:**

Use NIOSH approved respirator specified for protection against paint spray mist, sanding dust and organic vapors in restricted or confined areas.

**VENTILATION:**

Adequate to maintain working atmosphere below T.L.V. and L.E.L. (See Sect. II for ingredient data and concentrations). Mechanical exhaust may be required in confined areas. Discharge exhaust only in area away from ignition sources.

PROTECTIVE GLOVES: Solvent impermeable gloves are required during repeated contact.

EYE PROTECTION: Splash goggles or safety glasses with side shields.

OTHER PROTECTIVE EQUIPMENT: Clothing adequate to protect skin.

**HYGIENIC PRACTICES:**

Remove and wash clothing before reuse. Wash hands before eating, smoking or using the washroom.

**SECTION IX - SPECIAL PRECAUTIONS**

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

Flammable - Keep away from heat, sparks and flame.

**OTHER PRECAUTIONS:**

Use only with adequate ventilation. Avoid prolonged contact with skin and breathing of vapor spray mist or sanding dust.

Close container after each use. Keep out of reach of children. Do not take internally.

**KANO LABORATORIES, INC.  
SAFETY DATA SHEET**

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** KROIL

**Product Use:** Penetrant/Lubricant for Industrial Use

**Manufacturer:** Kano Laboratories, Inc.  
1000 E. Thompson Lane  
Nashville, TN 37211

**Emergency Phone Number:** Chemtrec 1 (800) 424-9300

**Manufacturer Phone Number:** (615) 833-4101

**Website:** www.kanolaboratories.com

**SDS Date of Preparation:** October 5th, 2016

**SECTION 2: HAZARDS IDENTIFICATION**

**GHS / HAZCOM 2012 Classification:**

<b>Health</b>	<b>Physical</b>
Skin Irritation Category 2 Eye Irritation Category 2A Specific Target Organ Toxicity – Single Exposure Category 3 (Respiratory Irritation, CNS) Aspiration Hazard Category 1	Flammable Liquid 3

Label Elements

**Danger!**



Flammable Liquid and vapor.  
Causes skin irritation.  
Causes serious eye irritation.  
May be fatal if swallowed and enters airways.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.

Keep away from heat, sparks, open flames, and hot surfaces. No smoking.  
Keep container tightly closed.  
Ground and bond container and receiving equipment  
Use explosion-proof electrical, ventilating and lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing mist, vapors or spray.  
Wash thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves, eye protection and face protection.  
IF SWALLOWED: Immediately call a POISON CENTER.  
Do NOT induce vomiting.  
IF ON SKIN: Wash with plenty of soap and water.



If skin irritation occurs: Get medical attention.

Take off contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER if you feel unwell.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	%
Severely Hydrotreated Petroleum Distillates	64742-52-5	30-50
Light Petroleum Distillates	64742-95-6 64742-88-7 64742-47-8 64742-96-7	30-50
Diisobutyl Ketone	108-83-8	0-15
Proprietary Ingredient	Proprietary	1-10
Dipropylene Glycol Monopropyl Ether	29911-27-1	1-5
Dipropylene Glycol Methyl Ether	88917-22-0	0-5
Aliphatic Alcohol #1	123-42-2	<3
Aliphatic Alcohol #2	78-83-1	<3

### SECTION 4: FIRST AID MEASURES

**Eye:** Rinse thoroughly with water for at least 15 minutes, holding the eye lids open to be sure the material is washed out. Get medical attention if irritation develops or persists.

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

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

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

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

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

### SECTION 5: FIRE FIGHTING MEASURES

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

**Specific Hazards Arising from the Chemical:** Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Never use welding or cutting torch on or near containers (even empty) because product can ignite explosively. Combustion products may be hazardous.

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

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal precautions, Protective equipment, and Emergency procedures:** Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed.

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

**Methods and Materials for Containment and Cleaning up:** Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Ventilate area. Cover with an inert absorbent material and collect into an appropriate container for disposal.

**SECTION 7: HANDLING AND STORAGE**

**Precautions for Safe Handling:** Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wash exposed skin thoroughly with soap and water after use. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas.

**OTHER PRECAUTIONS:** Do not cut, braze, solder, grind or weld empty containers. Do not reuse containers. Follow all SDS precautions in handling empty containers.

**Conditions for Safe Storage, Including any Incompatibilities:** Store in a cool, dry, well-ventilated location away from oxidizing agents and other incompatible materials. Keep containers closed.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

Chemical Name	Exposure Limits
Severely Hydrotreated Petroleum Distillates	5 mg/m <sup>3</sup> TWA OSHA PEL 5 mg/m <sup>3</sup> TWA ACGIH TLV (inhalable fraction)
Light Petroleum Distillates	500 ppm TWA OSHA PEL (As stoddard solvent) 200 ppm TWA ACGIH TLV (as kerosene)
Diisobutyl Ketone	25 ppm TWA OSHA PEL 50 ppm TWA ACGIH TLV
Proprietary Ingredient	None Established
Dipropylene Glycol Monopropyl Ether	None Established
Dipropylene Glycol Methyl Ether	None Established
Aliphatic Alcohol #1	50 ppm TWA OSHA PEL 50 ppm TWA ACGIH TLV
Aliphatic Alcohol #2	100 ppm TWA OSHA PEL 50 ppm TWA ACGIH TLV

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

**Personal Protective Equipment:**

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

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

**Eye Protection:** Chemical safety goggles recommended.

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

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

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

#### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** None known.

**Chemical Stability:** Stable under normal conditions of storage or use.

**Possibility of Hazardous Reactions:** None known.

**Conditions to avoid:** Avoid heat, sparks, flames and all other sources of ignition.

**Incompatible Materials:** Avoid strong oxidizing agents, reducing agents, acids and bases.

**Hazardous decomposition products:** Combustion will produce oxides of carbon, acetone, acrid fumes and smoke.

#### SECTION 11: TOXICOLOGICAL INFORMATION

**Potential Health Effects:**

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

**Skin:** May cause irritation with redness, rash, swelling. Prolonged or repeated contact may result in defatting and dermatitis.

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

**Ingestion:** Swallowing may cause gastrointestinal irritation with abdominal pain, nausea, vomiting and diarrhea and central nervous system depression with symptoms including headache, dizziness, intoxication, weakness, nausea, and vomiting. Aspiration into the lungs during ingestion or vomiting may cause lung damage.

**Chronic Hazards:** Prolonged or repeated exposure may cause damage to the central nervous system, kidney and liver.

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

**Acute toxicity:** Toxicological testing has not been performed on this product as a mixture.

Acute Toxicity Estimate: Oral 35 714 mg/kg, Inhalation >5 mg/kg, Dermal >2000 mg/kg  
Severely Hydrotreated Petroleum Distillates: Oral rat LD50 > 5000 mg/kg; Dermal rat LD50 > 5000 mg/kg  
Inhalation rat LC50 > 2.18 mg/L/4 hr.  
Light Petroleum Distillates: Oral rat LD50 >5000 mg/kg, Inhalation rat LC50 >5.28 mg/L/4 hr, Dermal rabbit LD50 >2000 mg/kg  
Diisobutyl Ketone: Oral rat LD50 5233 mg/kg; Dermal rat LD50 > 2000 mg/kg; Inhalation rat LC50 14.5 mg/L/4 hr.  
Proprietary Ingredients: Oral rat LD50 2760 mg/kg; Dermal rabbit LD50 >2000 mg/kg  
Dipropylene Glycol Monopropyl Ether: Oral rat LD50 >2000 mg/kg Dermal rabbit LD50 >2000 mg/kg.  
Dipropylene Glycol Methyl Ether: Oral rat LD50 >5000 mg/kg, Dermal rat LD50 >2000 mg/kg, Inhalation rat LD50 >5.7 mg/L/4 hr  
Aliphatic Alcohol #1: Oral rat LD50 3002 mg/kg; Dermal rat LD50 > 1875 mg/kg; Inhalation rat LC50> 7.6 mg/L/4 hr.  
Aliphatic Alcohol #2: Oral rat LD50 > 2830 mg/kg; Inhalation rat LC50 24.6 mg/L/4 hr.; Dermal rabbit LD50 > 2000 mg/kg

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** No toxicity data available for the product.

Severely Hydrotreated Petroleum Distillates: 96 hr. LC50 Pimephales promelas > 100 mg/L; 48 hr. EC50 daphnia magna >1000 mg/L; 72 hr. EC50 Pseudokirchnerella subcapitata > 100 mg/L  
Light Petroleum Distillates: 96 hr LL50 Oncorhynchus mykiss 2.5 mg/kg, 48 hr EL50 daphnia magna 1.4 mg/L, 72 hr EL50 Pseudokirchnerella subcapitata 1.3 mg/L  
Diisobutyl Ketone: 96 hr. LC50 Oncorhynchus mykiss 30 mg/L; 48 hr. EC50 daphnia magna 37.2 mg/L, 72 hr. EC50 Pseudokirchnerella subcapitata 46.9 mg/L  
Proprietary Ingredients: 96 hr. LC50 Oncorhynchus mykiss 18350 ug/L  
Dipropylene Glycol Monopropyl Ether: 96 hr LC50 Oncorhynchus mykiss >100 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 96 hr EC50 Pseudokirchnerella subcapitata >1000 mg/L  
Dipropylene Glycol Methyl Ether: 96 hr LC50 Oncorhynchus mykiss 110.2 mg/L, 48 hr LC50 daphnia magna 2701 mg/L, 72 hr EC50 Pseudokirchnerella subcapitata >1000 mg/L  
Aliphatic Alcohol #1: 96 hr. LC50 Oryzias latipes >100 mg/L; 48 hr. EC50 daphnia magna >1000 mg/L; 72 hr. EC50 Pseudokirchnerella subcapitata >1000 mg/L  
Aliphatic Alcohol #2: 96 hr LC50 Pimephales promelas 1430 mg/L; 48 hr EC50 daphnia pulex 1100 mg/L; 72 hr EC50 Pseudokirchnerella subcapitata 1799 mg/L

**Persistence and Degradability:** Aliphatic alcohol #1 and aliphatic alcohol #2 are readily biodegradable. Light petroleum distillates is not readily biodegradable. Severely hydrotreated petroleum distillates is inherently biodegradable based on structurally similar chemicals.

**Bioaccumulative Potential:** Aliphatic alcohol #1 has a calculated BCF of 0.5. Diisobutyl Ketone has a calculated BCF of 7. Aliphatic Alcohol #2 has a calculated BCF of 3

**Mobility in Soil:** Aliphatic alcohol #1, aliphatic alcohol #2 and diisobutyl ketone have a high to very high mobility in soil.

**Other Adverse Effects:** None known

## SECTION 13: DISPOSAL INFORMATION

**Disposal instructions:** Dispose of product in accordance with all local, state/provincial and federal regulations.

**Contaminated packaging:** Offer rinsed packaging material to local recycling facilities.

**SECTION 14: TRANSPORT INFORMATION**

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
<b>DOT (in containers &lt;119 gallons)</b>		Excluded from Hazmat			
<b>DOT (in containers &gt; 119 gallons)</b>	UN1993	Flammable liquid, n.o.s. (Aliphatic Alcohols, Petroleum Distillates)	3	PGIII	None
<b>IMDG</b>	UN1993	Flammable liquid, n.o.s. (Aliphatic Alcohols, Petroleum Distillates)	3	PGIII	None
<b>IATA</b>	UN1993	Flammable liquid, n.o.s. (Aliphatic Alcohols, Petroleum Distillates)	3	PGIII	None

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

**Special precautions:** None known.

**SECTION 15: REGULATORY INFORMATION**

**U.S. FEDERAL REGULATIONS:**

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

**SARA TITLE III:**

**Hazard Category for Section 311/312:** Acute Health, Fire Hazard

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

**Section 302 Extremely Hazardous Substances (TPQ):** None

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

**SECTION 16: OTHER INFORMATION**

**HMIS Ratings:** Health - 2                      Flammability - 2                      Reactivity - 0  
**NFPA Ratings:** Health - 1                      Flammability - 2                      Reactivity - 0

**SDS Revision History:** Section 3 Composition, Section 8 Exposure Limits, Section 11 Acute Toxicity, Section 12 Ecotoxicity.

**Date of preparation:** October 5th, 2016

**Date of last revision:** April 15th, 2016

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



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## **L-89 STEAM CLEAN**

### **MSDS Number**

CKGRQ

### **National Stock Number**

-

### **Product Name**

L-89 STEAM CLEAN

### **Manufacturer**

STEAM JET CORP

### **Product Identification**

Product ID:L-89 STEAM CLEAN

MSDS Date:02/01/1989

FSC:NIIN:Submitter:F BT

Status Code:A

MSDS Number: CKGRQ

### **Responsible Party**

STEAM JET CORPORATION

3731-2 NORTHCREST RD

ATLANTA , GA 30340-5000

US

Emergency Phone: 404-968-3630

Info Phone: 800-331-1141

Cage: 70603

### **Contractor**

STEAM JET CORPORATION

ATLANTA, GA 30340-5000

US

800-331-1141

Cage: 70603

### **Ingredients**

SODIUM METASILICATE

CAS: 6834-92-0

RTECS: VV9275000

POTASSIUM HYDROXIDE

CAS: 1310-58-3

RTECS: TT2100000

EPA Report Quantity: 1000 LBS

DOT Report Quantity: 1000 LBS

TRISODIUM PHOSPHATE

CAS: 7601-54-9

RTECS: TC9490000



EPA Report Quantity: 5000 LBS

DOT Report Quantity: 5000 LBS

2-BUTOXYETHANOL

CAS: 111-76-2

RTECS: KJ8575000

OSHA PEL240 MG/M3;50 PPM

ACGIH TLV: 121 MG/M3;25 PPM

## Hazards

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:EYES: MODERATE TO SEVERE IRRITATION.  
POSSIBLE TISSUE DAMAGE DEPENDING ON EXPOSURE. SKIN: MODERATE  
IRRITATION/DERMATITIS.  
Effects of Overexposure:IRRITATION, NAUSEA, VOMITING. DIARRHEA,  
DEFATTING OF SKIN.

## First Aid

First Aid:INHALATION: MOVE TO FRESH AIR. INGESTION: GIVE LARGE  
QUANTITIES OF WATER THEN SEVERAL GLASSES OF MILK. EYES: FLUSH  
IMMEDIATELY W/LARGE AMOUNTS OF WATER FOR 15 MINS. SKIN: WASH  
W/PLENTY OF SOAP & WATER . OBTAIN MEDICAL ATTENTION IN ALL CASES.

## Fire Fighting

Flash Point:NONE  
Extinguishing Media:AS REQUIRED BY SURROUNDING FIRE.  
Fire Fighting Procedures:WEAR SELF CONTAINED FULL-FACE BREATHING  
APPARATUS.

## Accidental Release

Spill Release Procedures:CONTAIN LARGE LEAKS & PUMP TO RECOVER. SMALL:  
CAN BE MOPPED UP & RECOVERED. CONTAMINATED AREA SHOULD BE  
NEUTRALIZED.

## Handling

Handling and Storage Precautions:STORE IN COOL, DRY PLACE. KEEP  
CONTAINER CLOSED WHEN NOT IN USE.  
Other Precautions:KEEP OUT OF REACH OF CHILDREN.

## Exposure Controls

Respiratory Protection:REQUIRED ONLY W/OUT ADEQUATE VENTILATION.  
Ventilation:EQUIVALENT TO OUTDOORS.  
Protective Gloves:RECOMMENDED  
Eye Protection:RECOMMENDED  
Work Hygienic Practices:REMOVE/LAUNDER CONTAMINATED CLOTHING & SHOES  
BEFORE REUSE.  
Supplemental Safety and Health  
WASH HANDS THOROUGHLY AFTER USE.

## Chemical Properties

Boiling Pt:>100.C, 212.F  
Spec Gravity:1.07  
Solubility in Water:COMPLETE  
Appearance and Odor:CLEAR PURPLE LIQUID W/CHARACTERISTIC ODOR

## Stability

Stability Indicator/Materials to Avoid:YES  
STRONG ACIDS & OXIDIZERS  
Stability Condition to Avoid:EXTREME TEMPERATURE  
Hazardous Decomposition Products:CO, CO2



## **Disposal**

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE W/LOCAL, STATE & FEDERAL REGULATIONS.

## **Other Information**

Disclaimer (provided with this information by the compiling agencies):  
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MATERIAL SAFETY DATA SHEET

Liquid Paper Correction Fluid

**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

MSDS Name: Liquid Paper Correction Fluid

Product CAS: (none)

Product Code:

Synonyms: All Purpose Bond White; Liquid Paper Correction Fluid

Company Identification:

Name: Gillette Medical Evaluation

Address: 401 Professional Drive

Address:

City: Gaithersburg State: MD Zip: 20879

For information, call: 301-590-9781

Emergency Number:

Emergency Agency:

Number:

MSDS Creation Date: 08/31/2000

Supersedes Date: 12/10/1998

**SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS**

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Chemical Name	CAS	MIN	MAX
titanium dioxide	13463-67-7	0	0
solvent naphtha	64742-89-8	0	0
Mineral Spirits	64742-48-9	0	0
Mustard Oil	57-06-7	0	0

Miscellaneous:

Also contains resin, dispersant, colorant(s), masking fragrance

Lbs of VOC per Gallon Coating (minus water): 0

Coating Density (lbs/gal): 0

Solvent Density (lbs/gal): 0

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

**SECTION 3 - HAZARDS IDENTIFICATION**

▲ top

NFPA: Health: Fire: Reactivity: Other:

HMIS: Health: Fire: Reactivity: Special Protection:

Miscellaneous:

NFPA/HMIS ratings not given

POTENTIAL HEALTH EFFECTS

Target Organs:

Inhalation, skin or eye contact

Eye:

If splashed into eye, irritation can occur.

Skin:

- a) Contact: No adverse effects anticipated from normal use. Irritation may occur if contact is prolonged/repeated.
- b) Absorption: No adverse effects anticipated from normal use. Solvent can be absorbed through skin (prolonged contact), but not likely in acutely toxic amounts.

Ingestion:

No adverse effects anticipated from normal use. Depending on amount ingested, most of the symptoms described above may occur. Estimated LD50 in rats is greater than 5 ml/kg or between 1 pint and 1 quart in humans. (ref: Gosselin, Smith and Hodge, Clinical Toxicology of Commercial Products, 5th Ed., 1984). Aspiration may result in chemical pneumonitis.

## Inhalation:

No adverse effects anticipated from normal use. If vapors are deliberately concentrated and inhaled (abuse), the following symptoms may occur: respiratory irritation, dizziness, drowsiness, headache, nausea, unconsciousness, convulsions, cardiac sensitization, coma and death (mustard oil is added to the product as an abuse deterrent).

## Miscellaneous:

n/a

**SECTION 4 - FIRST AID MEASURES** top

## Eye:

Flush with plenty of water. If irritation persists, obtain medical attention.

## Skin:

Wash with soap and water.

## Ingestion:

Consult physician.

## Inhalation:

No adverse effects anticipated from normal use. In an abuse situation, remove from source of exposure. Treat symptomatically. Oxygen may be administered. Seek medical attention immediately and refer to "Notes to Physician" below.

## Notes to Physician:

Contains solvent naphtha and mineral spirits which, if aspirated, may cause chemical pneumonitis. The inhalation of concentrated vapors may produce cardiac sensitization, contraindicating the use of sympathomimetic agents.

## Miscellaneous:

n/a

**SECTION 5 - FIRE FIGHTING MEASURES** top

## Unusual Fire and Explosion Hazards:

n/a

## Special Fire Fighting Procedures:

In fires involving large quantities of product, use self contained breathing apparatus. Cool fire-exposed containers with water fog/spray.

## Extinguishing Media:

Dry chemical, foam, carbon dioxide.

Flash Point:

25.5 F (closed cup) for product

Flammable Limits:

Lower Limit:

1%

Upper Limit:

8%

AutoIgnition Temperature:

n/a

General Information:

Product is flammable. Avoid contact with open flame or other ignition sources.

## **SECTION 6 - ACCIDENTAL RELEASE MEASURES**



Disposal:

Dispose in accordance with applicable federal, state and local laws.

Spills/Leaks:

Pick up spills with towels, tissues etc.

## **SECTION 7 - HANDLING and STORAGE**



Handling:

Product is flammable. No unusual handling or storage requirements.

Storage:

Storage in large quantities (as in warehouse) should be in a well ventilated, cool area, away from ignition sources.

## **SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**



Engineering Controls:

None under normal conditions of use.

Eyes:

None under normal conditions of use.

Skin:

None under normal conditions of use.

Clothing:

Product is non-hazardous when used as directed in an office/room with normal air circulation.

Respirators:

None under normal conditions of use.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

 top

Appearance/Odor:

White fluid with pungent solvent odor

pH: n/a

Vapor Pressure: @ 100 F 124 mm Hg

Vapor Density: 3.3

Evaporation Rate: 3.6

Viscosity: n/a

Boiling Point: 209-230 F 98-110 C

Freezing/Melting Point: n/a

Decomposition Temperature: n/a

Solubility: Negligible

Specific Gravity: 1.29

Molecular Formula: n/a

Molecular Weight: n/a

Miscellaneous:

% Volatiles - 40

Physical data, except Specific Gravity and % Volatiles, refers to Solvent Naphtha, a complex mixture of predominantly C7 and C8 hydrocarbons

## SECTION 10 - STABILITY AND REACTIVITY

 top

Chemical Stability:

Stable

Conditions to Avoid:

Product is flammable. Avoid contact with open flame or other ignition sources.

Incompatibilities with Other Materials:

Strong Oxidizers.

Hazardous Decomposition Products:

Thermal degradation may produce oxides of carbon and nitrogen and various hydrocarbons.

Hazardous Polymerization:

Will not occur.

## **SECTION 11 - TOXICOLOGICAL INFORMATION**



Toxicological Information:

n/a

## **SECTION 12 - ECOLOGICAL INFORMATION**



Ecological Information:

n/a

## **SECTION 13 - OTHER PRECAUTIONS**



Other Precautions:

n/a

Work/Hygienic Practices:

n/a

## **SECTION 14 - TRANSPORT INFORMATION**



Transportation Information:

n/a

Label Information:

n/a

## **SECTION 15 - REGULATORY INFORMATION**



Regulatory Information:

n/a

**SECTION 16 - ADDITIONAL INFORMATION**

 top

Additional Information:

n/a

**Safety Data Sheet**

**Section 1: Identification of the substance or mixture and of the supplier**

<b>Product Name:</b>	MC-30, MC-70
<b>SDS Number:</b>	W-4020
<b>Synonyms/Other Means of Identification:</b>	Cut Back Asphalt Medium Curing Cutbacks
<b>Intended Use:</b>	Prime Coat Surface Treatments Stockpile Patching Mixes
<b>Manufacturer:</b>	Wynnewood Refining A CVR Energy, Inc. Company 906 S. Powell Wynnewood, OK 73098
<b>Emergency Health and Safety Number:</b>	Chemtrec: 800-424-9300 (24 Hours)
<b>SDS Information:</b>	Phone: 405-665-6565

**Section 2: Hazard(s) Identification**

**Classification**

H226 -- Flammable liquids -- Category 3  
H304 -- Aspiration Hazard -- Category 1  
H315 -- Skin corrosion/irritation -- Category 2  
H332 -- Acute Toxicity, Inhalation -- Category 4  
H336 -- Specific target organ toxicity (single exposure) -- Category 3  
H351 -- Carcinogenicity -- Category 2  
H411 -- Hazardous to the aquatic environment, chronic toxicity -- Category 2

**Hazards not Otherwise Classified**

May contain or release poisonous hydrogen sulfide gas

**Label Elements**





**DANGER**

- Flammable liquid and vapor. (H226)**
- May be fatal if swallowed and enters airways. (H304)**
- Causes skin irritation. (H315)**
- Harmful if inhaled (H332)**
- May cause drowsiness or dizziness. (H336)**
- Suspected of causing cancer (H351)**
- Toxic to aquatic life with long lasting effects. (H411)**

**Precautionary Statement(s):**

- Obtain special instructions before use. (P201)
- Do not handle until all safety precautions have been read and understood. (P202)
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking. (P210)
- Keep container tightly closed. (P233)
- Keep cool. (P235)
- Ground/bond container and receiving equipment. (P240)
- Use with explosion-proof equipment. (P241)
- Use only non-sparking tools. (P242)
- Take precautionary measures against static discharge. (P243)
- Avoid breathing dust/fume/gas/mist/vapors/spray. (P261)
- Wash thoroughly after handling. (P264)
- Use only outdoors or in a well-ventilated area. (P271)
- Avoid release to the environment. (P273)
- Wear protective gloves / protective clothing / eye protection / face protection. (P280)
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. (P301+P310)
- Do NOT induce vomiting. (P331)
- IF ON SKIN: Remove/Take off immediately all contaminated clothing. (P361)\* Wash with plenty of soap and water. (P352)
- If skin irritation occurs: Get medical advice/attention. (P313)
- Take off contaminated clothing and wash before reuse. (P362)
- IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304+P340)
- Call a POISON CENTER or doctor/physician if you feel unwell. (P312)
- In case of fire: Use dry chemical, carbon dioxide, or foam for extinction.(P370+P378)
- Collect spillage. (P391)
- Store in a well-ventilated place. Keep container tightly closed. (P403+P233)
- Store locked up. (P405)
- Dispose of contents/container to approved disposal facility. (P501)

**Section 3: Composition / Information on Ingredients**

Component	CASRN	Concentration <sup>1</sup>
Petroleum Asphalt (Straight-run Bitumen)	8052-42-4	50 - 90
Kerosine (petroleum)	8008-20-6	10 - 50
Hydrogen Sulfide	7783-06-4	<5
Naphthalene	91-20-3	<1

<sup>1</sup> All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Section 4: First Aid Measures**

**Eye Contact:** If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

**Skin Contact:** Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician. (see Note to Physician)

**Inhalation (Breathing):** Immediately move victim away from exposure and into fresh air in a position comfortable for breathing. If respiratory symptoms or other symptoms of exposure develop, seek immediate medical attention. If victim is not breathing, clear airway and 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 lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

**Most important symptoms and effects**

**Acute:** Breathing vapors may cause headaches, dizziness and lung irritation

**Delayed:** Long-term exposure to high concentrations of asphalt fumes may cause chronic bronchitis and pneumonitis (inflammation of the lungs). Dry skin and possible irritation with repeated or prolonged exposure.

**Notes to Physician:** At high concentrations hydrogen sulfide may produce pulmonary edema, respiratory depression, and/or respiratory paralysis. The first priority in treatment should be the establishment of adequate ventilation and the administration of 100% oxygen. Animal studies suggest that nitrites are a useful antidote, however, documentation of the efficacy of nitrites in humans is lacking. If the diagnosis of hydrogen sulfide poisoning is confirmed and if the patient does not respond rapidly to supportive care, the use of nitrites may be an effective antidote if delivered within the first few minutes of exposure. For adults the dose is 10 mL of a 3% NaNO<sub>2</sub> solution (0.5 gm NaNO<sub>2</sub> in 15 mL water) I.V. over 2-4 minutes. The dosage should be adjusted for children or in the presence of anemia, and methemoglobin levels, arterial blood gases, and electrolytes should be monitored closely.

**Other Comments:** Before attempting rescue, first responders should be alert to the possible presence of hydrogen sulfide, a poisonous gas with the smell of rotten eggs, and should consider the need for respiratory protection (see Section 8). Remove casualty to fresh air as quickly as possible. Immediately begin artificial respiration if breathing has ceased. Consider whether oxygen administration is needed. Obtain medical advice for further treatment.

**Section 5: Fire-Fighting Measures**



**NFPA 704 Hazard Class**

**Health: Flammability: 2    Instability: 0    (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)**

**Unusual Fire & Explosion Hazards:** Flammable. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire. Hazardous combustion/decomposition products, including hydrogen sulfide, may be released by this material when exposed to heat or fire.

**Extinguishing Media:** Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

**Fire Fighting Instructions:** For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

**Hazardous Combustion Products:** Combustion may yield smoke, carbon monoxide, hydrogen sulfide and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

## Section 6: Accidental Release Measures

**Personal Precautions:** Flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Contains poisonous hydrogen sulfide gas. If the presence of dangerous amounts of H<sub>2</sub>S around the spilled product is suspected, additional or special actions may be warranted, including access restrictions and use of protective equipment. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down-wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

**Environmental Precautions:** Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use foam on spills to minimize vapors. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

**Methods for Containment and Clean-Up:** Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

## Section 7: Handling and Storage

**Precautions for safe handling:** Keep away from ignition sources such as heat/sparks/open flame – No smoking. Take precautionary measures against static discharge. Non-sparking tools should be used. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. May contain or release dangerous levels of hydrogen sulfide. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Flammable. May vaporize easily at ambient temperatures. The vapor is heavier than air and may create an explosive mixture of vapor and air. Beware of accumulation in confined spaces and low lying areas. Open container slowly to relieve any pressure. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

The use of hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of incomplete combustion products (e.g. hydrogen sulfide, carbon monoxide, oxides of sulfur and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels.

Static Accumulation Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding of tanks, transfer piping, and storage tank level floats are necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. Special care should be given to ensure that special slow load procedures for "switch loading" are followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such as gasoline or naphtha). For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Conditions for safe storage:** This material may contain or release poisonous hydrogen sulfide gas. In a tank, barge, or other closed container, the vapor space above this material may accumulate hazardous concentrations of hydrogen sulfide. Check atmosphere for oxygen content, H<sub>2</sub>S, and flammability prior to entry. Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All 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 material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

**Section 8: Exposure Controls / Personal Protection**

Component	ACGIH	OSHA	Other
Petroleum Asphalt (Straight-run Bitumen)	TWA 0.5 mg/m <sup>3</sup> (Inhalable fraction)	---	---
Kerosine (petroleum)	TWA: 200 mg/m <sup>3</sup> Skin	---	---
Hydrogen Sulfide	STEL: 5 ppm TWA: 1 ppm	Ceiling: 20 ppm Peak: 50 ppm	---
Naphthalene	TWA: 10 ppm STEL: 15 ppm Skin (NIC-No STEL)*	TWA: 10 ppm	---

\*NIC – Notice of Intended Change

**Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.**

**Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

**Eye/Face Protection:** The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

**Skin/Hand Protection:** The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Nitrile

**Respiratory Protection:** Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with organic vapor cartridges/canisters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

**Other Protective Equipment:** Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

**Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.**

## Section 9: Physical and Chemical Properties

**Note:** Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

<b>Appearance:</b>	Black
<b>Physical Form:</b>	Liquid
<b>Odor:</b>	Kerosene, Diesel, Asphalt
<b>Odor Threshold:</b>	No data
<b>pH:</b>	Not applicable
<b>Reid Vapor Pressure:</b>	<0.1 lb
<b>Vapor Density (air=1):</b>	6
<b>Initial Boiling Point/Range:</b>	>300 °F / 148.9 °C
<b>Melting/Freezing Point:</b>	No data
<b>Solubility in Water:</b>	Negligible
<b>Partition Coefficient (n-octanol/water) (Kow):</b>	No data
<b>Specific Gravity (water=1):</b>	0.9
<b>Percent Volatile:</b>	No data
<b>Evaporation Rate (nBuAc=1):</b>	<1
<b>Flash Point:</b>	100 °F / 38 °C
<b>Test Method:</b>	Tag Open Cup (TOC)
<b>Lower Explosive Limits (vol % in air):</b>	0.7
<b>Upper Explosive Limits (vol % in air):</b>	6.0
<b>Auto-ignition Temperature:</b>	650 °F / 343 °C
<b>Viscosity:</b>	30 – 30 cst @ 140 °F / 60 °C

## Section 10: Stability and Reactivity

**Stability:** Stable under normal ambient and anticipated conditions of use.

**Conditions to Avoid:** Avoid high temperatures and all sources of ignition. Prevent vapor accumulation.

**Materials to Avoid (Incompatible Materials):** Avoid contact with strong oxidizing agents..

**Hazardous Decomposition Products:** Not anticipated under normal conditions of use.

**Hazardous Polymerization:** Not known to occur.

## Section 11: Toxicological Information

### Information on Toxicological Effects of Substance/Mixture

<u>Acute Toxicity</u>	<u>Hazard</u>	<u>Additional Information</u>	<u>LC50/LD50 Data</u>
Inhalation	Harmful	Acute Toxicity Estimate (ATE)	11 mg/L (vapor) ATE
Skin Absorption	Unlikely to be harmful		> 2 g/kg
Ingestion (Swallowing)	Unlikely to be harmful		> 5 g/kg

**Aspiration Hazard:** May be fatal if swallowed and enters airways.

**Skin Corrosion/Irritation:** Causes skin irritation. Prolonged or repeated contact may worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). Long-term skin exposure can increase sensitivity to the sun and cause discoloration.

**Serious Eye Damage/Irritation:** Causes mild eye irritation.

**Signs and Symptoms:** Breathing vapors or fumes may cause headaches, dizziness and lung irritation. Long-term exposure to high concentrations of asphalt fumes may cause chronic bronchitis and pneumonitis (inflammation of the lungs).

This material contains hydrogen sulfide, a poisonous gas with the smell of rotten eggs. The smell disappears rapidly because of olfactory fatigue so odor may not be a reliable indicator of exposure. Effects of overexposure include irritation of the eyes, nose, throat and respiratory tract, blurred vision, photophobia (sensitivity to light), and pulmonary edema (fluid accumulation in the lungs). Severe exposures can result in nausea, vomiting, muscle weakness or cramps, headache, disorientation and other signs of nervous system depression, irregular heartbeats, convulsions, respiratory failure, and death.

**Skin Sensitization:** Not expected to be a skin sensitizer.

**Respiratory Sensitization:** No information available.

**Specific Target Organ Toxicity (Single Exposure):** May cause drowsiness and dizziness.

**Specific Target Organ Toxicity (Repeated Exposure):** Not expected to cause organ effects from repeated exposure.

**Carcinogenicity:** Components may cause cancer (see Below).

**Germ Cell Mutagenicity:** A component may cause mutagenicity (see Below).

**Reproductive Toxicity:** Not expected to cause reproductive toxicity.

### Information on Toxicological Effects of Components

#### **Petroleum Asphalt (Straight-run Bitumen)**

**Carcinogenicity:** On the basis of an earlier meta-analysis, the IARC multi-center study and several more recent independent studies, the IARC Working Group concluded that there was inadequate evidence in humans for the carcinogenicity of occupational exposures during road paving with straight-run bitumens (asphalt). Also, there was inadequate evidence in experimental animals for the carcinogenicity of extracts and of fume condensates of this type of bitumens(asphalt). However, studies of workers exposed to bitumen (asphalt) emissions during paving with straight-run bitumens showed mutagenic and genotoxic/cytogenetic effects in these workers. Similar effects were also observed in experimental systems under controlled conditions. This strong mechanistic evidence led to the classification of occupational exposures to straight-trun bitumens and their emissions during road paving as “possibly carcinogenic to humans” (Group 2B). It is not listed as a carcinogen by NTP or OSHA.

**Germ Cell Mutagenicity:** Studies of workers exposed to bitumen (asphalt) emissions during paving with straight-run bitumens showed mutagenic and genotoxic/cytogenetic effects in these workers. Similar effects were also observed in experimental systems under controlled conditions.

#### **Kerosine (petroleum)**

**Carcinogenicity:** Petroleum middle distillates have been shown to cause skin tumors in mice following repeated and prolonged skin contact. Follow-up studies have shown that these tumors are produced through a non-genotoxic mechanism associated with frequent cell damage and repair, and that they are not likely to cause tumors in the absence of prolonged skin irritation. They are not listed as carcinogens by NTP, IARC or OSHA.

**Reproductive Toxicity:** Hydrodesulfurized kerosene applied to the skin of female rats at 494, 330, or 165 mg/kg daily for 7 consecutive weeks (prematuring, mating, and gestation), or for 8 consecutive weeks in males did not result in systemic, reproductive, or developmental toxicity.

#### **Naphthalene**

**Carcinogenicity:** Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The US National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. . Naphthalene has been identified as a carcinogen by IARC and NTP. It is not listed as a carcinogen by OSHA.

## **Section 12: Ecological Information**

**Toxicity:** Acute aquatic toxicity studies on samples of jet fuel and kerosine streams show acute toxicity values greater than 1 mg/L and mostly in the range 1-100 mg/L. These tests were carried out on water accommodated fractions, in closed systems to prevent evaporative loss. Results are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon composition. Kerosines should be regarded as toxic to aquatic organisms, with the potential to cause long term adverse effects in the aquatic environment. Classification: H411; Chronic Cat 2.

**Persistence and Degradability:** Not available

**Bioaccumulative Potential:** Not available

**Mobility in Soil:** Not available

**Other Adverse Effects:** None anticipated.

## **Section 13: Disposal Considerations**

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste. However, it would likely be identified as a federally regulated RCRA hazardous waste for the following characteristic(s) shown below. In addition, it should be fully characterized for possible reactivity prior to disposal (40 CFR 261). See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

Container contents should be completely used and containers should be emptied prior to discard. Container residues and rinseates could be considered to be hazardous wastes.

**EPA Waste Number(s)**

- D001 - Ignitability characteristic

**Section 14: Transport Information**

**U.S. Department of Transportation (DOT)**

**Shipping Description:** *Aquatic toxicity studies indicate this material may be classified as a Marine Pollutant under IMDG Code. It is not currently regulated as a marine pollutant by the USDOT. If there is not a Shipping Description or other DOT marking, labeling, placarding and packaging references shown in this section, it is not regulated as a hazardous material by the USDOT.*

**Shipping Name:** Tars, Liquid  
**UN Number:** UN1999  
**Packing Group:** III  
**Hazard Class:** 3  
**Special Precautions:** None  
**Packaging - References:** 173.150, 173.202, 173.242  
**Emergency Response Guide:** 130

**Section 15: Regulatory Information**

**CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):**

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

**CERCLA/SARA - Section 311/312 (Title III Hazard Categories)**

**Acute Health:** Yes  
**Chronic Health:** Yes  
**Fire Hazard:** Yes  
**Pressure Hazard:** No  
**Reactive Hazard:** No

**CERCLA/SARA - Section 313 and 40 CFR 372:**

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Component	Concentration <sup>1</sup>	de minimis
Hydrogen Sulfide	<5	1%
Various Polycyclic Aromatic Hydrocarbons	<0.1	0.1%
Naphthalene	<1	0.1%



**EPA (CERCLA) Reportable Quantity (in pounds):**

EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

**California Proposition 65:**

Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the warning requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Component	Type of Toxicity
Naphthalene	Cancer
Various Polycyclic Aromatic Hydrocarbons	Cancer

**International Hazard Classification**

**Canada:**

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

**WHMIS Hazard Class:**

B3 - Combustible Liquids  
D2A – Very Toxic Material

**National Chemical Inventories**

All components are either listed on the US TSCA Inventory, or are not regulated under TSCA  
All components are either on the DSL, or are exempt from DSL listing requirements

**U.S. Export Control Classification Number:** EAR99

**Section 16: Other Information**

<b>Date of Issue:</b>	02-Oct-2013
<b>Status:</b>	Final
<b>Previous Issue Date:</b>	22-Mar-2010
<b>Revised Sections or Basis for Revision:</b>	Updated to GHS
<b>SDS Number:</b>	W-4020

**Guide to Abbreviations:**

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

**Disclaimer of Expressed and implied Warranties:**

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

## Material Safety Data Sheet



## MILESTONE\* VM Herbicide

\*Trademark of Dow AgroSciences  
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In case of emergency call CANUTEC at 613 996 6666

**1. Product Identification:**

**Product name:** MILESTONE\* VM Herbicide  
**Product use:** For control of broadleaf weeds in rangeland, pasture, industrial and other non-crop areas.  
**Product code number:** 102721  
**GMID numbers:** 264158  
**MSDS number:** DASCI-236  
**Effective date:** April 28, 2006

**Supplier:**  
 Dow AgroSciences Canada Inc.  
 Suite 2100, 450 – 1st Street SW,  
 Calgary, Alberta,  
 Canada, T2P 5H1  
[www.dowagro.ca](http://www.dowagro.ca)

**Date printed:** June 12, 2006

This product is regulated under authority of the Pest Control Products Act

**2. Composition:**

Component	CAS number	%(w/w)
Aminopyralid (DE-750)	150114-71-9	40.6
Other ingredients	Not available	59.4

**3. Hazard Identification:****Emergency Overview:**

This product is a brown liquid with a mild odor. This product may cause temporary eye irritation and skin irritation.

**Potential Health Effects:**

**Eyes:** This product may cause slight temporary eye irritation. Corneal injury is unlikely.

**Skin contact:** Brief contact may cause slight skin irritation with local redness.

**Skin absorption:** Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Ingestion:** Harmful effects not anticipated from swallowing small amounts of this product.

**Inhalation:** Prolonged exposure is not expected to cause adverse effects.

**4. First Aid Measures:**

**Consult a physician in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention at once.**

**Eyes:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial one to two minutes and continue flushing for several additional minutes. Get specialist medical attention if effects occur.

**Skin:** Wash affected skin with plenty of water.

**Ingestion:** No emergency medical treatment necessary.

**Inhalation:** Move person to fresh air. If effects occur, get medical attention

Have the Material Safety Data Sheet, and if available, the product container or label with you when calling for or going for medical assistance.

**Note to physician:** If a burn is present, treat as any thermal burn, after decontamination. There is no specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

**5. Fire-fighting Measures:**

**Auto-ignition temperature:** Not available

**Flash point:** Not applicable (This is a water-based material)

**Flammability limits:** Not available

**Extinguishing media:** Use foam, CO<sub>2</sub> or dry chemical.

**Sensitivity to mechanical impact/static discharge:** Not available

**Unusual fire and explosion hazards:** Foam fire extinguishing systems are preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions. Contain fire fighting water for future disposal.

**Fire-fighting equipment:** Wear positive-pressure self-contained breathing apparatus and full turnout gear. If protective equipment is not available or not used, fight fire from a protected location or safe distance.

**6. Accidental Release Measures:**

Soak up small spills with absorbent material such as HAZORB, or ZORBALL, peat moss, commercial

## Material Safety Data Sheet



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sweeping compound or similar absorbent material; if these are not available use adsorbing agents such as kitty litter, sand, clay or topsoil. Store collected absorbed/adsorbed material in secure containers until safe disposal can be arranged. Avoid the use of water for cleanup, since spent water must be collected and treated as hazardous waste. Use hot water and heavy duty detergent to clean up any residual stains on hard surfaces. Small spills on topsoil should be allowed to degrade under natural conditions (see Section 13. Ecological Information – Degradation and Metabolism – Soil). Do not allow spilled material to contaminate water supplies. For large spills, dike and barricade the affected area and contact CANUTEC at 613 996 6666 and local authorities.

#### **7. Handling and Storage:**

**Handling:** Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle Milestone Herbicide in a ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking.

**Storage:** Keep away from food, feedstuffs, and water supplies. Store in original container only with lid tightly closed.

#### **8. Exposure Controls, Personal Protection and Exposure Limits:**

**Exposure limits:** Aminopyralid: Not available  
Other ingredients: Not available

**Engineering controls:** Good general ventilation should be sufficient for most conditions.

**Breathing:** No respiratory protection should be needed.

**Protective clothing:** For brief contact during manufacture, warehousing and transport, wear clean body-covering clothing. Applicators and other field handlers, including persons repairing or cleaning application equipment, must wear coveralls over clean body-covering clothing, impervious gloves and boots. As an additional precaution, persons making and/or transferring field dilutions of this product may wear an impervious apron.

**Eyes:** Use safety glasses.

**Other protection:** None specified.

#### **9. Physical and Chemical Properties:**

**Boiling point:** Not available

**Vapor pressure:** Not available

**Vapor density:** Not available

**pH:** 7.33 at 19.8°C for a 1% solution

**Appearance:** Brown liquid

**Odor:** Mild

**Coefficient of water/oil distribution:** Not available

**Specific gravity:** 1.14 g/mL at 20°C

**Evaporation rate:** Not available

**Solubility in water:** Not available

**Freezing point:** <-10°C

**Odor threshold:** Not available

#### **10. Stability and Reactivity:**

**Stability:** This product is stable under recommended storage conditions.

**Incompatibility:** None known

**Hazardous decomposition products:** None known

**Hazardous polymerization:** Not known to occur.

#### **11. Toxicological Information:**

**Skin absorption:** Acute dermal LD50 (rat) is >5000 mg/kg.

**Ingestion:** Acute oral LD50 (rat) is >5000 mg/kg

**Inhalation:** The maximum practically-attainable concentration of this product in the tests (5.79 mg/L for four hours) produced no ill effects in test animals.

**Sensitization:** This product did not cause allergic skin reactions when tested in guinea pigs.

**Chronic effects:** Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Cancer:** Aminopyralid does not cause cancer in laboratory tests.

**Teratology defects:** Aminopyralid did not cause birth defects or any other fetal effects in laboratory test animals.

**Reproductive effects:** Based largely or completely on information for similar material(s), aminopyralid will not interfere with reproduction in laboratory animal studies.

**Mutagenicity:** Results of *in-vitro* and animal genetic toxicity studies with aminopyralid were negative.

#### **12. Ecological Information:**

Aminopyralid is not toxic to bees and non-toxic to aquatic organisms on an acute basis. Aminopyralid is practically non-toxic to birds on an acute or dietary basis. Based largely or completely on information for aminopyralid, bio-concentration potential for Milestone Herbicide is low. For more complete eco-

## Material Safety Data Sheet



## MILESTONE\* VM Herbicide

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**In case of emergency call CANUTEC at 613 996 6666**

toxicological information contact Dow AgroSciences at 800 667 3852.

**Degradation and Metabolism:**

**In soils:** Under aerobic conditions, degradation of aminopyralid in five different soils resulted in half-lives ranging from 31.5 to 533.2 days. For risk assessment purposes, EPA uses a half-life of 103.5 days. Aminopyralid photolyzed moderately slowly on a soil surface. The half-life of aminopyralid of soil surfaces was 72 days. Aminopyralid is weakly sorbed to soil.

**In water:** Aminopyralid was stable to direct hydrolysis and in anaerobic sediment-water systems. In aerobic sediment-water systems, degradation proceeded slowly, with observed total system half-lives of 462 to 990 days.

**In Animals:** In a metabolism study in rat, aminopyralid was rapidly absorbed, distributed and excreted, following oral administration.

**13. Disposal Considerations:**

**Unused unwanted product:** Contact Dow AgroSciences or your provincial regulatory agency for disposal information.

**Container disposal:** Refer to the product label for instructions regarding cleaning and disposal of empty pesticide containers. If these instructions are missing or not understood, contact Dow AgroSciences at 800 667 3852 or your provincial regulatory agency for direction.

**14. Transport Information:**

This product is **“Not Regulated”** under regulations of the Transportation of Dangerous Goods Act.

**15. Regulatory Information:**

**Pest Control Products Act registration number:** 28137

**For information phone:** 800 667 3852

**Master Number:** 7887

**MSDS status:** Revised Sections:

1. Product Identification
2. Composition
4. First Aid Measures
6. Accidental Release Measures
8. Exposure Controls, Personal Protection and Exposure Limits
11. Toxicological Information
12. Ecological Information
16. Other Information:

**Replaces MSDS dated:** July 5, 2005

**16. Other Information:**

**National Fire Code classification:** Not available

**NFPA ratings:** Health: 1; Flammability: 0; Reactivity: 0.

**Notice:** The information contained in this Material Safety Data Sheet ("MSDS") is current as of the effective date shown in Section 1 of this MSDS and may be subject to amendment by Dow AgroSciences Canada Inc. ("DASCI") at any time. DASCI accepts no liability whatsoever which results in any way from the use of MSDS that are not published by DASCI, or have been amended without DASCI express written authorization. Users of this MSDS must satisfy themselves that they have the most recent and authorized version of this MSDS and shall bear all responsibility and liability with respect thereto. Any conflict or inconsistencies as to the contents of this MSDS shall be resolved in favor of DASCI by the most recent version of the MSDS published by DASCI.

# MATERIAL SAFETY DATA SHEET

Misty Wasp & Hornet Killer

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Misty Wasp & Hornet Killer  
**Product Number:** A00436  
**Product Use:** Insecticide.  
**Manufacturer/Supplier:** Amrep, Inc.  
990 Industrial Park Drive  
Marietta, GA 30062  
**Phone Number:** (770) 422-2071 (Mon - Fri / 8am - 5pm ET)  
**D.O.T. Emergency Phone:** CHEM TEL (800) 255-3924  
INTERNATIONAL: +01-813-248-0584  
**Date of Preparation:** January 27, 2008      **Revision #:** 1.0

## Section 2: HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**HMIS:** See Section 15

DANGER

EXTREMELY FLAMMABLE. TOXIC BY INHALATION.  
MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.  
CONTENTS UNDER PRESSURE. CONTAINER MAY EXPLODE IF HEATED.

**Potential Health Effects:** See Section 11 for more information.

**Likely Routes of Exposure:** Skin contact, eye contact, inhalation, and ingestion.

**Eye:** May cause eye irritation.  
**Skin:** May cause skin irritation.  
**Ingestion:** Not a normal route of exposure. Harmful: may cause lung damage if swallowed.  
**Inhalation:** Toxic by inhalation. May cause respiratory tract irritation. May cause asphyxiation. This product may be aspirated into the lungs and cause chemical pneumonitis.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Signs and Symptoms:** Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Handling can cause dry skin. Vapours may cause drowsiness and dizziness.

**Medical Conditions Aggravated By Exposure:** Asthma. Allergies.

**Target Organs:** Skin, eyes, gastrointestinal tract, respiratory system.

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

**Potential Environmental Effects:** May cause long-term adverse effects in the aquatic environment. See Section 12 for more information.

## Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS #	Wt. %
Distillates (petroleum), hydrotreated light	64742-47-8	60 - 100
Acetone	67-64-1	10 - 30
Isopropanol	67-63-0	5 - 10
Carbon dioxide	124-38-9	1 - 5
Propoxur	114-26-1	0.1 - 1

# MATERIAL SAFETY DATA SHEET

Misty Wasp & Hornet Killer

## Section 4: FIRST AID MEASURES

- Eye Contact:** In case of contact, immediately flush eyes with plenty of water. If easy to do, remove contact lenses, if worn.
- Skin Contact:** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- Ingestion:** If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Atropine sulfate is antidotal. Treat like typical organic phosphate poisoning.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or MSDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

## Section 5: FIRE FIGHTING MEASURES

- Flammability:** Flammable by OSHA criteria.
- Means of Extinction:**
- Suitable Extinguishing Media:** Powder, foam, carbon dioxide.
  - Unsuitable Extinguishing Media:** Water.
- Products of Combustion:** May include, and are not limited to: oxides of carbon.
- Explosion Data:**
- Sensitivity to Mechanical Impact:** Not available.
  - Sensitivity to Static Discharge:** Not available.
- Protection of Firefighters:** Containers may explode when heated. Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

## Section 6: ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition. Ruptured cylinders may rocket.
- Environmental Precautions:** Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). This material is a water pollutant. Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.
- Methods for Containment:** Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
- Methods for Clean-Up:** Vacuum or sweep material and place in a disposal container. Allow gas to dissipate harmlessly into the atmosphere.
- Other Information:** Not available.

# MATERIAL SAFETY DATA SHEET

Misty Wasp & Hornet Killer

## Section 7: HANDLING AND STORAGE

### Handling:

Keep away from sources of ignition. - No smoking. Avoid contact with skin and eyes. Do not swallow. Do not breathe gas/fumes/vapor/spray. Use only in well-ventilated areas. Handle and open container with care. When using, do not eat or drink. Wash hands before eating, drinking, or smoking.

### Storage:

Keep out of the reach of children. Keep container in a well-ventilated place. Do not store at temperatures above 49°C / 120°F.

## Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines

Ingredient	Exposure Limits	
	OSHA-PEL	ACGIH-TLV
Distillates (petroleum), hydrotreated light	100 ppm	200 mg/m <sup>3</sup>
Acetone	1000 ppm	500 ppm
Isopropanol	400 ppm	200 ppm
Carbon dioxide	5000 ppm	5000 ppm
Propoxur	Not available.	0.5 mg/m <sup>3</sup>

**Engineering Controls:** Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

### Personal Protective Equipment:

**HMIS:** See Section 15

**Eye/Face Protection:** Wear eye/face protection.

**Hand Protection:** Wear suitable gloves.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** In case of insufficient ventilation, wear suitable respiratory equipment.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear.
<b>Color:</b>	Yellow.
<b>Odour:</b>	Characteristic.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Gas/Pressurized Liquid.
<b>pH:</b>	Not applicable.
<b>Viscosity:</b>	Not available.
<b>Freezing Point:</b>	Not available.
<b>Boiling Point:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.

# MATERIAL SAFETY DATA SHEET

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<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Specific Gravity:</b>	0.795 (Liquid Concentrate)
<b>Solubility in Water:</b>	Insoluble.
<b>Coefficient of Water/Oil Distribution:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	8.4% (US federal/CARB/OTC/LADCO)

## Section 10: STABILITY AND REACTIVITY

**Stability:** Stable under normal storage conditions. Contents under pressure. Container may explode if heated. Do not puncture. Do not burn. Keep in a cool place.

**Conditions of Reactivity:** Heat. Incompatible materials.

**Incompatible Materials:** Water. Bases.

**Hazardous Decomposition Products:** May include, and are not limited to: oxides of carbon.

**Possibility of Hazardous Reactions:** No dangerous reaction known under conditions of normal use.

## Section 11: TOXICOLOGY INFORMATION

### EFFECTS OF ACUTE EXPOSURE

#### Component Analysis

<b>Ingredient</b>	<b>LD<sub>50</sub> (oral)</b>	<b>LC<sub>50</sub></b>
Distillates (petroleum), hydrotreated light	> 5000 mg/kg, rat	Not available.
Acetone	5800 mg/kg, rat	Not available.
Isopropanol	5045 mg/kg, rat	16970 ppm 4 hrs, rat
Carbon dioxide	Not available.	Not available.
Propoxur	41 mg/kg, rat	1440 mg/m <sup>3</sup> , 1hr, rat

**Eye:** May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

**Skin:** May cause skin irritation. Handling can cause dry skin.

**Ingestion:** Not a normal route of exposure. Harmful: may cause lung damage if swallowed.

**Inhalation:** Toxic by inhalation. May cause respiratory tract irritation. May cause asphyxiation. This product may be aspirated into the lungs and cause chemical pneumonitis. Vapours may cause drowsiness and dizziness.

### EFFECTS OF CHRONIC EXPOSURE

**Target Organs:** Not available.

**Chronic Effects:** (Effects due to excessive exposure to the raw materials of this mixture) May cause cardiac abnormalities, central nervous system depression, lung, kidney or liver damage, inhibits cholinesterase.



# MATERIAL SAFETY DATA SHEET

Misty Wasp & Hornet Killer

**Carcinogenicity:** Hazardous by OSHA criteria.

## Ingredient

## Chemical Listed as Carcinogen or Potential Carcinogen \*

Distillates (petroleum), hydrotreated light

I -3, G-A3

Acetone

Not listed.

Isopropanol

G-A4

Carbon dioxide

Not listed.

Propoxur

CP65

\* See Section 15 for more information.

**Mutagenicity:** Not hazardous by OSHA criteria.

**Reproductive Effects:** Not hazardous by OSHA criteria.

## Developmental Effects:

**Teratogenicity:** Not hazardous by OSHA criteria.

**Embryotoxicity:** Not hazardous by OSHA criteria.

**Respiratory Sensitization:** Not hazardous by OSHA criteria.

**Skin Sensitization:** Not hazardous by OSHA criteria.

**Toxicologically Synergistic Materials:** Not available.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** May cause long-term adverse effects in the aquatic environment

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

## Section 13: DISPOSAL CONSIDERATIONS

### Disposal Instructions:

This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

## Section 14: TRANSPORTATION INFORMATION

### DOT Classification

ORM-D

### TDG Classification

Limited Quantity

## Section 15: REGULATORY INFORMATION

### Federal Regulations

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

**US:** MSDS prepared pursuant to the Hazard Communication Standard (29 CFR 1910.1200).

# MATERIAL SAFETY DATA SHEET

Misty Wasp & Hornet Killer

**SARA Title III**

Ingredient	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313
Distillates (petroleum), hydrotreated light	Not listed.	Not listed.	Not listed.	Not listed.
Acetone	Not listed.	Not listed.	5,000	Not listed.
Isopropanol	Not listed.	Not listed.	Not listed.	Yes.
Carbon dioxide	Not listed.	Not listed.	Not listed.	Not listed.
Propoxur	Not listed.	Not listed.	100	313

**State Regulations**

**California Proposition 65:**

This product contains a chemical known to the state of California to cause cancer.

**Global Inventories**

Ingredient	Canada DSL/NDSL	USA TSCA
Distillates (petroleum), hydrotreated light	DSL	Yes.
Acetone	DSL	Yes.
Isopropanol	DSL	Yes.
Carbon dioxide	DSL	Yes.
Propoxur	DSL	No.

**HMIS - Hazardous Materials Identification System**

Health - 2      Flammability - 3      Physical Hazard - 0      PPE – B

**NFPA - National Fire Protection Association:**

Health - 2      Fire - 3      Reactivity - 0

**Hazard Rating:** 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

**WHMIS Classification(s):**

Exempt under WHMIS.

**SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:**

**OSHA (O)** Occupational Safety and Health Administration.

**ACGIH (G)** American Conference of Governmental Industrial Hygienists.

- A1 - Confirmed human carcinogen.
- A2 - Suspected human carcinogen.
- A3 - Animal carcinogen.
- A4 - Not classifiable as a human carcinogen.
- A5 - Not suspected as a human carcinogen.

**IARC (I)** International Agency for Research on Cancer.

- 1 - The agent (mixture) is carcinogenic to humans.
- 2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.
- 2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
- 3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.
- 4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

**NTP (N)** National Toxicology Program.

- 1 - Known to be carcinogens.
- 2 - Reasonably anticipated to be carcinogens.

# MATERIAL SAFETY DATA SHEET

Misty Wasp & Hornet Killer

## Section 16: OTHER INFORMATION

**Disclaimer:**

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

**Expiry Date:** January 27, 2011

**Prepared by:** Nexreg Compliance Inc.

**Prepared for:** Amrep, Inc.

Phone: (770) 422-2071 (Mon - Fri / 8am - 5pm ET)

Product Name: MOBILARMA 522  
Revision Date: 16 Mar 2015  
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# SAFETY DATA SHEET

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT

**Product Name:** MOBILARMA 522  
**Product Description:** Base Oil and Additives  
**Product Code:** 201570401020, 667113-00, 971315  
**Intended Use:** Lubricant

### COMPANY IDENTIFICATION

**Supplier:** EXXON MOBIL CORPORATION  
22777 Springwoods Village Parkway  
Spring, TX. 77389 USA

**24 Hour Health Emergency** 609-737-4411  
**Transportation Emergency Phone** 800-424-9300 or 703-527-3887 CHEMTREC  
**Product Technical Information** 800-662-4525  
**MSDS Internet Address** <http://www.exxon.com>, <http://www.mobil.com>

## SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

**Other hazard information:**

**HAZARD NOT OTHERWISE CLASSIFIED (HNOC):** None as defined under 29 CFR 1910.1200.

### PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

### HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

### ENVIRONMENTAL HAZARDS

No significant hazards.

<b>NFPA Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0
<b>HMIS Hazard ID:</b>	Health: 0	Flammability: 1	Reactivity: 0

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

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<b>SECTION 3</b>	<b>COMPOSITION / INFORMATION ON INGREDIENTS</b>
------------------	---

This material is defined as a mixture.

**Hazardous Substance(s) or Complex Substance(s) required for disclosure**

Name	CAS#	Concentration*	GHS Hazard Codes
SULFONIC ACIDS, PETROLEUM, CALCIUM SALTS	61789-86-4	1 - < 5%	H319(2A)

\* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

<b>SECTION 4</b>	<b>FIRST AID MEASURES</b>
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**INHALATION**

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

**SKIN CONTACT**

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

**EYE CONTACT**

Flush thoroughly with water. If irritation occurs, get medical assistance.

**INGESTION**

First aid is normally not required. Seek medical attention if discomfort occurs.

<b>SECTION 5</b>	<b>FIRE FIGHTING MEASURES</b>
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**EXTINGUISHING MEDIA**

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight Streams of Water

**FIRE FIGHTING**

**Fire Fighting Instructions:** Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed

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spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Oxides of carbon, Smoke, Fume, Incomplete combustion products, Sulfur oxides, Aldehydes

## FLAMMABILITY PROPERTIES

**Flash Point [Method]:** >182°C (360°F) [ASTM D-92]

**Flammable Limits (Approximate volume % in air):** LEL: N/D UEL: N/D

**Autoignition Temperature:** N/D

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

### PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

### SPILL MANAGEMENT

**Land Spill:** Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

### ENVIRONMENTAL PRECAUTIONS

**Large Spills:** Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

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<b>SECTION 7</b>	<b>HANDLING AND STORAGE</b>
------------------	-----------------------------

### HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Static Accumulator:** This material is a static accumulator.

### STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

<b>SECTION 8</b>	<b>EXPOSURE CONTROLS / PERSONAL PROTECTION</b>
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**Exposure limits/standards for materials that can be formed when handling this product:** When mists/aerosols can occur the following are recommended: 5 mg/m<sup>3</sup> - ACGIH TLV (inhalable fraction), 5 mg/m<sup>3</sup> - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

### ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

### PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode.

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Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

## ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

<b>SECTION 9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
------------------	---

**Note:** Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

## GENERAL INFORMATION

**Physical State:** Liquid  
**Color:** Amber  
**Odor:** Characteristic  
**Odor Threshold:** N/D

## IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

**Relative Density (at 15 °C):** 0.87  
**Flammability (Solid, Gas):** N/A  
**Flash Point [Method]:** >182°C (360°F) [ASTM D-92]  
**Flammable Limits (Approximate volume % in air):** LEL: N/D UEL: N/D  
**Autoignition Temperature:** N/D  
**Boiling Point / Range:** > 260°C (500°F)  
**Decomposition Temperature:** N/D  
**Vapor Density (Air = 1):** > 2 at 101 kPa  
**Vapor Pressure:** < 0.013 kPa (0.1 mm Hg) at 20 °C  
**Evaporation Rate (n-butyl acetate = 1):** N/D  
**pH:** N/A  
**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5



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**Solubility in Water:** Negligible

**Viscosity:** 28.5 cSt (28.5 mm<sup>2</sup>/sec) at 40 °C | 5 cSt (5 mm<sup>2</sup>/sec) at 100°C

**Oxidizing Properties:** See Hazards Identification Section.

**OTHER INFORMATION**

**Freezing Point:** N/D

**Melting Point:** N/A

**Pour Point:** -24°C (-11°F)

**DMSO Extract (mineral oil only), IP-346:** < 3 %wt

**SECTION 10**

**STABILITY AND REACTIVITY**

**REACTIVITY:** See sub-sections below.

**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**MATERIALS TO AVOID:** Strong oxidizers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

**SECTION 11**

**TOXICOLOGICAL INFORMATION**

**INFORMATION ON TOXICOLOGICAL EFFECTS**

<b>Hazard Class</b>	<b>Conclusion / Remarks</b>
<b>Inhalation</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
<b>Ingestion</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
<b>Skin</b>	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
<b>Eye</b>	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
<b>Sensitization</b>	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
<b>Aspiration:</b> Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
<b>Germ Cell Mutagenicity:</b> No end point data	Not expected to be a germ cell mutagen. Based on assessment of

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for material.	the components.
<b>Carcinogenicity:</b> No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
<b>Reproductive Toxicity:</b> No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
<b>Lactation:</b> No end point data for material.	Not expected to cause harm to breast-fed children.
<b>Specific Target Organ Toxicity (STOT)</b>	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

## OTHER INFORMATION

### For the product itself:

Repeated and/or prolonged exposure may cause irritation to the skin, eyes, or respiratory tract.

#### Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

#### --REGULATORY LISTS SEARCHED--

1 = NTP CARC

2 = NTP SUS

3 = IARC 1

4 = IARC 2A

5 = IARC 2B

6 = OSHA CARC

<b>SECTION 12</b>	<b>ECOLOGICAL INFORMATION</b>
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The information given is based on data available for the material, the components of the material, and similar materials.

### ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

### MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land.  
Expected to partition to sediment and wastewater solids.

### PERSISTENCE AND DEGRADABILITY

#### Biodegradation:

Base oil component -- Expected to be inherently biodegradable

### BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

Product Name: MOBILARMA 522

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## OTHER ECOLOGICAL INFORMATION

**VOC:** 10.3 G/L [ASTM E1868-10]

## SECTION 13

## DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

### DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

### REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

## SECTION 14

## TRANSPORT INFORMATION

**LAND (DOT):** Not Regulated for Land Transport

**LAND (TDG):** Not Regulated for Land Transport

**SEA (IMDG):** Not Regulated for Sea Transport according to IMDG-Code

**Marine Pollutant:** No

**AIR (IATA):** Not Regulated for Air Transport

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<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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**OSHA HAZARD COMMUNICATION STANDARD:** This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

**Listed or exempt from listing/notification on the following chemical inventories:** AICS, DSL, ENCS, TSCA

**EPCRA SECTION 302:** This material contains no extremely hazardous substances.

**SARA (311/312) REPORTABLE HAZARD CATEGORIES:** Immediate Health.

**SARA (313) TOXIC RELEASE INVENTORY:** This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	15

--REGULATORY LISTS SEARCHED--

- |               |                  |                   |             |
|---------------|------------------|-------------------|-------------|
| 1 = ACGIH ALL | 6 = TSCA 5a2     | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1  | 7 = TSCA 5e      | 12 = CA RTK       | 17 = NJ RTK |
| 3 = ACGIH A2  | 8 = TSCA 6       | 13 = IL RTK       | 18 = PA RTK |
| 4 = OSHA Z    | 9 = TSCA 12b     | 14 = LA RTK       | 19 = RI RTK |
| 5 = TSCA 4    | 10 = CA P65 CARC | 15 = MI 293       |             |

Code key: CARC=Carcinogen; REPRO=Reproductive

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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N/D = Not determined, N/A = Not applicable

**KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):**

H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**

Updates made in accordance with implementation of GHS requirements.

-----  
 The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer

Product Name: MOBILARMA 522

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repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

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Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0

PPEC: C

DGN: 2010575XUS (555414)

---

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# MATERIAL SAFETY DATA SHEET

(Essentially similar to Form OSHA-20) <Complies with 29CFR 1910.1200>

G-009

DAY: (213) 928-3311  
EMERGENCY 24 HOURS:  
CHEMTREC: 800/424-9300

SECTION I	
CODE NUMBER: H360	DATE 860522
TRADE NAME: MOREY'S STABILIZER	SUPERCEDES 860227
CHEMICAL FAMILY: PETROLEUM	C.A.S. NO.: NA 1270
TSCA INFORMATION: NOT CURRENTLY LISTED	

SECTION II — HAZARDOUS INGREDIENTS				
COMPONENTS	C.A.S. NOS.:	TLV/PEL PPM	mg/m <sup>3</sup>	PERCENT BY WEIGHT/VOLUME
SOLU REF PETR BASE STOCK	64742-18-3		5	60
THIS PRODUCT DEFINED AS NON-HAZARDOUS EXCEPT AS STATED ABOVE. DISCLOSURE OF INGREDIENTS AVAILABLE TO PHYSICIAN OR NURSE IN EVENT OF MEDICAL EMERGENCY.				

SECTION III — FIRE AND EXPLOSION HAZARD DATA	
HAZARDOUS THERMAL DECOMPOSITION CARBON MONOXIDE AND ASPHYXIANTS	FLAMMABLE LEL — UEL LIMITS: N/A
EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATERFOG	FLASH POINT: ASTM D92 (COC) >200 °C (392 °F)
UNUSUAL FIRE AND EXPLOSION HAZARDS: SLIGHTLY COMBUSTIBLE, WHEN HEATED ABOVE FLASH POINT WILL RELEASE FLAMMABLE VAPORS WHICH CAN BURN IN OPEN OR BE EXPLOSIVE IN CONFINED SPACES IF EXPOSED TO SOURCE OF IGNITION.	DOT INFORMATION: OIL, N.O.S.
SPECIAL FIRE FIGHTING PROCEDURES: DO NOT ENTER ANY ENCLOSED OR CONFINED AREA WITHOUT PROPER PROTECTIVE EQUIPMENT AND SELF CONTAINED BREATHING APPARATUS.	

SECTION IV — PHYSICAL DATA				
BOILING RANGE: >300 °C	SOLUBILITY: NIL	PH: N/D		
VAPOR PRESSURE: <0.01mm Hg @ 20 °C	APPEARANCE AND ODOR: AMBER OILY LIQUID	PETROLEUM ODOR		
VAPOR DENSITY	EVAPORATION RATE	SPECIFIC GRAVITY	WEIGHT PER GALLON	% VOLATILE BY VOLUME
HEAVIER THAN AIR	LESS THAN ETHER	0.894	7.44	NIL

SECTION V — REACTIVITY DATA	
INCOMPATIBILITY <MATERIALS TO AVOID>: STRONG OXIDIZING AGENTS	
STABILITY: STABLE	CONDITIONS TO AVOID: DO NOT HEAT ABOVE FLASH POINT.
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE AND ASPHYXIANTS	
HAZARDOUS POLYMERIZATION: NONE	OCCUPATIONAL EXPOSURE LIMIT: TLV = 5mg/m <sup>3</sup> AS OIL MIST

ROUTE OF EXPOSURE	I N G	NO CA EX IN
	I N H	NO HE EX TE
	E C Y O E N	NO CA EX IN
	A S C K O U I N T N E	NO CA EX IN
	C S C H K O R I N O N I C	PRI COI SK: MA PRI SH

<DO>

STEPS TO MATERIAL DIATOM DISPOS. WASTE DIS: IN ACCORD: TRANSPOR AND REFER CONCERNING SEC

RESPIRATOR PROTECTI: PROTECTI: OTHER PRI: VENTILATI:

PRECAUTIC AVOID STOR EXCESSIVE PERSONAL OTHER PRI SOAKED SHOES. APPROVED

# SECTION VI — HEALTH HAZARD DATA

	ADVERSE EFFECTS:	FIRST AID PROCEDURES:	NFPA
R O U T E  O F  E X P O S U R E	I N G	NOT NORMALLY EXPECTED TO CAUSE ANY ILL EFFECTS EXCEPT IN VERY SENSITIVE INDIVIDUALS	DO NOT INDUCE VOMITING CONSULT PHYSICIAN
	I N H	NO SIGNIFICANT ADVERSE HEALTH EFFECTS ARE EXPECTED TO OCCUR ON SHORT TERM EXPOSURE	REMOVE FROM CONTAMINATED AREA. APPLY ARTIFICIAL RESPIRATION IF UNCONCIOUS CONSULT PHYSICIAN
	E C O Y O N	NOT NORMALLY EXPECTED TO CAUSE ANY ILL EFFECTS EXCEPT IN VERY SENSITIVE INDIVIDUALS	FLUSH WITH COPIOUS AMOUNTS OF WATER. IF IRRITATION DEVELOPES CONSULT PHYSICIAN
	A S C K O U I N T N E	NOT NORMALLY EXPECTED TO CAUSE ANY ILL EFFECTS EXCEPT IN VERY SENSITIVE INDIVIDUALS	WASH WITH SOAP AND WATER. CONSULT PHYSICIAN IF IRRITATION OR INFLAMMATION DEVELOPES.
	C S C H K O R I N O N I C	PROLONGED AND/OR REPEATED CONTACT MAY PRODUCE MILD SKIN IRRITATION AND INFLAMMATION. PERSONNEL WITH PRE-EXISTING SKIN DISORDER SHOULD AVOID CONTACT.	WEAR PROTECTIVE CLOTHING TO AVOID SKIN CONTACT. CONSULT PHYSICIAN IF IRRITATION OR INFLAMMATION DEVELOPES.

## <DOT> SECTION VII — SPILL OR LEAK PROCEDURES <EPA>

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** STOP FLOW. WIPE OR MOP UP OR ABSORB WITH DIATOMACEOUS EARTH OR OTHER INERT MATERIAL. STORE IN APPROPRIATE CONTAINER FOR DISPOSAL.

**WASTE DISPOSAL METHOD:**  
IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

**TRANSPORTATION INFORMATION:** CONSULT 49 CFR PARTS 1-300 AND REFER TO SECTION III OF THIS MSDS FOR ADDITIONAL RECOMMENDATIONS CONCERNING PLACARDING.

## SECTION VIII — SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION:** NONE NORMALLY REQUIRED

**PROTECTIVE GLOVES:** RECOMMENDED                      **EYE PROTECTION:** REQUIRED

**OTHER PROTECTIVE EQUIPMENT:** CHEMICALLY RESISTANT BOOTS AND APRONS RECOMMENDED.

**VENTILATION:** SUFFICIENT TO MAINTAIN ATMOSPHERE BELOW TLV LIMIT

## SECTION IX — SPECIAL PRECAUTIONS

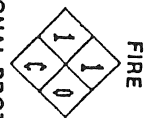
**PRECAUTIONS TO BE TAKEN WHEN HANDLING OR STORING:**  
AVOID STORAGE NEAR OPEN FLAME OR OTHER SOURCES OF IGNITION.  
EXCESSIVE MISTING MAY CAUSE SLIPPERY FLOORS. PROPER FOOTWEAR REQUIRED.

**PERSONAL HYGIENE:** WASH HANDS WITH SOAP AND WATER BEFORE EATING, DRINKING, OR SMOKING.

**OTHER PRECAUTIONS:** WASH OR TAKE SHOWER IF GENERAL CONTACT OCCURS. REMOVE OIL-SOAKED CLOTHING AND LAUNDRY BEFORE REUSE. DISCARD CONTAMINATED LEATHER GLOVES AND SHOES.

**APPROVED BY:** RICHARD J. EBERHARDT                      **DATE:** 860528  
LABORATORY MANAGER

CODE NUMBER  
**H360**  
HEALTH  
FIRE  
REACTIVITY  
PERSONAL PROTECTION (NFPA)



Name: MULTIGEAR LUBT EP SAE 80W-90  
 Product Code: 02316  
 Date Issued: 05-02-96 Supersedes: 04-15-96  
 Company: TEXACO LUBRICANTS COMPANY  
 A DIVISION OF TEXACO REFINING AND MARKETING INC.

TEXACO  
 MATERIAL SAFETY DATA SHEET

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

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product Code and Name:  
 02316 MULTIGEAR LUBT EP SAE 80W-90  
 Chemical Name and/or Family or Description:  
 Gear Oils

Manufacturer's Name and Address:  
 TEXACO LUBRICANTS COMPANY  
 A DIVISION OF TEXACO REFINING AND MARKETING INC.  
 P.O. Box 4427  
 Houston, TX 77210-4427

Telephone Numbers:  
 Transportation Emergency-Company : (914) 831-3400  
 CHEMTREC : (800) 424-9300  
 Health Emergency -Company : (914) 831-3400  
 General MSDS Assistance : (914) 838-7204  
 Technical Information -Fuels : (914) 838-7336  
 -Chemical : (512) 459-6543  
 -Lubricant/: (800) 782-7852  
 Antifreezes  
 -Additives : (713) 235-6278  
 -Solvents : (800) 876-3738

2. COMPOSITION/INFORMATION ON INGREDIENTS

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION IS AS FOLLOWS:  
 CARCINOGENS ARE LISTED WHEN PRESENT AT 0.1 % OR GREATER; COMPONENTS WHICH ARE  
 OTHERWISE HAZARDOUS ACCORDING TO OSHA ARE LISTED WHEN PRESENT AT 1.0 % OR  
 GREATER; NON-HAZARDOUS COMPONENTS ARE LISTED AT 3.0 % OR GREATER. THIS IS NOT  
 INTENDED TO BE A COMPLETE COMPOSITIONAL DISCLOSURE. REFER TO SECTION 14 FOR  
 APPLICABLE STATES' RIGHT TO KNOW AND OTHER REGULATORY INFORMATION.

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

Seq. Chemical Name	CAS Number	Range in %
01 # Solvent-dewaxed heavy paraffinic petroleum distillates	64742-65-0	50.00-64.99
02 # Lubricating oils (petroleum), C > 25, hydro-treated bright stock-based	72623-83-7	35.00-49.99
03 * Olefin sulfide	72162-26-6	3.00-9.99
04 * Alkylamine salt of phosphoric acid esters	71888-91-0	1.00-2.99



PRODUCT IS NON-HAZARDOUS ACCORDING TO OSHA (1910.1200).

\* COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

# COMPONENT, BY DEFINITION, IS CONSIDERED HAZARDOUS ACCORDING TO OSHA BECAUSE IT CARRIES THE PERMISSIBLE EXPOSURE LIMIT (PEL) FOR MINERAL OIL MIST.

Exposure Limits referenced by Sequence Number in the Composition Section  
Seq. Limit

---

01	5	mg/m3	TWA-OSHA (MINERAL OIL MIST)
01	5	mg/m3	TWA-ACGIH (MINERAL OIL MIST)
01	10	mg/m3	STEL ACGIH (MINERAL OIL MIST)
02	5.0	mg/m3	TWA-OSHA (MINERAL OIL MIST)
02	5.0	mg/m3	TWA-ACGIH (MINERAL OIL MIST)
02	10.0	mg/m3	STEL ACGIH (MINERAL OIL MIST)

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### 3. HAZARD IDENTIFICATION

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#### EMERGENCY OVERVIEW

Appearance:

Red green bloom liquid

Odor:

Not determined

#### WARNING STATEMENT

NONE CONSIDERED NECESSARY

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

#### POTENTIAL HEALTH EFFECTS

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

#### EFFECTS OF OVEREXPOSURE

Acute:

Eyes:

May cause minimal irritation, experienced as temporary discomfort.

Skin:

Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.

Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact; see other effects, below, and Section 11 for information regarding potential long term effects.

Inhalation:

Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness.

Ingestion:

If more than several mouthfuls are swallowed, abdominal discomfort, nausea,

and diarrhea may occur.

Sensitization Properties:  
Unknown.

Chronic:  
No adverse effects have been documented in humans as a result of chronic exposure. Section 11 may contain applicable animal data.

Medical Conditions Aggravated by Exposure:  
Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition).

Other Remarks:  
When overheated, product may release hydrogen sulfide (H<sub>2</sub>S) gas. H<sub>2</sub>S concentrations above permissible concentrations can cause irritation of the eyes and respiratory tract, headache, dizziness, nausea, vomiting, diarrhea and pulmonary edema. At concentrations above 300 ppm, respiratory paralysis, causing unconsciousness and death, can occur.

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#### 4. FIRST AID MEASURES

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

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

Ingestion:  
If more than several mouthfuls of this material are swallowed, give two glasses of water (16 oz.). Get medical attention.

Inhalation:  
If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

Other Instructions:  
Remove and dry-clean or launder clothing soaked or soiled with this material before reuse. Dry cleaning of contaminated clothing may be more effective than normal laundering. Inform individuals responsible for cleaning of potential hazards associated with handling contaminated clothing.

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#### 5. FIRE-FIGHTING MEASURES

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Ignition Temperature - AIT (degrees F):  
Not determined.

Flash Point (degrees F):  
360 (COC)

Flammable Limits (%):  
Lower: Not determined.  
Upper: Not determined.

Recommended Fire Extinguishing Agents And Special Procedures:  
Use water spray, dry chemical, foam, or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.

Unusual or Explosive Hazards:

Hydrogen sulfide (H<sub>2</sub>S) may be released if overheated.

Special Protective Equipment for Firefighters:

Wear full protective clothing and positive pressure breathing apparatus.

---

6. ACCIDENTAL RELEASE MEASURES (Transportation Spills: CHEMTREC (800)424-9300)

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Procedures in Case of Accidental Release, Breakage or Leakage:

Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

If more than 1,000,000 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for the petroleum exemption (CERCLA Section 101(14)).

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7. HANDLING AND STORAGE

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Precautions to be Taken in

Handling:

Minimum feasible handling temperatures should be maintained.

Storage:

Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

---

Protective Equipment (Type)

Eye/Face Protection:

Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.

Skin Protection:

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

Respiratory Protection:

Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contaminant or oxygen content is unknown.

Ventilation:

Adequate to meet component occupational exposure limits (see Section 2).

Exposure Limit for Total Product:

None established for product; refer to Section 2 for component exposure limits.

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9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance:

Red green bloom liquid

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Odor:  
Not determined

Boiling Point (degrees F):  
Not determined.

Melting/Freezing point (degrees F):  
Not applicable.

Specific Gravity (water=1):  
.8961

pH of undiluted product:  
Not applicable.

Vapor Pressure:  
Not determined.

Viscosity:  
14.2 cSt at 100.0 C

VOC Content:  
Not determined.

Vapor Density (air=1):  
Not determined.

Solubility in Water (%):  
Not determined.

Other: None

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## 10. STABILITY AND REACTIVITY

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

Air	Water	Heat	Strong Oxidizers	Others	None of These
			X		

Comments:  
Under extreme temperatures or extended storage periods, hydrogen sulfide (H<sub>2</sub>S) gas may accumulate in the head-space of container.

Products Evolved When Subjected to Heat or Combustion:  
Toxic levels of carbon monoxide, carbon dioxide, irritating aldehydes and ketones, and combustion products or compounds of sulfur (may include hydrogen sulfide), phosphorus.

Hazardous Polymerizations: DO NOT OCCUR

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## 11. TOXICOLOGICAL INFORMATION

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### TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Median Lethal Dose

Oral:

LD50 Similar product > 20.00 g/kg (rat) practically non-toxic

Inhalation:

Not determined.

Dermal:

LD50 Similar product > 2.00 g/kg (rabbit) practically non-toxic

Irritation Index, Estimation of Irritation (Species)

Skin:  
(Draize) Similar product 1.67 /8.0 (rabbit) slightly irritating  
Eyes:  
(Draize) Similar product 9.66 /110 (rabbit) no appreciable effect  
Sensitization:  
Not determined.  
Other:  
None

---

## 12. DISPOSAL CONSIDERATIONS

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### Waste Disposal Methods

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

Remarks  
None

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## 13. TRANSPORT INFORMATION

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### Transportation

DOT:  
Proper Shipping Name:  
Not regulated

IMDG:  
Proper Shipping Name:  
Not evaluated

ICAO:  
Proper Shipping Name:  
Not evaluated

TDG:  
Proper Shipping Name:  
Not evaluated

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## 14. REGULATORY INFORMATION

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### Federal Regulations:

SARA Title III:  
Section 302/304 Extremely Hazardous Substances

Seq. Chemical Name	CAS Number	Range in %
--------------------	------------	------------

---

None  
Section 302/304 Extremely Hazardous Substances (CONT)  
Seq. TPQ            RQ

---

None

### Section 311 Hazardous Categorization:

Acute	Chronic	Fire	Pressure	Reactive	N/A
-	-	-	-	-	X

---

Section 313 Toxic Chemical  
Chemical Name

CAS Number

Concentration

None

CERCLA 102(a)/DOT Hazardous Substances: (+ indicates DOT Hazardous Substance)  
Seq. Chemical Name CAS Number Range in %

01+	Toluene	108-88-3	0.10-0.99
02+	Cumene	98-82-8	0.00217

CERCLA/DOT Hazardous Substances (Sequence Numbers and RQ's):  
Seq. RQ

01+	1000
02+	5000

TSCA Inventory Status:

This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

Other:

None.

State Regulations:

California Proposition 65:

The following detectable components of this product are substances, or belong to classes of substances, known to the State of California to cause cancer and/or reproductive toxicity.

Chemical Name	CAS Number
---------------	------------

Toluene	108-88-3
---------	----------

States Right-to-know Regulations:  
Chemical Name

State Right-to-know

Toluene	CT, FL, IL, MA, NJ, PA, RI, MI
---------	--------------------------------

State list: CT (Connecticut), FL (Florida), IL (Illinois), MI (Michigan),  
LA (Louisiana), MA (Massachusetts), NJ (New Jersey),  
PA (Pennsylvania), RI (Rhode Island)

International Regulations:

Export Notification (TSCA-12b):

This product may be subject to export notification under TSCA section 12(b); contains:  
1,3,5-trimethyl benzene

WHMIS Classification:

Not regulated

Canada Inventory Status:

This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

EINECS Inventory Status:

Not determined.

Australia Inventory Status:

Not determined.

Japan Inventory Status:  
Not determined.

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15. ENVIRONMENTAL INFORMATION

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Aquatic Toxicity:  
Not determined.

Mobility:  
Not determined.

Persistence and Biodegradability:  
Not determined.

Potential to Bioaccumulate:  
Not evaluated.

Remarks:  
Not evaluated.

---

16. OTHER INFORMATION

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None

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

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

Date: 05-02-96                      New      X      Revised, Supersedes: 04-15-96

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

PLEASE SEE NEXT PAGE FOR PRODUCT LABEL

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17. PRODUCT LABEL

Label Date: 05-02-96

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

02316 MULTIGEAR LUBT EP SAE 80W-90

WARNING STATEMENT

NONE CONSIDERED NECESSARY

PRECAUTIONARY MEASURES

- Avoid prolonged breathing of vapor, mist, or gas.
- Workers should wash exposed skin several times daily with soap and water.

FIRST AID

Eye Contact:

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

Skin Contact:

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

Ingestion:

If more than several mouthfuls of this material are swallowed, give two glasses of water (16 oz.). Get medical attention.

Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

Note to Physician:

None

FIRE

In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

If more than 1,000,000 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for the petroleum exemption (CERCLA Section 101(14)).

Chemical Name	CAS Number	Range in %
# Solvent-dewaxed heavy paraffinic petroleum distillates	64742-65-0	50.00-64.99
# Lubricating oils (petroleum), C > 25, hydro-treated bright stock-based	72623-83-7	35.00-49.99
* Olefin sulfide	72162-26-6	3.00-9.99
* Alkylamine salt of phosphoric acid esters	71888-91-0	1.00-2.99

PRODUCT IS NON-HAZARDOUS ACCORDING TO OSHA (1910.1200).

\* COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

# COMPONENT, BY DEFINITION, IS CONSIDERED HAZARDOUS ACCORDING TO OSHA BECAUSE IT CARRIES THE PERMISSIBLE EXPOSURE LIMIT (PEL) FOR MINERAL OIL MIST.

Pennsylvania Special Hazardous Substance(s)	CAS Number	Range in %
None		

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

Transportation  
DOT:



Proper Shipping Name:  
Not regulated

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

Manufacturer's Name and Address:  
TEXACO LUBRICANTS COMPANY  
A DIVISION OF TEXACO REFINING AND MARKETING INC.  
P.O. Box 4427  
Houston, TX 77210-4427

TRANSPORTATION EMERGENCY Company: (914) 831-3400

----- CHEMTREC: (800) 424-9300

HEALTH EMERGENCY Company: (914) 831-3400

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# Material Safety Data Sheet

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ORTHO Blood Meal 12-0-0

AGC1000E

Page 1 of 5

This Material Safety Data Sheet contains environmental, health and toxicology information for your employees. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information incorporated in your MSDS. Discard any previous edition of this MSDS.

This revision changes this document from a Product Information Bulletin to a Material Safety Data Sheet. No data has been changed.

---

## 1. PRODUCT IDENTIFICATION

---

ORTHO Blood Meal 12-0-0

**CAUTION: - KEEP OUT OF REACH OF CHILDREN**

PRODUCT NUMBER(S): AGC1000E      UPC07470

PRODUCT INFORMATION: (510)842-5550

---

## 2. FIRST AID - EMERGENCY NUMBER (800)457-2022 OR (510)233-3737

---

**EYE CONTACT:**

No first aid procedures are required. However, as a precaution flush eyes with fresh water for 15 minutes. Remove contact lenses if worn.

**SKIN CONTACT:**

No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

**INHALATION:**

Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required.

**INGESTION:**

Not expected to be an ingestion problem. See a doctor if any discomfort is experienced.

---

## 3. IMMEDIATE HEALTH EFFECTS - (ALSO SEE SECTIONS 11 & 12)

---

**EYE CONTACT:**

This substance is not expected to cause prolonged or significant eye irritation.

**SKIN IRRITATION:**

This substance is not expected to cause prolonged or significant skin irritation.

**DERMAL TOXICITY:**

If absorbed through the skin, this substance is considered practically non-toxic to internal organs.

**RESPIRATORY/INHALATION:**

If inhaled, this substance is considered practically non-toxic to internal organs. Breathing the dust at concentrations that exceed the recommended exposure standard may be irritating to the respiratory tract.

**INGESTION:**

If swallowed, this substance is considered practically non-toxic to internal organs.

---

## 4. PROTECTIVE EQUIPMENT

---

**EYE PROTECTION:**

No special eye protection is usually necessary.

**SKIN PROTECTION:**

No special skin protection necessary.

**RESPIRATORY PROTECTION:**

No special respiratory protection is normally required. However, if operating conditions create high airborne concentrations, the use of an approved respirator is recommended.

**VENTILATION:**

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

---

Revision Number: 3      Revision Date: 06/28/91      MSDS Number: 003092  
NDA - No Data Available      NA - Not Applicable

---

## 5. FIRE PROTECTION

---

FLASH POINT: NA

AUTOIGNITION: NA

FLAMMABILITY LIMITS (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA:

CO<sub>2</sub>, Dry Chemical, Foam, Alcohol-type Foam, Water Fog.

**NFPA RATINGS:** Health 0; Flammability 1; Reactivity 0; Special NDA;

**HMS RATINGS:** Health NDA; Flammability 1; Reactivity NDA; Other NDA;

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association or, if applicable, the National Paint and Coating Association, and do not necessarily reflect the hazard evaluation of the Chevron Environmental Health Center. Read the entire document and label before using this product.

**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 normal products of combustion or oxygen deficiency. Read the entire document.

**COMBUSTION PRODUCTS:**

Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

---

## 6. STORAGE, HANDLING, AND REACTIVITY

---

**HAZARDOUS DECOMPOSITION PRODUCTS:**

None.

**STABILITY:**

Stable.

**HAZARDOUS POLYMERIZATION:**

Polymerization will not occur.

**INCOMPATIBILITY:**

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**SPECIAL PRECAUTIONS:**

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

---

## 7. PHYSICAL PROPERTIES

---

**SOLUBILITY:** Not readily soluble in water.

**APPEARANCE:** Fine, dark reddish-brown powder.

**BOILING POINT:** NA

**MELTING POINT:** NA

**EVAPORATION:** NA

**SPECIFIC GRAVITY:** NDA

---

Revision Number: 3

Revision Date: 06/28/91

MSDS Number: 003092

NDA - No Data Available

NA - Not Applicable

X-DOS021 (0)

VAPOR PRESSURE: NDA  
 PERCENT VOLATILE (VOLUME %): NA  
 VAPOR DENSITY (AIR=1): NA

## 8. ENVIRONMENTAL CONCERNS, SPILL RESPONSE AND DISPOSAL

CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300 (24 hour).

### SPILL/LEAK PRECAUTIONS:

This material is not expected to present any environmental problem. Clean up spills immediately, observing precautions in Protective Equipment section.

### DISPOSAL METHODS:

If safe and practicable, reclaim material.

## 9. EXPOSURE STANDARDS, REGULATORY LIMITS AND COMPOSITION

The percent compositions are given to allow for the various ranges of the components present in the whole product and may not equal 100%.

### PERCENT/CAS# COMPONENT/REGULATORY LIMITS

100.0 % ORTHO Blood Meal 12-0-0

### CONTAINING

100.0 % DRIED, GROUND ANIMAL BLOOD

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	CPS - CUSA Product Code
CC - Chevron Chemical Company	CAS - Chemical Abstract Service Number

## 10. REGULATORY INFORMATION

DOT SHIPPING NAME: NDA  
 DOT HAZARD CLASS: NDA  
 DOT IDENTIFICATION NUMBER: NDA

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects; NO
2. Delayed (Chronic) Health Effects; NO
3. Fire Hazard; NO
4. Sudden Release of Pressure Hazard; NO
5. Reactivity Hazard; NO

None of the components of this material are found on the regulatory lists shown below.

### REGULATORY LISTS SEARCHED:

Revision Number: 3      Revision Date: 06/28/91      MSDS Number: 003092  
 NDA - No Data Available      NA - Not Applicable

01=SARA 313	02=MASS RTK	03=NTP Carcinogen
04=CA Prop. 65	05=MI 406	06=IARC Group 1
07=IARC Group 2A	08=IARC Group 2B	09=SARA 302/304
10=PA RTK	11=NJ RTK	12=CERCLA 302.4
13=MN RTK	14=ACGIH TLV	15=ACGIH STEL
16=ACGIH Calculated TLV	17=OSHA TWA	18=OSHA STEL
19=Chevron TLV	20=EPA Carcinogen	21=TSCA Sect 4(e)
22=TSCA Sect 5(a)(e)(f)	23=TSCA Sect 6	24=TSCA Sect 12(b)
25=TSCA Sect 8(a)	26=TSCA Sect 8(d)	28=Canadian WHMIS
29=OSHA CEILING		

**11. PRODUCT TOXICOLOGY DATA**

**EYE IRRITATION:**

Some irritation clearing in less than 72 hours.

**SKIN IRRITATION:**

No product toxicology data available.

**DERMAL TOXICITY:**

No product toxicology data available.

**RESPIRATORY/INHALATION:**

No product toxicology data available.

**INGESTION:**

The oral LD50 in rats is > 5 g/kg.

**12. ADDITIONAL HEALTH DATA**

**ADDITIONAL HEALTH DATA COMMENT:**

All available data is expressed elsewhere in this document.

\*\*\*\*\*

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Revision Number: 3      Revision Date: 06/28/91      MSDS Number: 003092  
 NDA - No Data Available      NA - Not Applicable

X-DOSQ21 (01-89)



# Material Safety Data Sheet

Page 1 of 6

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**ORTHO Bone Meal 0-12-0**

PRODUCT NUMBER(S): AGC1000-B    UPC07485    UPC07487

### COMPANY IDENTIFICATION

CHEVRON CHEMICAL COMPANY  
ORTHO CONSUMER PRODUCTS  
P.O. BOX 5047  
SAN RAMON, CA 94583-0947

### EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)457-2022 or  
(510)233-3737 (International)  
TRANSPORTATION (24 hr): CHEMTREC  
(800)424-9300 or (202)483-7616

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 %    ORTHO Bone Meal 0-12-0

### CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
GROUND, PROCESSED ANIMAL BONES	100.0%		

- |                                  |  |
|----------------------------------|--|
| TLV - Threshold Limit Value      | TWA - Time Weighted Average            |
| STEL - Short-term Exposure Limit | TPQ - Threshold Planning Quantity      |
| RQ - Reportable Quantity         | PEL - Permissible Exposure Limit       |
| C - Ceiling Limit                | CAS - Chemical Abstract Service Number |
| Al-5 - Appendix A Categories     | ( ) - Change Has Been Proposed         |

## 3. HAZARDS IDENTIFICATION

### \*\*\*\*\* EMERGENCY OVERVIEW \*\*\*\*\*

Off-white granular powder

Revision Number: 4	Revision Date: 12/10/93	MSDS Number: 003091
NDA - No Data Available	NA - Not Applicable	

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology and Health Risk Assessment Unit, CRTG, P.O. Box 4054, Richmond, CA 94804

- KEEP OUT OF REACH OF CHILDREN

\*\*\*\*\*

POTENTIAL HEALTH EFFECTS

EYE:

This substance is not expected to cause prolonged or significant eye irritation.

SKIN:

This substance is not expected to cause prolonged or significant skin irritation. If absorbed through the skin, this substance is considered practically non-toxic to internal organs.

INGESTION:

If swallowed, this substance is considered practically non-toxic to internal organs.

INHALATION:

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if inhaled.

4. FIRST AID MEASURES

EMERGENCY NUMBER (24 hr): (800)457-2022 or (510)233-3737 (International)

EYE:

No first aid procedures are required. However, as a precaution flush eyes with fresh water for 15 minutes. Remove contact lenses if worn.

SKIN:

No first aid procedures are required.

INGESTION:

Not expected to be an ingestion problem. See a doctor if any discomfort is experienced.

INHALATION:

Since this material is not expected to be an immediate inhalation problem, no first aid procedures are required.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: NA

AUTOIGNITION: NA

FLAMMABILITY LIMITS (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA:

Material will not burn.

NFPA RATINGS: Health 0; Flammability 0; Reactivity 0.

FIRE FIGHTING INSTRUCTIONS:

This material will not burn.

COMBUSTION PRODUCTS:

Heating this material may produce oxides of carbon.



---

## 6. ACCIDENTAL RELEASE MEASURES

---

**CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (202)483-7616**

**ACCIDENTAL RELEASE MEASURES:**

Clean up spills immediately, observing precautions in Exposure Controls/  
Personal Protection section.

---

## 7. HANDLING AND STORAGE

---

**HANDLING AND STORAGE:**

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

---

**PERSONAL PROTECTIVE EQUIPMENT**

**EYE/FACE PROTECTION:**

Do not get this material in your eyes. Eye contact can be avoided by wearing chemical goggles.

**SKIN PROTECTION:**

No special skin protection is necessary.

**RESPIRATORY PROTECTION:**

No special respiratory protection is normally required. However, if operating conditions create high airborne concentrations, the use of an approved respirator is recommended.

**ENGINEERING CONTROLS:**

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

**PHYSICAL DESCRIPTION:**

Off-white granular powder

pH:	NDA
VAPOR PRESSURE:	NA
VAPOR DENSITY (AIR=1):	NDA
BOILING POINT:	NA
FREEZING POINT:	NDA
MELTING POINT:	NA
SOLUBILITY:	Insoluble in water
SPECIFIC GRAVITY:	35 - 45 lbs/ft <sup>3</sup>
DENSITY:	NDA
EVAPORATION RATE:	NA
PERCENT VOLATILE (VOL):	NA

---

Revision Number: 4

Revision Date: 12/10/93

MSDS Number: 003091

NDA - No Data Available

NA - Not Applicable

---

**10. STABILITY AND REACTIVITY**

---

**HAZARDOUS DECOMPOSITION PRODUCTS:**

None.

**CHEMICAL STABILITY:**

Stable.

**CONDITIONS TO AVOID:**

No data available.

**INCOMPATIBILITY WITH OTHER MATERIALS:**

None.

**HAZARDOUS POLYMERIZATION:**

Polymerization will not occur.

---

**11. TOXICOLOGICAL INFORMATION**

---

**EYE EFFECTS:**

Some irritation clearing in &lt; 72 hours.

**SKIN EFFECTS:**

No product toxicology data available.

**ACUTE ORAL EFFECTS:**

The oral LD50 in rats is &gt; 5 g/kg.

**ACUTE INHALATION EFFECTS:**

No product toxicology data available.

---

**12. ECOLOGICAL INFORMATION**

---

**ECOTOXICITY:**

This material is not expected to present an environmental problem.

**ENVIRONMENTAL FATE:**

No data available.

---

**13. DISPOSAL CONSIDERATIONS**

---

**DISPOSAL CONSIDERATIONS:**

If safe and practicable, reclaim material.

---

**14. TRANSPORT INFORMATION**

---

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

Revision Number: 4

Revision Date: 12/10/93

MSDS Number: 003091

NDA - No Data Available

NA - Not Applicable

DOT SHIPPING NAME: NDA
DOT HAZARD CLASS: NDA
DOT IDENTIFICATION NUMBER: NDA
DOT PACKING GROUP: NDA

15. REGULATORY INFORMATION

- SARA 311 CATEGORIES: 1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

Table with 3 columns listing regulatory lists searched: 01=SARA 313, 11=NJ RTK, 21=TSCA Sect 4(e), 02=MASS RTK, 12=CERCLA 302.4, 22=TSCA Sect 5(a)(2), 03=NTP Carcinogen, 13=MN RTK, 23=TSCA Sect 6, 04=CA Prop 65-Carcin, 14=ACGIH TWA, 24=TSCA Sect 12(b), 05=CA Prop 65-Repro Tox, 15=ACGIH STEL, 25=TSCA Sect 8(a), 06=IARC Group 1, 16=ACGIH Calc TLV, 26=TSCA Sect 8(d), 07=IARC Group 2A, 17=OSHA PEL, 27=TSCA Sect 4(a), 08=IARC Group 2B, 18=DOT Marine Pollutant, 28=Canadian WHMIS, 09=SARA 302/304, 19=Chevron TWA, 29=OSHA CEILING, 10=PA RTK, 20=EPA Carcinogen, 30=Chevron STEL

None of the components of this material are found on the regulatory lists indicated.

16. OTHER INFORMATION

NFPA RATINGS: Health 0; Flammability 0; Reactivity 0;

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT:

PRODUCT DISCONTINUED. This Material Safety Data Sheet will no longer be updated.

\*\*\*\*\*

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility.

Revision Number: 4 Revision Date: 12/10/93 MSDS Number: 003091
NDA - No Data Available NA - Not Applicable

ity for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.



# Material Safety Data Sheet

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ORTHO Consumer Products - Dry Fertilizers

Page 1 of 6

This Material Safety Data Sheet contains environmental, health and toxicology information for your employees. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting

LOCKHEED SPACE OPERATIONS CO  
ATTN: D LAMOND  
MAIL STOP LSO-296  
KENNEDY SPACE CENTER, FL 32899

Print Date: December 03, 1992

---

## 1. PRODUCT IDENTIFICATION

---

ORTHO Consumer Products - Dry Fertilizers

CAUTION: - MAY CAUSE EYE IRRITATION  
- KEEP OUT OF REACH OF CHILDREN

PRODUCT INFORMATION: (510)842-5550

---

Revision Number: 1      Revision Date: 10/06/90      MSDS Number: 003094  
NDA - No Data Available      NA - Not Applicable

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200) by the Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804.

---

**2. FIRST AID - EMERGENCY NUMBER (800)457-2022 OR (510)233-3737**

---

**EYE CONTACT:**

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

**SKIN CONTACT:**

No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

**INHALATION:**

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

**INGESTION:**

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

---

**3. IMMEDIATE HEALTH EFFECTS - (ALSO SEE SECTIONS 11 & 12)**

---

**EYE CONTACT:**

This substance is a moderate eye irritant and could cause prolonged (weeks) impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment. Signs and symptoms may include pain, tears, swelling, redness, and blurred vision.

**SKIN IRRITATION:**

This substance is not expected to cause prolonged or significant skin irritation.

**DERMAL TOXICITY:**

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets on the skin.

**RESPIRATORY/INHALATION:**

If inhaled, this substance is considered practically non-toxic to internal organs. Breathing the dust may be irritating to the respiratory tract. Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following: nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing. Read the Additional Health Data section (12) of this document for more information.

**INGESTION:**

If swallowed, this substance is considered practically non-toxic to internal organs.

---

**4. PROTECTIVE EQUIPMENT**

---

**EYE PROTECTION:**

Do not get this material in your eyes. Eye contact can be avoided by wearing chemical goggles.

**SKIN PROTECTION:**

No special skin protection necessary.

**RESPIRATORY PROTECTION:**

No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards, the use of an approved respirator is required.

**VENTILATION:**

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

---

**5. FIRE PROTECTION**

---

**FLASH POINT:** None

**AUTOIGNITION:** NA

**FLAMMABILITY:** NA Not Flammable

**EXTINGUISHING MEDIA:**

CO<sub>2</sub>, Dry Chemical, Foam, Alcohol-type Foam, Water Fog.

**NFPA RATINGS:** Health 1; Flammability 1; Reactivity 0; Special NDA;

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association or, if applicable, the National Paint and Coating Association, and do not necessarily reflect the hazard evaluation of the Chevron Environmental Health Center. Read the entire document and label before using this product.

**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 normal products of combustion or oxygen deficiency. Read the entire document.

**COMBUSTION PRODUCTS:**

Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorous. Heating this material may produce ammonia, HCl.

---

**6. STORAGE, HANDLING, AND REACTIVITY**

---

**HAZARDOUS DECOMPOSITION PRODUCTS:**

NDA.

**STABILITY:**

Stable.

**HAZARDOUS POLYMERIZATION:**

Polymerization will not occur.

**INCOMPATIBILITY:**

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

---

Revision Number: 1

Revision Date: 10/06/90

MSDS Number: 003094

NDA - No Data Available

NA - Not Applicable

**SPECIAL PRECAUTIONS:**

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

**7. PHYSICAL PROPERTIES**

SOLUBILITY: NDA

APPEARANCE: Green granular solid.

BOILING POINT: NA

MELTING POINT: NA

EVAPORATION: NA

SPECIFIC GRAVITY: 40 - 55 lbs./cu.ft. (Density)

VAPOR PRESSURE: NA None

PERCENT VOLATILE (VOLUME %): NA

VAPOR DENSITY (AIR=1): NA

**8. ENVIRONMENTAL CONCERNS, SPILL RESPONSE AND DISPOSAL**

CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300 (24 hour).

**SPILL/LEAK PRECAUTIONS:**

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of waste. For help with any spill, leak, fire or exposure involving this material, call day or night (800) 457-2022. Clean up spills immediately, observing precautions in Protective Equipment section.

**DISPOSAL METHODS:**

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material. If safe and practicable, reclaim material.

**9. EXPOSURE STANDARDS, REGULATORY LIMITS AND COMPOSITION**

The percent compositions are given to allow for the various ranges of the components present in the whole product and may not equal 100%.

**PERCENT/CAS# COMPONENT/REGULATORY LIMITS**

100.0 % ORTHO Consumer Products - Dry Fertilizers

**CONTAINING**

UREA

CAS57136

AMMONIUM PHOSPHATE

CAS7722761

CALCIUM CARBONATE

Revision Number: 1      Revision Date: 10/06/90      MSDS Number: 003094

NDA - No Data Available      NA - Not Applicable



CAS471341

AMMONIUM SULFATE

CAS7783202 A toxic chemical 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.

INERT INGREDIENTS

"Inert Ingredients" is a term defined by the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act. It refers to those components that do not function as a pesticide. However, some of these ingredients may be hazardous chemicals, as defined by the Federal OSHA Hazard Communication Standard (1910.1200). The hazards associated with these ingredients have been included in this document.

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	CPS - CUSA Product Code
CC - Chevron Chemical Company	CAS - Chemical Abstract Service Number

10. REGULATORY INFORMATION

DOT SHIPPING NAME: NDA  
 DOT HAZARD CLASS: NDA  
 DOT IDENTIFICATION NUMBER: NDA

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects; YES
2. Delayed (Chronic) Health Effects; NO
3. Fire Hazard; NO
4. Sudden Release of Pressure Hazard; NO
5. Reactivity Hazard; NO

WHEN A COMPONENT OF THIS MATERIAL IS SHOWN IN THIS SECTION, THE REGULATORY LIST ON WHICH IT APPEARS IS INDICATED.

AMMONIUM SULFATE 01,02,10,11,28,

REGULATORY LISTS SEARCHED:

01=SARA 313	02=MASS RTK	03=NTP Carcinogen
04=CA Prop. 65	05=MI 406	06=IARC Group 1
07=IARC Group 2A	08=IARC Group 2B	09=SARA 302/304
10=PA RTK	11=NJ RTK	12=CERCLA 302.4
13=MN RTK	14=ACGIH TLV	15=ACGIH STEL
16=ACGIH Calculated TLV	17=OSHA TWA	18=OSHA STEL
19=Chevron TLV	20=EPA Carcinogen	21=TSCA SECT 4
22=TSCA SECT 5 SNUR	23=TSCA SECT 6 RULE	24=TSCA SECT 12 EXPORT
25=TSCA SECT 8A CAIR	26=TSCA SECT 8D REPORT	27=TSCA SECT 8E
28=Canadian WHMIS	29=OSHA CEILING	

Revision Number: 1      Revision Date: 10/06/90      MSDS Number: 003094  
 NDA - No Data Available      NA - Not Applicable

11. PRODUCT TOXICOLOGY DATA

EYE IRRITATION:

No product toxicology data available.

SKIN IRRITATION:

No product toxicology data available.

DERMAL TOXICITY:

No product toxicology data available.

RESPIRATORY/INHALATION:

No product toxicology data available.

INGESTION:

No product toxicology data available.

12. ADDITIONAL HEALTH DATA

ADDITIONAL HEALTH DATA COMMENT:

All available data is expressed elsewhere in this document.

\*\*\*\*\*

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

14783

17880

# Material Safety Data Sheet

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



ORTHO Consumer Products - Liquid Fertilizers (See last page of this MSDS)

**CAUTION! KEEP OUT OF REACH OF CHILDREN**

## TYPICAL COMPOSITION

Aqueous solutions containing urea (CAS 57-13-6), ammonium phosphates (CAS 7722-76-1, 7783-28-0), potassium phosphates (CAS 7778-77-0, 7758-11-4, 7778-53-2) potassium chloride (CAS 7447-40-7), potassium nitrate (CAS 7757-79-1), and micronutrients (See specific product label) 100%

## EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material.

## PHYSIOLOGICAL & HEALTH EFFECTS

Expected to cause no more than minor eye irritation. Application of a similar material into the eyes of rabbits produced slight membrane irritation.

Not expected to be irritating to the skin. Application of a similar material onto the skin of rabbits produced no observable irritation.

Not expected to be acutely toxic by inhalation.

Not expected to be acutely toxic by ingestion. The acute oral LD<sub>50</sub>'s (rat) of similar materials were greater than 5 g/kg.

## EMERGENCY & FIRST AID PROCEDURES

### Eyes

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

### Skin

Wash skin thoroughly with soap and water.

### Inhalation

Since this material is not expected to be an acute inhalation problem, no first aid procedures are required.

### Ingestion

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

### SPECIAL PROTECTIVE INFORMATION

Eye Protection: Do not get in eyes. Eye contact can be avoided by wearing chemical safety goggles.

Skin Protection: No special skin protection is necessary.

Respiratory Protection: No special respiratory protection is normally required.

Ventilation: No special ventilation is necessary.

### FIRE PROTECTION

Flash Point: n/a

Autoignition Temp.: n/a

Flammability Limits: n/a

Extinguishing Media: Material will not burn.

### SPECIAL PRECAUTIONS

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

### ENVIRONMENTAL PROTECTION

1-IRCCS: 104-85

Environmental Impact: Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of waste. For help with any spill, leak, fire, or exposure involving this material, call day or night (415) 233-3737.

Precautions if Material is Released or Spilled: Clean up spills immediately, observing precautions in Special Protective Information. Cover spill with a generous amount of Oil Dry, cat litter, clay, rags or other absorbent. Use a stiff broom to mix thoroughly. Sweep up and place in a disposable container. Scrub contaminated area with detergent and water using a stiff broom. Pick up liquid with additional absorbent and place in a disposable container.

Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material. If safe and practicable, reclaim material.

### REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.

Incompatibility (Materials to Avoid): n/a

Hazardous Decomposition Products: n/a

Hazardous Polymerization: Will not occur.

### PHYSICAL PROPERTIES

Solubility: Completely soluble in water.

Appearance (Color, Odor, etc.): Liquids of varying color.

Boiling Point: NDA

Melting Point: NDA

Specific Gravity: 1.15-1.27 @ 20/20°C

Vapor Pressure: NDA

Vapor Density (Air=1): NDA

Percent Volatile (Volume %): NDA

Evaporation: NDA

pH: 3.3-7.4

n/a = Not Applicable

NDA = No Data Available

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

No. 3095

# Material Safety Data Sheet

ORTHO Consumer Products - Liquid Fertilizers (See last page of this MSDS)

This MSDS applies to the following ORTHO consumer products: Fern & Ivy Food, Fruit & Bloom Builder 0-10-10, House Plant Food, Liquid African Violet Food, ORTHO-GRO Liquid Plant Food 12-6-6, Tomato & Vegetable Food 6-18-6 and UP-START Vitamin B-1 Plant Starter.





# Material Safety Data Sheet

Page 1 of 7

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### ORTHO Garden Lime

PRODUCT NUMBER(S): UPC07477

#### COMPANY IDENTIFICATION

CHEVRON CHEMICAL COMPANY  
ORTHO CONSUMER PRODUCTS  
P.O. BOX 5047  
SAN RAMON, CA 94583-0947

#### EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)457-2022 or  
(510)233-3737 (International)  
TRANSPORTATION (24 hr): CHEMTREC  
(800)424-9300 or (202)483-7616

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 % ORTHO Garden Lime

### CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
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#### CALCIUM OXIDE

Chemical Name: CALCIUM OXIDE  
CAS1305788

41.0%

2 mg/m3  
5 mg/m3

ACGIH TWA  
OSHA PEL

#### MAGNESIUM OXIDE

Chemical Name: MAGNESIUM OXIDE (MGO)  
CAS1309484

29.5%

10 mg/m3  
15 mg/m3

ACGIH TWA  
OSHA PEL

TLV - Threshold Limit Value

STEL - Short-term Exposure Limit

RQ - Reportable Quantity

C - Ceiling Limit

Al-5 - Appendix A Categories

TWA - Time Weighted Average

TPQ - Threshold Planning Quantity

PEL - Permissible Exposure Limit

CAS - Chemical Abstract Service Number

() - Change Has Been Proposed

Revision Number: 5

Revision Date: 12/21/93

MSDS Number: 003625

NDA - No Data Available

NA - Not Applicable

Prepared according to the OSHA Hazard Communication Standard  
(29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology  
and Health Risk Assessment Unit, CRTCC, P.O. Box 4054, Richmond, CA 94804

### 3. HAZARDS IDENTIFICATION

#### \*\*\*\*\* EMERGENCY OVERVIEW \*\*\*\*\*

White solid

- PROLONGED CONTACT WITH WET SKIN MAY PRODUCE BURNS
- HARMFUL IF SWALLOWED
- AVOID CONTACT WITH EYES
- KEEP OUT OF REACH OF CHILDREN

#### \*\*\*\*\*

#### POTENTIAL HEALTH EFFECTS

##### EYE:

This substance is a severe eye irritant and could cause permanent damage to your eyes and blindness. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

##### SKIN:

This substance is corrosive. Contact with the skin could cause permanent injury (including scarring) to the affected area. Extensive and prolonged contact could cause significant injury and even death to underlying tissue. The degree of injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets on the skin.

##### INGESTION:

Ingestion may cause severe irritation or ulceration of the digestive tract which may result in nausea, vomiting, diarrhea, and in severe cases, collapse, shock and death. Read the Toxicology Information section (11) of this document for more information.

##### INHALATION:

Breathing the dust may be irritating to the respiratory tract. Read the Toxicological Information section (11) of this document for more information.

##### SIGNS AND SYMPTOMS OF EXPOSURE:

**EYE:** May include pain, tears, swelling, redness, and blurred vision.  
**SKIN:** May include pain or a feeling of heat, discoloration, swelling, and blistering. **INHALATION:** Respiratory tract irritation may include, but may not be limited to, one or more of the following: nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

### 4. FIRST AID MEASURES

**EMERGENCY NUMBER (24 hr):** (800)457-2022 or (510)233-3737 (International)  
**EYE:**

**Revision Number:** 5      **Revision Date:** 12/21/93      **MSDS Number:** 003625  
**NDA - No Data Available**      **NA - Not Applicable**



Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. See a doctor for further treatment as soon as possible.

**SKIN:**

Remove contaminated clothing. Wash skin thoroughly with soap and water. See a doctor immediately. Discard contaminated non-waterproof shoes and boots. Wash contaminated clothing.

**INGESTION:**

If swallowed, give water or milk to drink and telephone for medical advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

**INHALATION:**

If respiratory irritation or any signs or symptoms as described in this document occur, move the person to fresh air. If any of these effects continue, see a doctor.

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## 5. FIRE FIGHTING MEASURES

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**FLAMMABLE PROPERTIES**

FLASH POINT: None

AUTOIGNITION: NA

FLAMMABILITY LIMITS (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA:

This material will not burn.

NFPA RATINGS: Health 3; Flammability 0; Reactivity 1.

**FIRE FIGHTING INSTRUCTIONS:**

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 normal products of combustion or oxygen deficiency. Read the entire document.

COMBUSTION PRODUCTS:

None

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## 6. ACCIDENTAL RELEASE MEASURES

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CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (202)483-7616

**ACCIDENTAL RELEASE MEASURES:**

Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection section.

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## 7. HANDLING AND STORAGE

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**HANDLING AND STORAGE:**

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

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NDA - No Data Available      NA - Not Applicable

REFER TO PRODUCT LABEL OR MANUFACTURERS' TECHNICAL BULLETINS FOR THE PROPER USE AND HANDLING OF THIS MATERIAL.

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of waste. For help with any spill, leak, fire or exposure involving this material, call day or night (800) 454-2333.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**PERSONAL PROTECTIVE EQUIPMENT**

**EYE/FACE PROTECTION:**

Appropriate eye protection must be worn when working with this material or serious harm can result. Wear chemical goggles or a face shield at all times.

**SKIN PROTECTION:**

When handling this material, wear impervious protective clothing, which should include gloves, apron, overshoes and complete facial protection.

**RESPIRATORY PROTECTION:**

Unless ventilation is adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn.

**ENGINEERING CONTROLS:**

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL DESCRIPTION:**

White solid

pH:	10-11
VAPOR PRESSURE:	0 mm Hg
VAPOR DENSITY (AIR=1):	NA
BOILING POINT:	>5100F
FREEZING POINT:	NA
MELTING POINT:	>4600F
SOLUBILITY:	Slightly soluble in water; soluble in acids. Insoluble in alcohol.
SPECIFIC GRAVITY:	NA
DENSITY:	50 - 60 lb/ft <sup>3</sup>
EVAPORATION RATE:	0
PERCENT VOLATILE (VOL):	0%
MOLECULAR WEIGHT:	100

**10. STABILITY AND REACTIVITY**

Revision Number: 5      Revision Date: 12/21/93      MSDS Number: 003625  
 NDA - No Data Available      NA - Not Applicable

**HAZARDOUS DECOMPOSITION PRODUCTS:**

None.

**CHEMICAL STABILITY:**

Stable.

**CONDITIONS TO AVOID:**

Avoid contact with water, steam, acid.

**INCOMPATIBILITY WITH OTHER MATERIALS:**

No data available.

**HAZARDOUS POLYMERIZATION:**

Polymerization will not occur.

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**11. TOXICOLOGICAL INFORMATION**

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**EYE EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data on the components.

**SKIN EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data on the components.

**ACUTE ORAL EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data on the components.

**ACUTE INHALATION EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data on the components.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This material contains a strong alkali and is corrosive to all living tissue. Systemic effects occur primarily as the result of tissue destruction. Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following, depending on concentration and length of exposure: nasal discharge, nosebleed, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

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**12. ECOLOGICAL INFORMATION**

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**ECOTOXICITY:**

This material is toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water. Fish or birds may eat pellets which may obstruct their digestive tracts.

**ENVIRONMENTAL FATE:**

No data available.

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**13. DISPOSAL CONSIDERATIONS**

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**DISPOSAL CONSIDERATIONS:**

Check governmental regulations and local authorities for approved disposal

Revision Number: 5

Revision Date: 12/21/93

MSDS Number: 003625

NDA - No Data Available

NA - Not Applicable

of this material.

**14. TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: NDA  
 DOT HAZARD CLASS: NDA  
 DOT IDENTIFICATION NUMBER: NDA  
 DOT PACKING GROUP: NDA

**15. REGULATORY INFORMATION**

SARA 311 CATEGORIES:

- 1. Immediate (Acute) Health Effects: YES
- 2. Delayed (Chronic) Health Effects: NO
- 3. Fire Hazard: NO
- 4. Sudden Release of Pressure Hazard: NO
- 5. Reactivity Hazard: YES

REGULATORY LISTS SEARCHED:

- |                         |                         |                      |
|-------------------------|-------------------------|----------------------|
| 01=SARA 313             | 11=NJ RTK               | 21=TSCA Sect 4(e)    |
| 02=MASS RTK             | 12=CERCLA 302.4         | 22=TSCA Sect 5(a)(2) |
| 03=NTP Carcinogen       | 13=MN RTK               | 23=TSCA Sect 6       |
| 04=CA Prop 65-Carcin    | 14=ACGIH TWA            | 24=TSCA Sect 12(b)   |
| 05=CA Prop 65-Repro Tox | 15=ACGIH STEL           | 25=TSCA Sect 8(a)    |
| 06=IARC Group 1         | 16=ACGIH Calc TLV       | 26=TSCA Sect 8(d)    |
| 07=IARC Group 2A        | 17=OSHA PEL             | 27=TSCA Sect 4(a)    |
| 08=IARC Group 2B        | 18=DOT Marine Pollutant | 28=Canadian WHMIS    |
| 09=SARA 302/304         | 19=Chevron TWA          | 29=OSHA CEILING      |
| 10=PA RTK               | 20=EPA Carcinogen       | 30=Chevron STEL      |

The following components of this material are found on the regulatory lists indicated.

CALCIUM OXIDE  
 is found on lists: 02,10,11,13,14,17,28,  
 MAGNESIUM OXIDE (MGO)  
 is found on lists: 02,10,11,13,14,17,28,

**16. OTHER INFORMATION**

NFPA RATINGS: Health 3; Flammability 0; Reactivity 1;  
 HMIS RATINGS: Health 3; Flammability 0; Reactivity 1;  
 (Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are

Revision Number: 5      Revision Date: 12/21/93      MSDS Number: 003625  
 NDA - No Data Available      NA - Not Applicable

obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**REVISION STATEMENT:**

PRODUCT DISCONTINUED. This Material Safety Data Sheet will no longer be updated.

\*\*\*\*\*

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

SEP 5 1988

# Material Safety Data Sheet

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



Product 3428

DETRON GREENOL Liquid Iron 6.13%

**CAUTION!** MAY CAUSE EYE IRRITATION  
MAY BE HARMFUL IF SWALLOWED  
KEEP OUT OF REACH OF CHILDREN

## TYPICAL COMPOSITION

Aqueous solution of iron sulfate, copper sulfate, zinc sulfate and chelating agent containing trisodium nitrilotriacetate (CAS 5064-31-3) 100%

## EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material.

## PHYSIOLOGICAL & HEALTH EFFECTS

May cause eye irritation. Application into the eyes of rabbits produced slight to moderate membrane irritation without corneal injury.

Not expected to be irritating to the skin. Application onto the skin of rabbits produced no observable irritation. The Draize skin irritation score was 0.0 out of a possible 8. The acute dermal LD<sub>50</sub> (rabbit) was greater than 15 g/kg.

Not expected to be acutely toxic by inhalation.

Expected to have slight acute toxicity by ingestion. The acute oral LD<sub>50</sub> (rat) was 2.5 g/kg for males and 2.0 g/kg for females.

## EMERGENCY & FIRST AID PROCEDURES

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

**Skin**  
Wash skin thoroughly with soap and water.

**Inhalation**  
Since this material is not expected to be an acute inhalation problem, no first aid procedures are required.

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

## ADDITIONAL HEALTH DATA

This product contains trisodium nitrilotriacetate. Long-term feeding studies have shown this material to be carcinogenic to the urinary tract of both rats and mice. In their "Fourth Annual Report on Carcinogens", the National Toxicology Program includes trisodium nitrilotriacetate in a list of substances that may reasonably be anticipated to be carcinogens.

## SPECIAL PROTECTIVE INFORMATION

**Eye Protection:** Do not get in eyes. Eye contact can be avoided by wearing chemical safety goggles.

**Skin Protection:** No special skin protection is necessary.

**Respiratory Protection:** No special respiratory protection is normally required.

**Ventilation:** No special ventilation is necessary.

## FIRE PROTECTION

**Flash Point:** n/a

**Autoignition Temp.:** n/a

**Flammability Limits:** n/a

**Extinguishing Media:** n/a

**Special Fire Fighting Procedures:** For fires in areas where this material is stored, 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 normal products of combustion or oxygen deficiency. Read the entire MSDS.

## SPECIAL PRECAUTIONS

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

## ENVIRONMENTAL PROTECTION

**Environmental Impact:** This material is not expected to present any environmental problems.

**Precautions if Material is Released or Spilled:** Clean up spills immediately, observing precautions in Special Protective Information. Cover spill with a generous amount of Oil Dry, cat litter, clay, rags or other absorbent. Use a stiff broom to mix thoroughly. Sweep up and place in a disposable container. Scrub contaminated area with detergent and water using a stiff broom. Pick up liquid with additional absorbent and place in a disposable container.  
**Waste Disposal Methods:** Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

## REACTIVITY DATA

**Stability (Thermal, Light, etc.):** Stable.  
**Incompatibility (Materials to Avoid):** NDA  
**Hazardous Decomposition Products:** NDA  
**Hazardous Polymerization:** Will not occur.

## PHYSICAL PROPERTIES

**Solubility:** Completely soluble in water.  
**Appearance (Color, Odor, etc.):** Dark green liquid with acrid odor.  
**Boiling Point:** NDA  
**Melting Point:** NDA  
**Specific Gravity:** 1.2 @ 20/20°C  
**Vapor Pressure:** NDA  
**Vapor Density (Air=1):** NDA  
**Percent Volatile (Volume %):** 76  
**Evaporation:** NDA  
**Viscosity:** NDA  
**pH:** 2.2-2.4

n/a = Not Applicable  
NDA = No Data Available

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Chevron Environmental Health Center, Inc. P.O. Box 4054, Richmond, CA 94804-0054  
Emergency Phone Number (415) 233-7737

ENV001 07-PM  
NO. 3083  
10/04/86

No. 3083

2



# Material Safety Data Sheet

ORTHO Superphosphate 0-20-0

Page 1 of 6 10000

This Material Safety Data Sheet contains environmental, health and toxicology information for your employees. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting

LOCKHEED SPACE OPERATIONS CO  
ATTN: D LAMOND  
MAIL STOP LSO-296  
KENNEDY SPACE CENTER, FL 32899

Print Date: December 03, 1992

## 1. PRODUCT IDENTIFICATION

ORTHO Superphosphate 0-20-0

**WARNING:** - CAUSES EYE IRRITATION  
- AVOID CONTACT WITH EYES, SKIN, OR CLOTHING  
- KEEP OUT OF REACH OF CHILDREN

PRODUCT NUMBER(S): 10000  
PRODUCT INFORMATION: (510)842-5550

Revision Number: 2      Revision Date: 04/28/92      MSDS Number: 003099  
NDA - No Data Available      NA - Not Applicable

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200) by the Chevron Environmental Health Center, Inc., P.O. Box 4054, Richmond, CA 94804.

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## 2. FIRST AID MEASURES

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**EMERGENCY NUMBER (24 hr):** (800)457-2022 or (510)233-3737 (International)

**EYE CONTACT:**

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

**SKIN CONTACT:**

No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

**INHALATION:**

If any signs or symptoms as described in this document occur, move the person to fresh air. If any of these effects continue, see a doctor.

**INGESTION:**

If swallowed, telephone a poison control center, emergency treatment center or a physician for advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then immediately take person and product container, with label, to an emergency treatment center.

---

## 3. IMMEDIATE HEALTH EFFECTS - (ALSO SEE SECTIONS 11 & 12)

---

**EYE CONTACT:**

This substance is a moderate eye irritant and could cause prolonged (weeks) impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment. Signs and symptoms may include pain, tears, swelling, redness, and blurred vision. This hazard evaluation is based on the known toxicity of the ingredients in this substance.

**SKIN IRRITATION:**

This substance is not expected to cause prolonged or significant skin irritation. This hazard evaluation is based on the known irritation potential of the ingredients in this substance.

**DERMAL TOXICITY:**

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets on the skin.

**RESPIRATORY/INHALATION:**

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if inhaled. This substance may be irritating if inhaled. Signs and symptoms of respiratory tract irritation may include, but may not be limited to, one or more of the following: nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing. This hazard evaluation is based on data from similar materials.

**INGESTION:**

If swallowed, this substance is considered practically non-toxic to internal organs. This hazard evaluation is based on the known toxicity of

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Revision Number: 2

Revision Date: 04/28/92

MSDS Number: 003099

NDA - No Data Available

NA - Not Applicable



the ingredients in this substance.

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#### 4. PROTECTIVE EQUIPMENT

---

**EYE PROTECTION:**

Do not get this material in your eyes. Eye contact should be avoided by wearing chemical goggles and a face shield.

**SKIN PROTECTION:**

No special skin protection is usually necessary. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing protective clothing.

**RESPIRATORY PROTECTION:**

No special respiratory protection is normally required. However, if operating conditions create high airborne concentrations, the use of an approved respirator is recommended.

**VENTILATION:**

No special ventilation is usually necessary. However, if operating conditions create high airborne concentrations of this material, special ventilation may be needed.

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#### 5. FIRE FIGHTING MEASURES

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**FLASH POINT:** None

**AUTOIGNITION:** NA

**FLAMMABILITY LIMITS** (% by volume in air): Lower: NDA Upper: NDA

**EXTINGUISHING MEDIA:**

Material will not burn.

**FIRE FIGHTING PROCEDURES:**

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**COMBUSTION PRODUCTS:**

This material will not burn.

**NFPA RATINGS:** Health 2; Flammability 0; Reactivity 0; Special NDA;

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA).

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#### 6. STORAGE, HANDLING, AND REACTIVITY

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**HAZARDOUS DECOMPOSITION PRODUCTS:**

NA

**STABILITY:**

Stable.

**HAZARDOUS POLYMERIZATION:**

Polymerization will not occur.

**INCOMPATIBILITY:**

NDA

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Revision Number: 2      Revision Date: 04/28/92      MSDS Number: 003099  
NDA - No Data Available      NA - Not Applicable

**SPECIAL PRECAUTIONS:**

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

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**7. PHYSICAL AND CHEMICAL PROPERTIES**

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SOLUBILITY: Soluble in water.

APPEARANCE: Gray granules.

BOILING POINT: NA

MELTING POINT: NA

EVAPORATION: NA

SPECIFIC GRAVITY: 1.0

VAPOR PRESSURE: NDA

PERCENT VOLATILE (VOLUME %): 0%

VAPOR DENSITY (AIR=1): NA

---

**8. ENVIRONMENTAL CONCERNS, SPILL RESPONSE AND DISPOSAL**

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CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (202)483-7616

**SPILL/LEAK PRECAUTIONS:**

This material is not expected to present any environmental problem. Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of waste. For help with any spill, leak, fire or exposure involving this material, call day or night (800) 457-2022.

Clean up spills immediately, observing precautions in Protective Equipment section. Sweep up material and place in disposable container. Scrub contaminated area with detergent and water using a stiff broom. Pick up liquid with Oil Dry, cat litter, clay, rags or other absorbent and place in a disposable container.

**DISPOSAL METHODS:**

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

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**9. EXPOSURE STANDARDS, REGULATORY LIMITS AND COMPOSITION**

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The percent compositions are given to allow for the various ranges of the components present in the whole product and may not equal 100%.

**PERCENT/CAS# COMPONENT/REGULATORY LIMITS**

100.0 % ORTHO Superphosphate 0-20-0

**CONTAINING**

CALCIUM PHOSPHATES

Revision Number: 2

Revision Date: 04/28/92

MSDS Number: 003099

NDA - No Data Available

NA - Not Applicable

CAS7758238

CAS7778189 GYPSUM  
 10mg/m3 ACGIH TLV  
 5mg/m3 OSHA TWA

TLV - Threshold Limit Value  
 STEL - Short-term Exposure Limit  
 RQ - Reportable Quantity  
 CC - Chevron Chemical Company  
 TWA - Time Weighted Average  
 TPQ - Threshold Planning Quantity  
 CPS - CUSA Product Code  
 CAS - Chemical Abstract Service Number

**10. REGULATORY INFORMATION**

DOT SHIPPING NAME: NDA  
 DOT HAZARD CLASS: NDA  
 DOT IDENTIFICATION NUMBER: NDA

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects:	YES
2. Delayed (Chronic) Health Effects:	NO
3. Fire Hazard:	NO
4. Sudden Release of Pressure Hazard:	NO
5. Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

01=SARA 313	02=MASS RTK	03=NTP Carcinogen
04=CA Prop. 65	05=MI 406	06=IARC Group 1
07=IARC Group 2A	08=IARC Group 2B	09=SARA 302/304
10=PA RTK	11=NJ RTK	12=CERCLA 302.4
13=MN RTK	14=ACGIH TLV	15=ACGIH STEL
16=ACGIH Calculated TLV	17=OSHA TWA	18=OSHA STEL
19=Chevron TLV	20=EPA Carcinogen	21=TSCA Sect 4(e)
22=TSCA Sect 5(a)(e)(f)	23=TSCA Sect 6	24=TSCA Sect 12(b)
25=TSCA Sect 8(a)	26=TSCA Sect 8(d)	28=Canadian WHMIS
29=OSHA CEILING		

The following components of this material are found on the regulatory lists indicated.

GYPSUM  
 is found on lists: 10,11,13,14,17,

**11. TOXICOLOGICAL INFORMATION**

**EYE IRRITATION:**

This material caused moderate irritation to the eyes of rabbits with reversible corneal injury.

**SKIN IRRITATION:**

The Draize Skin Primary Irritation Score (range 0-8) for a 24-hour exposure (rabbits) is 0.0.

Revision Number: 2      Revision Date: 04/28/92      MSDS Number: 003099  
 NDA - No Data Available      NA - Not Applicable

**DERMAL TOXICITY:**

No product toxicology data available. The hazard evaluation was based on data from similar materials.

**RESPIRATORY/INHALATION:**

No product toxicology data available. The hazard evaluation was based on data from similar materials.

**INGESTION:**

The oral LD50 in rats is > 5 g/kg.

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**12. ADDITIONAL HEALTH DATA**

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**ADDITIONAL HEALTH DATA COMMENT:**

All available data is expressed elsewhere in this document.

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The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

# MATERIAL SAFETY DATA SHEET

Review Date: 06/05/2006

<b>SECTION 1</b>	<b>PRODUCT AND COMPANY IDENTIFICATION</b>
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**PRODUCT: PENNZOIL™ Premium Outboard & Multipurpose 2-Cycle Engine Oil**

**MSDS NUMBER:** 600581LU - 1

**PRODUCT CODE(S):** 2726, 3858, 3980

**PRODUCT USE:** Motor Oil

**MANUFACTURER**

SOPUS Products  
P.O. Box 4427  
Houston, TX. 77210-4427

**TELEPHONE NUMBERS**

**Spill Information:** (877) 242-7400  
**Health Information:** (877) 504-9351  
**MSDS Assistance Number:** (877) 276-7285

<b>SECTION 2</b>	<b>PRODUCT/INGREDIENTS</b>
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<b>INGREDIENTS</b>	<b>CAS#</b>	<b>CONCENTRATION</b>
2-Cycle Oil		
Highly refined petroleum oils	Mixture	60 - 80 %weight
Petroleum solvent	Mixture	20 - 40 %weight

<b>SECTION 3</b>	<b>HAZARDS IDENTIFICATION</b>
------------------	-------------------------------

**EMERGENCY OVERVIEW**

**Appearance & Odor:** Blue liquid. Hydrocarbon odor.

**Health Hazards:** No known immediate health hazards.

**Physical Hazards:** No known physical hazards.

**NFPA Rating (Health, Fire, Reactivity):** 0, 2, 0

**Hazard Rating:** Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

**Route(s) of Exposure:** Eye, Skin

**Inhalation:**

Inhalation of vapors (generated at high temperatures only) or oil mist may cause mild irritation of the nose, throat, and respiratory tract.

**Eye Irritation:**

If irritation occurs, a temporary burning sensation, minor redness, swelling, and/or blurred vision may result.

**Skin Contact:**

May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling

may result. Other adverse effects not expected from brief skin contact.

**Ingestion:**

Generally considered to have a low order of acute oral toxicity.

**Other Health Effects:**

The International Agency for Research on Cancer (IARC) has determined there is sufficient evidence for the carcinogenicity in experimental animals of used gasoline motor oils. Handling procedures and safety precautions in the MSDS should be followed to minimize exposure to the used product.

**Signs and Symptoms:**

Irritation as noted above.

**Aggravated Medical Conditions:**

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

For additional health information, refer to section 11.

<b>SECTION 4</b>	<b>FIRST AID MEASURES</b>
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**Inhalation:**

Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

**Skin:**

Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

**Eye:**

Flush eyes with plenty of water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling occur, transport to nearest medical facility for additional treatment.

**Ingestion:**

Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention. Have victim rinse mouth out with water, then drink sips of water to remove taste from mouth. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

**Note to Physician:**

In general, emesis induction is unnecessary in high viscosity, low volatility products such as oils and greases.

<b>SECTION 5</b>	<b>FIRE FIGHTING MEASURES</b>
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**Flash Point [Method]:** 175 °F/79.44 °C [Cleveland Open Cup]

**Upper Flammability Limit:** Not Determined

**Lower Flammability Limit:** Not Determined

**Extinguishing Media:**

Material will float and can be re-ignited on surface of water. Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water.

**Fire Fighting Instructions:**

CAUTION! COMBUSTIBLE. Clear fire area of all non-emergency personnel. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus. Cool surrounding equipment, fire-exposed containers and structures with water. Container areas exposed to direct flame contact should be cooled with large quantities of water (500 gallons water per minute flame impingement exposure) to prevent weakening of container structure.

**SECTION 6****ACCIDENTAL RELEASE MEASURES****Protective Measures:**

CAUTION! COMBUSTIBLE. May burn although not readily ignitable. Eliminate potential sources of ignition. Handling equipment must be bonded and grounded to prevent sparking.

Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

**Spill Management:**

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

**Reporting:**

CERCLA: Product is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) petroleum exclusion. Releases to air, land, or water are not reportable under CERCLA (Superfund).

CWA: This product is an oil as defined under Section 311 of EPA's Clean Water Act (CWA). Spills into or leading to surface waters that cause a sheen must be reported to the National Response Center, 1-800-424-8802.

**SECTION 7****HANDLING AND STORAGE****Precautionary Measures:**

Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles such as shoes or belts that cannot be decontaminated. CAUTION! COMBUSTIBLE. Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**Handling:**

Surfaces that are sufficiently hot may ignite liquid material.

Air-dry contaminated clothing in a well-ventilated area before laundering.

**Storage:**

Do not store in open or unlabeled containers. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Keep liquid and vapor away from heat, sparks and flame. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapors have dissipated. Use explosion-proof ventilation indoors and in laboratory settings.

**Container Warnings:**

Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

<b>SECTION 8</b>	<b>EXPOSURE CONTROLS/PERSONAL PROTECTION</b>
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Chemical	Limit	TWA	STEL	Ceiling	Notation
Oil mist, mineral	ACGIH TLV	5 mg/m3	10 mg/m3		
Oil mist, mineral	OSHA PEL	5 mg/m3			

<b>Exposure Controls</b>
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Provide adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

<b>Personal Protection</b>
----------------------------

Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation. Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

**Eye Protection:**

Safety glasses with side shields

**Skin Protection:**

Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by:  
Neoprene, or Nitrile Rubber

**Respiratory Protection:**

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:

For Mist: Air Purifying, R or P style NIOSH approved respirator.

For Vapors: Air Purifying, R or P style prefilter & organic cartridge, NIOSH approved respirator. Self-contained breathing apparatus for use in environments with unknown concentrations or emergency situations.

<b>SECTION 9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
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**Appearance & Odor:** Blue liquid. Hydrocarbon odor.

**Substance Chemical Family:** Lubricants

**Physical State:** Liquid

<b>Flash Point</b>	175 °F [Cleveland Open Cup]	<b>Specific Gravity</b>	0.87
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<b>Viscosity</b>	70 cSt - 80 cSt @ 104 °F		
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**Odor Threshold:** Not Determined  
**Partition Coefficient:** Not Determined  
**pH:** Not Determined

<b>SECTION 10</b>	<b>REACTIVITY AND STABILITY</b>
-------------------	---------------------------------

**Stability:**  
Material is stable under normal conditions.

**Conditions to Avoid:**  
Avoid heat and open flames.

**Materials to Avoid:**  
Avoid contact with strong oxidizing agents.

**Hazardous Decomposition Products:**

Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion. Carbon Monoxide, Carbon Dioxide and other unidentified organic compounds may be formed upon combustion.

<b>SECTION 11</b>	<b>TOXICOLOGICAL INFORMATION</b>
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**Acute Toxicity**

TEST	Result	OSHA Classification	Material Tested
Dermal LD50	>5.0 g/kg(Rabbit)	Non-Toxic	Based on components(s)
Oral LD50	>5.0 g/kg(Rat)	Non-Toxic	Based on components(s)

**Carcinogenicity Classification**

Chemical Name	NTP	IARC	ACGIH	OSHA
2-Cycle Oil	No	Not Reviewed by IARC	No	No

<b>SECTION 12</b>	<b>ECOLOGICAL INFORMATION</b>
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**Environmental Impact Summary:**  
There is no ecological data available for this product.

<b>SECTION 13</b>	<b>DISPOSAL CONSIDERATIONS</b>
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**RCRA Information:**

Under RCRA, it is the responsibility of the user of the material to determine, at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal.

<b>SECTION 14</b>	<b>TRANSPORT INFORMATION</b>
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**US Department of Transportation Classification**

**Proper Shipping Name:** Combustible Liquid, N.O.S.  
**Technical Names (s):** Contains Petroleum Solvents  
**Identification Number:** NA1993  
**Hazard Class/Division:** Combustible Liquid  
**Packing Group:** III

**Combustible Liquid:** This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less.

**Oil:** This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

**Emergency Response Guide #128**

**International Air Transport Association**

**Hazard Class/Division:** 3 (Flammable Liquid)  
**Identification Number:** UN1993  
**Packing Group:** III  
**Proper Shipping Name:** Flammable Liquids, N.O.S.  
**Technical Name(s):** Contains Petroleum Solvents

**International Maritime Organization Classification**

**Hazard Class/Division:** 3 (Flammable Liquid)  
**Identification Number:** UN1993  
**Packing Group:** III  
**Proper Shipping Name:** Flammable Liquids, N.O.S.  
**Technical Name(s):** Contains Petroleum Solvents

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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<b>Federal Regulatory Status</b>
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**OSHA Classification:**

Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**WHMIS Classification:** Not a controlled substance.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Ozone Depleting Substances (40 CFR 82 Clean Air Act):**

This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

**Superfund Amendment & Reauthorization Act (SARA) Title III:**

There are no components in this product on the SARA 302 list.

**SARA Hazard Categories (311/312):**

Immediate Health	Delayed Health	Fire	Pressure	Reactivity
NO	NO	NO	NO	NO

**SARA Toxic Release Inventory (TRI) (313):**

There are no components in this product on the SARA 313 list.

**Toxic Substances Control Act (TSCA) Status:**

All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

**Other Chemical Inventories:**

Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, Chinese Inventory, European EINECS, Korean Inventory, Philippines PICCS,

**State Regulation**

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

**SECTION 16 OTHER INFORMATION**

**Revision#:** 1  
**Revision Date:** 12/20/2004  
**Review Date:** 06/05/2006  
**Revisions since last change (discussion):** This Material Safety Data Sheet (MSDS) has been revised to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-1998). We encourage you to take the opportunity to read the MSDS and review the information contained therein.

**SECTION 17 LABEL INFORMATION**

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

**PRODUCT CODE(S):** 2726, 3858, 3980

**PENNZOIL™ Premium Outboard & Multipurpose 2-Cycle Engine Oil**

**ATTENTION!**

**USED GASOLINE ENGINE OIL HAS BEEN SHOWN TO CAUSE CANCER IN LABORATORY ANIMALS.**

**Precautionary Measures:**

Avoid heat and open flames. Avoid prolonged or repeated contact with eyes, skin and clothing. Avoid breathing of vapors, fumes, or mist. Use only with adequate ventilation. Keep container closed when not in use. Wash thoroughly after handling.

**FIRST AID**

**Inhalation:** Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

**Skin Contact:** Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

**Eye Contact:** Flush eyes with plenty of water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision or swelling occur, transport to nearest medical facility for additional treatment.

**Ingestion:** Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Have victim rinse mouth out with water, then drink sips of water to remove taste from mouth.

**FIRE**

**In case of fire,** Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water. Material will float and can be re-ignited on surface of water.

**SPILL OR LEAK**

Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

CONTAINS: Highly refined petroleum oils, Mixture; Petroleum solvent, Mixture

**NFPA Rating (Health, Fire, Reactivity):** 0, 2, 0

**TRANSPORTATION**

**US Department of Transportation Classification**

<b>Proper Shipping Name:</b>	Combustible Liquid, N.O.S.
<b>Technical Names (s):</b>	Contains Petroleum Solvents
<b>Identification Number:</b>	NA1993
<b>Hazard Class/Division:</b>	Combustible Liquid
<b>Packing Group:</b>	III

**Combustible Liquid:** This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less.

**Oil:** This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also

be subject to this rule.

**Emergency Response Guide #128**

**Name and Address**

SOPUS Products  
P.O. Box 4427  
Houston, TX 77210-4427

<b>ADMINISTRATIVE INFORMATION</b>
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<b>MANUFACTURER ADDRESS:</b> SOPUS Products, P.O. Box 4427, Houston, TX. 77210-4427
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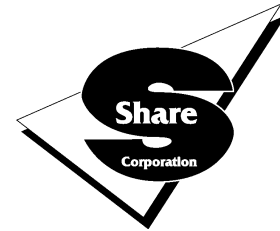
THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO US AT THIS TIME, AND IS BELIEVED TO BE ACCURATE BASED UPON THAT : IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT, FOR PURPOSE OF HAZARD COMMUNICATION. IT IS NOT INTENDED TO CONSTITUTE PRODUCT PERFORMANCE INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, UNDERLYING DATA OR THE INFORMATION CONTAINED HEREIN. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE, AND ARE ENCOURAGED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, YOU SHOULD CONSULT WITH YOUR LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. WE WILL NOT PROVIDE ADVICE ON SUCH MATTERS, OR BE RESPONSIBLE FOR ANY INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN. THE UNDERLYING DATA, AND THE INFORMATION PROVIDED HEREIN AS A RESULT OF THAT DATA, IS THE PROPERTY OF SOPUS PRODUCTS AND IS NOT TO BE THE SUBJECT OF SALE OR EXCHANGE WITHOUT THE EXPRESS WRITTEN CONSENT OF SOPUS PRODUCTS.

44673-12228-100R-06/05/2006

# MATERIAL SAFETY DATA SHEET

Share Corporation  
P.O. Box 245013  
Milwaukee, WI 53224



GENERAL INFORMATION NUMBER: 414-355-4000  
EMERGENCY TELEPHONE NUMBER: (800) 776-7192  
CHEMTREC: (800) 424-9300

REVISION DATE: October 30, 2009  
DATE OF ISSUE: October 30, 2009

## I - Product Identification

### Propoxy 20

PRODUCT CODE: 1831

CHEMICAL FORMULATION: Epoxy adhesive.

NFPA HAZARD IDENTIFICATION SYSTEM: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0  
HAZARD RATING: 4 - Extreme; 3 - High; 2 - Moderate; 1 - Slight; 0 - Insignificant

## II - Hazardous Ingredients

SUBSTANCE	OSHA	ACGIH	EPA 40 CFR:			CAS #
	PEL	TLV	302	355	372	
2,4,6, Tri (Dimethylaminomethyl) Phenol	N/E	5 ppm	N	N	N	90-72-2
Diglycidyl ethers of bisphenol A	N/E	N/E	N	N	N	25036-25-3
Epoxy Resin (Diglycidyl Ether of Bisphenol A)	N/E	N/E	N	N	N	25068-38-6
Zinc Sulfide	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	N	N	N	1314-98-3

Key: PEL: Permissible Exposure Limit TLV: Threshold Limit Value C: Ceiling level STEL: Short Term Exposure Limit  
N/A: Not Applicable N/D: Not Determined N/E: Not Established Y: Yes N: No  
302: CERCLA List of Hazardous Substances and Reportable Quantities (40 CFR 302.4).  
355: SARA TITLE III / List of Extremely Hazardous Substances for Emergency Planning and Notification (40 CFR 355).  
372: SARA TITLE III / List of Toxic Chemicals subject to Release Reporting (Community Right to Know) (40 CFR 372).

## III - Physical Data

BOILING POINT (°F): N/A SPECIFIC GRAVITY (WATER = 1): 1.97  
VAPOR PRESSURE (mm Hg): N/A VOC CONTENT (% by weight): <0.1  
VAPOR DENSITY (AIR = 1): N/A EVAPORATION RATE (WATER = 1): N/A  
SOLUBILITY IN WATER: Insoluble pH: N/A  
APPEARANCE AND ODOR: 2 components in mastic form: Off-white gray /black; mercaptan odor.

## IV - Fire and Explosion Hazard Data

FLASH POINT (°F): 140 (TEST METHOD): N/A  
FLAMMABLE LIMITS IN AIR (VOLUME %) UPPER: N/A LOWER: N/A  
EXTINGUISHING MEDIA: Water, fog, foam, CO<sub>2</sub>, and dry chemical.  
SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should be equipped with full protective gear including self-contained breathing apparatus.  
UNUSUAL FIRE AND EXPLOSION HAZARD: None

### V - Reactivity Data

**STABILITY:** Stable

**INCOMPATIBILITY:** None.

**CONDITIONS TO AVOID:** None.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, aldehydes, acids, oxides of sulfur and nitrogen may be formed.

**HAZARDOUS POLYMERIZATION:** Will not occur.

### VI - Health Hazard Data

**ROUTES OF ENTRY INHALATION:**                      **EYE CONTACT:** X      **SKIN CONTACT:** X      **INGESTION:**  
**INGREDIENTS THAT ARE CONSIDERED BY OSHA, NTP, IARC TO BE SUSPECTED HUMAN CARCINOGENS:** None

#### EFFECTS OF OVEREXPOSURE

**IF IN EYES:** May cause moderate eye irritation.

**IF ON SKIN:** Prolonged and repeated contact may cause skin irritation with local redness.

**IF SWALLOWED:** Very low toxicity if swallowed.

**IF INHALED:** None under normal use.

#### EMERGENCY AND FIRST AID PROCEDURES

**IF IN EYES:** Flush eyes and under eyelids with plenty of cool water for at least 15 minutes. If irritation persists, obtain medical attention.

**IF ON SKIN:** Wash with soap and water. If irritation persists, obtain medical attention.

**IF SWALLOWED:** No emergency medical treatment necessary.

**IF INHALED:** Remove person to fresh air.

### VII - Spill or Leak Protection

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** Ventilate area. Sweep up spilled material for reuse or place in a properly marked closed container for proper disposal.

**WASTE DISPOSAL METHOD:** Consult local environmental authorities.

### VIII - Special Protection Information

**RESPIRATORY PROTECTION:** Use with adequate ventilation.

**VENTILATION**

**LOCAL:** Recommended

**MECHANICAL:** Not required

**PROTECTIVE GLOVES:** Chemical resistant.

**EYE PROTECTION:** Safety goggles.

**OTHER PROTECTIVE EQUIPMENT:** None.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Store in a cool, dry place. Keep container tightly closed when not in use. Wash thoroughly after handling.

**OTHER PRECAUTIONS:** Keep out of reach of children.

### IX - Transportation Information (ground transportation only)

**DOT ID NUMBER:** None

**DOT PROPER SHIPPING NAME:** None

**DOT CLASS:** None

**DOT PACKING GROUP:** None

The shipping information listed above applies only to non-bulk (< 119 gallons) containers of this product. This product may have more than one proper shipping name depending on packaging, product properties, & mode of shipment. If any alteration of packaging, product, or mode of transportation is further intended, different shipping names and labeling may apply.

**REVISION DATE:** October 30, 2009

**Prepared by:** Technical Dept

**DATE OF ISSUE:** October 30, 2009

This information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Share Corporation assumes no responsibility for personal injury or property damage to the vendee, users or third parties caused by the material such vendees or users assume all risks associated with the use of this material.

# MATERIAL SAFETY DATA SHEET

QUAKER STATE FCI HD UNIVERSAL TRACTOR HYDRAULIC/TRANSMISSION OIL

## 1. PRODUCT AND COMPANY IDENTIFICATION

MSDS Number: 15123

Version Date: 7/6/01

**Product Name:** QUAKER STATE FCI HD UNIVERSAL TRACTOR HYDRAULIC/TRANSMISSION OIL

**Product Use:** No information available

**Synonyms:** No information available

### Manufacturer

Pennzoil-Quaker State Company  
P.O.Box 2967  
Houston, TX 77252  
USA

### Phone Numbers

**Medical Emergency:** 1-800-546-6040  
**Transportation Emergency (USA):** 1-800-468-1263  
**Transportation Emergency (International):**  
1-352-323-3500 (Call Collect)  
**MSDS Assistance:** 1-800-546-6227  
**Fax On Demand:** 1-800-546-6227  
**Technical Assistance:** 1-800-458-4998  
**Customer Service:** 1-800-468-8397  
**Fax Number:** 713-217-3181  
**Internet Address:** www.MSDS.PZLQS.com

## 2. COMPONENT INFORMATION

Component	CAS No.	Weight Percent Range	Hazardous in Blend
HYDROTREATED SOLVENT DEASPHALTED RESIDUAL OIL	64742-57-0	< 90	No
HYDROTREATED HEAVY PARAFFINIC PETROLEUM DISTILLATES	64742-54-7	< 90	No
HEAVY NAPHTHENIC HYDROTREATED DISTILLATE	64742-52-5	< 90	No
SOLVENT-DEWAXED HEAVY PARAFFINIC DISTILLATE	64742-65-0	< 90	No
ANTIWEAR ADDITIVE	TRADESECRET	< 15	No
EXTREME PRESSURE ADDITIVE	TRADESECRET	1 - 5	No
VISCOSITY INDEX IMPROVER	MIXTURE	1 - 5	No
POUR POINT DEPRESSANT	MIXTURE	< 1	No

This product is **NOT HAZARDOUS** according to OSHA 29 CFR 1910.1200.

**Other:** No information available

## 3. HAZARDS IDENTIFICATION

### Emergency and Hazards Overview

CAUTION: Contains Petroleum Lubricant. Repeated skin contact can cause skin disorders.

**NFPA Ratings:** Health 1 Flammability 1 Reactivity 0

**Primary Route of Exposure:** Skin X Inhalation      Eye     

### Health Effect Information

**Eye Contact:** This product is practically non-irritating to the eyes upon direct contact. Based on testing of similar products and/or components.



# MATERIAL SAFETY DATA SHEET

## QUAKER STATE FCI HD UNIVERSAL TRACTOR HYDRAULIC/TRANSMISSION OIL

**Skin Contact:** Avoid skin contact. This product may cause slight skin irritation upon direct contact. Based on testing of similar products and/or components. Prolonged or repeated contact may result in contact dermatitis which is characterized by dryness, chapping, and reddening. Prolonged or repeated contact may result in oil acne which is characterized by blackheads with possible secondary infection. See Section 11 - Toxicological Information.

**Inhalation:** This product has a low vapor pressure and is not expected to present an inhalation hazard at ambient conditions. Caution should be taken to prevent aerosolization or misting of this product. On rare occasions, prolonged and repeated exposure to oil mist poses a risk of pulmonary disease such as chronic lung inflammation. Signs of respiratory effects vary with concentration and length of exposure and include nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty breathing. Shortness of breath and cough are the most common symptoms.

**Ingestion:** Do not ingest. This product is relatively non-toxic by ingestion. This product has laxative properties and may result in abdominal cramps and diarrhea. Exposure to a large single dose, or repeated smaller doses, may lead to lung aspiration, which can lead to lipid pneumonia or chronic lung inflammation. These are low-grade, chronic localized tissue reactions. See Section 11 - Toxicological Information.

**Medical Conditions Aggravated by Exposure:** Drying and chapping may make the skin more susceptible to other irritants, sensitizers and disease.

**Other:** No information available.

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#### 4. FIRST AID INFORMATION

**Eye Contact:** Immediately flush eyes with large amounts of water and continue flushing until irritation subsides. If material is hot, treat for thermal burns and seek immediate medical attention.

**Skin Contact:** No treatment is necessary under ordinary circumstances. Remove contaminated clothing. Wash contaminated area thoroughly with soap and water. If redness or irritation occurs and persists, seek medical attention. If material is hot, submerge injured area in cold water. If victim is severely burned, remove to a hospital immediately.

**Inhalation:** This material has a low vapor pressure and is not expected to present an inhalation exposure at ambient conditions.

**Ingestion:** Do not induce vomiting. No treatment is necessary under ordinary circumstances. If victim exhibits signs of lung aspiration such as coughing or choking, seek immediate medical assistance.

**Notes to Physician:** No information available

**Other:** No information available.

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#### 5. FIRE AND EXPLOSION INFORMATION

##### Flammable Properties

**Flash Point:** 399.9 F, 204.4 C

**Test Method:** ASTM D-92 (C.O.C.)

##### Flammable Limits in Air

**Upper Percent:** No data available

**Lower Percent:** No data available

**Autoignition Temperature:** No data available

**Test Method:** No information available

**NFPA Classification:** Class III-B combustible liquid

**Extinguishing Media:** Use dry chemical, foam, or carbon dioxide.

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**Fire Fighting Measures**

**Special Fire Fighting Procedures and Equipment:** Water may be ineffective but can be used to cool containers exposed to heat or flame to prevent vapor pressure buildup and possible container rupture. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

**Unusual Fire and Explosion Conditions:** Dense smoke may be generated while burning. Carbon monoxide, carbon dioxide, and other oxides may be generated as products of combustion.

**Hazardous Combustion By-Products:** None

**Other:** No information available.

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**6. ACCIDENTAL RELEASE MEASURES**

**Personnel Safeguards:** Consult Health Effect Information in Section 3, Personal Protection Information in Section 8, Fire and Explosion Information in Section 5, and Stability and Reactivity Information in Section 10.

**Regulatory Notifications:** Notify appropriate authorities of spill.

**Containment and Clean up:** Contain spill immediately. Do not allow spill to enter sewers or watercourses. Absorb with appropriate inert material such as sand, clay, etc. Large spills may be picked up using vacuum pumps, shovels, buckets, or other means and placed in drums or other suitable containers.

**Other:** No information available.

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**7. HANDLING AND STORAGE INFORMATION**

**Handling:** Fire extinguishers should be kept readily available. See NFPA 30 and OSHA 1910.106-- Flammable and Combustible Liquids.

**Storage:** Do not transfer to unmarked containers. Store in closed containers away from heat, sparks, open flame, or oxidizing materials.

**Empty Container Warnings**

**Drums:** Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed. Empty containers retain product residue and can be dangerous.

**Plastic:** No information available

**Other:** No information available.

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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION INFORMATION****Exposure Limits and Guidelines**

This product does not contain any components with OSHA or ACGIH exposure limits.

**Personal Protective Equipment**

**Eye/Face Protection:** Eye protection is not required under conditions of normal use. If material is handled such that it could be splashed into eyes, wear plastic face shield or splash-proof safety goggles.

# MATERIAL SAFETY DATA SHEET

## QUAKER STATE FCI HD UNIVERSAL TRACTOR HYDRAULIC/TRANSMISSION OIL

**Skin Protection:** No skin protection is required for single, short duration exposures. For prolonged or repeated exposures, use impervious clothing (boots, gloves, aprons, etc.) over parts of the body subject to exposure. If handling hot material, use insulated protective clothing (boots, gloves, aprons, etc.). Launder soiled clothes. Properly dispose of contaminated leather articles including shoes, which cannot be decontaminated.

**Respiratory Protection:** Respiratory protection is not required under conditions of normal use. If vapor or mist is generated when the material is heated or handled, use an organic vapor respirator with a dust and mist filter. All respirators must be NIOSH certified. Do not use compressed oxygen in hydrocarbon atmospheres.

**Personal Hygiene:** Consumption of food and beverage should be avoided in work areas where hydrocarbons are present. Always wash hands and face with soap and water before eating, drinking, or smoking.

### Engineering Controls / Work Practices

**Ventilation:** If vapor or mist is generated when the material is heated or handled, adequate ventilation in accordance with good engineering practice must be provided to maintain concentrations below the specified exposure or flammable limits.

**Other:** The OSHA permissible exposure limit (PEL) and ACGIH threshold limit value (TLV) for oil mist is 5 mg/m<sup>3</sup>. The ACGIH short-term exposure limit (STEL) for oil mist is 10 mg/m<sup>3</sup>.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b> Amber	
<b>Odor:</b> Petroleum	<b>Vapor Pressure:</b> No data available
<b>Physical state:</b> Liquid	<b>Vapor Density (air=1):</b> No data available
<b>pH:</b> No data available	<b>Percent Volatile by Volume:</b> No data available
<b>Boiling Point:</b> No data available	<b>Volatile Organic Content:</b> No data available
<b>Melting Point:</b> No data available	<b>Molecular Weight:</b> No data available
<b>Specific Gravity:</b> 0.89 @ 16 C / 60 F	<b>Average Carbon Number:</b> No data available
<b>Pour Point:</b> -35 F, -37.2 C	<b>Viscosity @ 100 F:</b> 9.5 SUS
	<b>Viscosity @ 40 C:</b> 62.5 cSt
<b>Solubility in Water:</b> Negligible in water	
<b>Octanol / Water Coefficient: Log K<sub>ow</sub> =</b> No data available	

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## 10. STABILITY AND REACTIVITY INFORMATION

**Chemical Stability:** Stable

**Conditions to Avoid:** High heat and open flames.

**Incompatible Materials to Avoid:** May react with strong oxidizing agents.

**Other:** No information available.

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## 11. TOXICOLOGICAL INFORMATION

**Primary Eye Irritation:** No information available

**Primary Skin Irritation:** No information available

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**Acute Dermal Toxicity:** No information available

**Subacute Dermal Toxicity:** No information available

**Dermal Sensitization:** No information available

**Inhalation Toxicity:** No information available

**Inhalation Sensitization:** No information available

**Oral Toxicity:** No information available

**Mutagenicity:** No information available

**Carcinogenicity:** The International Agency for Research on Cancer (IARC) has concluded that highly refined mineral oils are Group 3 substances, "not classifiable as to their carcinogenicity to humans," based on inadequate human and inadequate animal evidence.

**Reproductive and Developmental Toxicity:** No information available

**Teratogenicity:** No information available

**Immunotoxicity:** No information available

**Neurotoxicity:** No information available

**Other:** No information available.

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## 12. ECOLOGICAL INFORMATION

**Aquatic Toxicity:** No information available

**Terrestrial Toxicity:** No information available

**Chemical Fate and Transport:** No information available

**Other:** No information available.

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## 13. DISPOSAL INFORMATION

**Regulatory Information:** All disposals must comply with federal, state, and local regulations. The material, if spilled or discarded, may be a regulated waste. Refer to state and local regulations. Caution! If regulated solvents are used to clean up spilled material, the resulting waste mixture may be regulated. Department of Transportation (DOT) regulations may apply for transporting this material when spilled.

**Waste Disposal Methods:** Waste material may be landfilled or incinerated at an approved facility. Materials should be recycled if possible.

**Other:** No information available.

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**14. TRANSPORTATION INFORMATION****U.S. Department of Transportation (DOT)****Highway / Rail (Bulk):** Not Regulated**Highway / Rail (Non-Bulk):** Not Regulated

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for all shipping descriptions.

**International Information****Vessel: IMDG Regulated:** \_\_\_\_\_ **IMDG Not Regulated:**   X  **Air: ICAO Regulated:** \_\_\_\_\_ **ICAO Not Regulated:**   X  **Other:** No information available**15. Regulatory Information**

**Regulatory Lists Searched:** The components listed in Section 2 of this MSDS were compared to substances that appear on the following regulatory lists. Each list is numerically identified. See Regulatory Search Results below.

**Health & Safety:** 10 - IARC carcinogen, 11 - NTP carcinogen, 12 - OSHA carcinogen, 15 - ACGIH TLV, 16 - OSHA PEL, 17 - NIOSH exposure limit, 20 - US DOT Appendix A, Hazardous substances, 21 - USDOT Appendix B, Marine pollutants, 22 - FDA 21 CFR Total food additives, 23 - NFPA 49 or 325

**Environmental:** 30 - CAA 1990 Hazardous air pollutants, 31 - CAA Ozone depleters, 33 - CAA HON rule, 34 - CAA Toxic substance for accidental release prevention, 35 - CAA Volatile organic compounds (VOC's) in SOCOMI, 41 - CERCLA / SARA Section 302 extremely hazardous substances, 42 - CERCLA / SARA Section 313 emissions reporting, 43 - CWA Hazardous substances, 44 - CWA Priority pollutants, 45 - CWA Toxic pollutants, 46 - EPA Proposed test rule for hazardous air pollutants, 47 - RCRA Basis for listing - Appendix VII, 48 - RCRA waste, 49 - SDWA - (S)MCLs

**International:** 50 - Canada - WHMIS Classification of substance, 54 - Mexico - Drinking water - ecological criteria, 55 - Mexico - Wastewater discharges, 56 - US -TSCA Section (12)(b) - export notification

**State Lists:** 60 - CA - Proposition 65, 61 - FL - Substances, 62 - MI - Critical materials, 63 - MA - RTK, 64 - MA - Extraordinarily hazardous substances, 65 - MN - Hazardous substances, 66 - PA - RTK, 67 - NJ - RTK, 68 - NJ - Environmental hazardous substances, 69 - NJ - Special hazardous substances

**Inventories:** 80 - Canada - Domestic substances , 81 - European - EINECS, 82 - Japan - ENCS, 83 - Korea - Existing and evaluated chemical substances, 84 - US - TSCA

**Regulatory Search Results:**

HEAVY NAPHTHENIC HYDROTREATED DISTILLATE: 80, 81, 83, 84

HYDROTREATED HEAVY PARAFFINIC PETROLEUM DISTILLATES: 80, 81, 83, 84

HYDROTREATED SOLVENT DEASPHALTED RESIDUAL OIL: 80, 81, 82, 83, 84

SOLVENT-DEWAXED HEAVY PARAFFINIC DISTILLATE: 80, 81, 83, 84

**U.S. TSCA Inventory:** All components of this material are on the US TSCA Inventory.**SARA Section 313:** Consumer products are not regulated under SARA, Title III, Section 313.**IARC:** No information available

**MATERIAL SAFETY DATA SHEET****QUAKER STATE FCI HD UNIVERSAL TRACTOR  
HYDRAULIC/TRANSMISSION OIL****SARA 311 / 312 Categories**Acute:  Chronic:  Fire:  Pressure:  Reactive: Not Regulated: **Canadian WHMIS Classification**

Not a controlled substance under WHMIS

**European Union Classification****Hazard Symbols:**

No information available

**Risk Phrases:**

No information available

**Safety Phrases:**

No information available

**Other:** No information available

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**16. OTHER INFORMATION****Health and Environmental Label Language**

Back Label:

CAUTION: Contains Petroleum Lubricant. Repeated skin contact can cause skin disorders.

PRECAUTIONARY MEASURES: Avoid excessive &amp; prolonged skin contact. Wash thoroughly after handling. Avoid generation and inhalation of oil mists.

KEEP OUT OF REACH OF CHILDREN.

FOR HEALTH EMERGENCY: (800) 546-6040.

**MSDS Revisions****Previous Version Date:** Not applicable, this MSDS is the first version.**Previous Version Information:** No information available**Other:** No information available**Prepared By:**Pennzoil-Quaker State Company  
Environmental, Safety, Health, & DOT Compliance  
P. O. Box 2967  
Houston, TX 77252-2967 USA

**MATERIAL SAFETY DATA SHEET**  
**QUAKER STATE FCI HD UNIVERSAL TRACTOR**  
**HYDRAULIC/TRANSMISSION OIL**

**Disclaimer of Warranty:** The information contained herein is based upon data and information available to us, and reflects our best professional judgement. This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used, Pennzoil-Quaker State Company must rely upon the hazard evaluation of such components submitted by that product's manufacturer or importer. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent. Since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use.

**1. IDENTIFICATION**

Product name: **Quali-Pro® Prodiamine 65 WDG**  
 Chemical name of active ingredient(s): Prodiamine: 2,4-dinitro-N3,N3-dipropyl-6-(trifluoromethyl)-1,3-benzenediamine  
 Distributor: FarmSaver.com, LLC.  
 4515 Falls of Neuse Road, Suite 300  
 Raleigh, NC 27609  
 Phone: 1-800-979-8994  
 For fire, spill, and/or leak emergencies, contact CHEMTREC: Phone: 1-800-424-9300  
 Outside US: 1-703-527-3887  
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-800-308-5391

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

COMMON NAME	CAS NO.	%	OSHA PEL	ACIGH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Prodiamine	29091-21-2	65	Not established	Not established	-	Not applicable

**3. HAZARDS IDENTIFICATIONS**

**PHYSICAL PROPERTIES**

Appearance: Yellow granules  
 Odor: Odorless

**EMERGENCY OVERVIEW:** CAUTION. Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing dust. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**HAZARDOUS DECOMPOSITION PRODUCTS**

Can decompose at high temperatures forming toxic gases.

**UNUSUAL FIRE, EXPLOSION, AND REACTIVITY HAZARDS**

This product is considered electrically conductive. Static electricity, mechanical sparks, open flames and certain hot surfaces (greater than 680° F [360° C] can serve as ignition sources for this material. This material can energetically decompose at approximately 383° F (195° C).

**SYMPTOMS OF ACUTE EXPOSURE**

Causes mild eye and skin irritation. Allergic skin reactions are possible.

**MEDICAL CONDITIONS LIKELY TO BE AGGRAVATED BY EXPOSURE**

None known.

**4.FIRST AID MEASURES**

FIRST AID	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> </ul>



- Do not induce vomiting unless told to do so by a poison control center or doctor.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-308-5391 for emergency medical treatment information.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** Not applicable

**METHOD USED:** Not applicable

### FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

**AUTOIGNITION TEMPERATURE:** Not applicable

**FLAMMABILITY:** Not applicable

**EXTINGUISHING MEDIA:** Foam, CO<sub>2</sub>, dry chemical

### UNUSUAL FIRE, EXPLOSION, AND REACTIVITY HAZARDS

This product is considered electrically conductive. Static electricity, mechanical sparks, open flames and certain hot surfaces (greater than 680° F [360° C] can serve as ignition sources for this material. This material can energetically decompose at approximately 383° F (195° C).

### HAZARDOUS DECOMPOSITION PRODUCTS

Can decompose at high temperatures forming toxic gases.

### FIRE-FIGHTING PROCEDURES

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

## 6. ACCIDENTAL RELEASE MEASURES

**ACTION TO TAKE FOR SPILLS/LEAKS:** Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage system or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Sweep up material and place in a compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is clean up and placed in a disposal container, seal container and arrange for disposition.

## 7. HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN IN HANDLING:** Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Bulk bags (FIBC) used to contain this material should be either Type B or Type C. If Type C bags are used, make sure they are electrically grounded before powder is discharged from the bag.

Handle this material only in electrically conductive equipment. Electrically ground and bond this equipment as well as any worker who could contact a dust cloud formed of this material. Eliminate the presence of mechanical sparks and other ignition sources where dust clouds of this material could form.

**PRECAUTIONS TO BE TAKEN IN STORAGE:** Do not store or process above 320° F (160° C). Store material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area.

### STORAGE TEMPERATURE (MIN/MAX):

Minimum: Normal ambient temperatures.

Maximum: 320° F (160° C)

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.**

**INGESTION PROTECTION:** Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

**EYE PROTECTION:** Where contact is likely, use chemical splash goggles.

**RESPIRATORY PROTECTION:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

**SKIN PROTECTION:** Where contact is likely, wear chemical-resistant gloves (such as nitrile or butyl), coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

**USER SAFETY RECOMMENDATIONS:**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- After handling this product, immediately wash the outside of gloves before removing them. Immediately wash thoroughly and change into clean clothing.

**EXPOSURE GUIDELINES:** Refer to Section 2.

**ENGINEERING CONTROLS:** Refer to product label.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Yellow granules

**ODOR:** Odorless

**FLASH POINT:** Not applicable

**pH:** 9.36

**MELTING POINT:** Not available

**BOILING POINT:** Not applicable

**DENSITY:** 0.45 g/mL

**SOLUBILITY IN H<sub>2</sub>O:**

Prodiamine: 0.013 ppm @ 77° F (25° C)

**VAPOR PRESSURE:**

Prodiamine: <math>5.6 \times 10^{-6}</math> mmHg @ 68° F (20° C)

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable under normal use and storage conditions.

**CONDITIONS TO AVOID:** Thermal, mechanical and electrical ignition sources.

**MATERIALS TO AVOID:** Oxidizing agents.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Can decompose at high temperatures forming toxic gases.

**11. TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY/IRRITATION STUDIES (FINISHED PRODUCT)**

Acute Oral LD50 (Rat): >5,000 mg/kg

MATERIAL SAFETY DATA SHEET

**Quali-Pro® Prodiamine 65 WDG**

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Acute Dermal LD50 (Rat): >2,000 mg/kg  
Acute Inhalation LC50 (Rat):1.81 mg/L air (4-hours)  
Eye Irritation (Rabbit): Mildly Irritating  
Dermal Irritation (Rabbit): Practically Non-Irritation (Rabbit)  
Dermal Sensitization (Guinea Pig): Sensitizing (Guinea Pig)

**REPRODUCTIVE/DEVELOPMENT EFFECTS**

Prodiamine: Fetal toxicity at high dose levels (rats); development and maternal toxicity observed at 1 g/kg/day.

**CHRONIC/SUBCHRONIC TOXICITY STUDIES**

Prodiamine: Liver (alteration and enlargement) and thyroid effects (hormone imbalances) at high does levels (rats); decreased body weight gains.

**CARCINOGENICITY**

Prodiamine: Benign thyroid tumors (rat). None observed (mouse).

**OTHER TOXICITY INFORMATION**

None

**TOXICITY OF OTHER COMPONENTS**

Dispersing Agent: Exposure can result in eye, skin and respiratory tract irritation.

Kaolin Clay: Long-term exposure to high concentrations of this dust may produce x-ray evidence of dust in the lungs. Continued long-term exposure may affect respiratory function in some individuals.

**TARGET ORGANS**

Active Ingredients:

Prodiamine: Liver, thyroid

Inert Ingredients:

Dispersing Agent: Eye, skin, respiratory tract

Kaolin Clay: Lung

**12. ECOLOGICAL INFORMATION**

Based on active ingredient - Prodiamine.

**SUMMARY OF EFFECTS:** Highly toxic to fish and invertebrates. Practically non-toxic to birds and bees.

**ECO-ACUTE TOXICITY:**

Rainbow Trout 96-hour LC50: 0.83 mg/L  
Bluegill Sunfish 96-hour LC50: 0.55 mg/L  
*Daphnia magna* 48-hour LC50: 0.66 mg/L  
Bobwhite 8-day Dietary LC50: >10,000 mg/L  
Mallard 8-day Dietary LC50: >10,000 mg/L  
Bees LC50/EC50: >100 ug/bee

**ECO-CHRONIC TOXICITY:**

Not available

**ENVIRONMENTAL FATE:**

Does not bioaccumulate. Persistent in soil. Stable in water. Immobile in soil. Sinks in water (after 24 hours).

**13. DISPOSAL CONSIDERATIONS**

**PRODUCT DISPOSAL:** Check governmental regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

**CONTAINER DISPOSAL:** Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state and federal health and environmental regulations.

**14. TRANSPORT INFORMATION**

MATERIAL SAFETY DATA SHEET

**Quali-Pro® Prodiamine 65 WDG**

Page 5 of 5

**DOT CLASSIFICATION:**

Not regulated

**B/L Freight Classification:** Item: 50320 [Compounds, tree or weed killing (herbicides), NOI, other than poison] Class 60

**INTERNATIONAL TRANSPORTATION**

**IMO (vessel):** Environmentally Hazardous Substances, Solid, N.O.S (prodiamine 65%), 9, UN 3077, PG III, Marine pollutant

**IATA (air):** Not regulated

**15. REGULATORY INFORMATION**

**SARA TITLE III CLASSIFICATION:**

Section 302: Not applicable.  
Section 311/312: Acute health hazard (immediate)  
Chronic health hazard (delayed)  
Reactivity hazard  
Section 313: Not applicable.

**CA PROPOSITION 65:** Not applicable

**CERCLA RQ:** Not applicable

**RCRA CLASSIFICATION:** Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**TSCA STATUS:** The ingredients of this product are listed on the TSCA inventory or are exempt.

**16. OTHER INFORMATION**

HAZARD RATINGS	NFPA	HMIS	
HEALTH:	2	2	0 MINIMAL
FLAMMABILITY:	2	2	1 SLIGHT
REACTIVITY:	1	1	2 MODERATE
			3 HIGH
			4 SEVERE

**MSDS Date:** 10-31-07

The information herein is given in good faith, but no warrant, express or implied, is made. Consult FarmSaver.com, LLC. for further information.

# Material Safety Data Sheet

Page 1 of 7

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

RA.PID.GRO Fertilizers

### COMPANY IDENTIFICATION

CHEVRON CHEMICAL COMPANY  
ORTHO CONSUMER PRODUCTS  
P.O. BOX 5047  
SAN RAMON, CA 94583-0947

### EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)457-2022 or  
(510)233-3737 (International)  
TRANSPORTATION (24 hr): CHEMTREC  
(800)424-9300 or (202)483-7616

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 % RA.PID.GRO Fertilizers

### CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYFE
------------	--------	-----------	-------------

#### UREA

Chemical Name: UREA  
CAS57136

#### AMMONIUM PHOSPHATE

Chemical Name: PHOSPHORIC ACID, MONOAMMONIUM SALT  
CAS7722761

#### DIAMMONIUM PHOSPHATE

Chemical Name: PHOSPHORIC ACID, DIAMMONIUM SALT  
CAS7783280

#### POTASSIUM NITRATE

Chemical Name: NITRIC ACID POTASSIUM SALT  
CAS7757791

#### POTASSIUM CHLORIDE

Chemical Name: POTASSIUM CHLORIDE

Revision Number: 2      Revision Date: 12/21/93      MSDS Number: 003090  
NDA - No Data Available      NA - Not Applicable

Prepared according to the OSHA Hazard Communication Standard  
(29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology  
and Health Risk Assessment Unit, CHTC, P.O. Box 4054, Richmond, CA 94804

X-DC

CAS7447407

**COMPOSITION COMMENT:**

This Material Safety Data Sheet (MSDS) contains health, safety and environmental information for you and your employees. It does not replace the precautionary use, storage and disposal information presented on the product label. This information will help you to prepare for emergency response and to meet community right-to-know/ emergency response and reporting requirements under SARA Title III and many other laws. Emergency response agencies and health care providers will also find this additional information useful.

Homeowner consumer use, storage and disposal are regulated by the EPA through the approved label copy, and it is a violation of Federal law to use the product in any manner not prescribed on the EPA-approved label. In order to avoid confusion, this MSDS should not be distributed to homeowner consumers.

Although an MSDS is not required for a consumer product used by the homeowner, we provide this MSDS for employers who handle or store large quantities of this product (e.g. transporters, warehouses and retailers).

This MSDS should also be made available to any employee whose exposure to the product in quantity, frequency or duration may be greater than that of a homeowner consumer.

This MSDS should be supplied to subsequent transporters, shippers, warehouses, retailers or employers where handling, storing or use of this product exceed in quantity, frequency or duration those of a homeowner consumer.

- |                                  |  |
|----------------------------------|--|
| TLV - Threshold Limit Value      | TWA - Time Weighted Average            |
| STEL - Short-term Exposure Limit | TPQ - Threshold Planning Quantity      |
| RQ - Reportable Quantity         | PEL - Permissible Exposure Limit       |
| C - Ceiling Limit                | CAS - Chemical Abstract Service Number |
| AI-5 - Appendix A Categories     | ( ) - Change Has Been Proposed         |

**3. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

Green powder with slight ammoniacal odor

- MAY CAUSE EYE IRRITATION
- MAY BE HARMFUL IF SWALLOWED
- KEEP OUT OF REACH OF CHILDREN

**POTENTIAL HEALTH EFFECTS**

**EYE:**  
This substance is a moderate eye irritant and could cause prolonged

Revision Number: 2	Revision Date: 12/21/93	MSDS Number: 003090
NDA - No Data Available	NA - Not Applicable	

(weeks) impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

**SKIN:**

This substance may cause skin irritation on prolonged or frequently repeated contact. The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if it gets on the skin.

**INGESTION:**

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if swallowed. Read the Toxicology Information section (11) of this document for more information.

**INHALATION:**

Breathing the dust may be irritating to the respiratory tract. The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if inhaled.

**SIGNS AND SYMPTOMS OF EXPOSURE:**

**EYE:** May include pain, tears, swelling, redness, and blurred vision.

**SKIN:** May include pain or a feeling of heat, discoloration, swelling, and blistering.

**INHALATION:** Respiratory tract irritation may include, but may not be limited to, one or more of the following: nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

---

#### 4. FIRST AID MEASURES

**EMERGENCY NUMBER (24 hr):** (800)657-2022 or (510)233-3737 (International)

**EYE:**

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

**SKIN:**

No first aid procedures are required. As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing.

**INGESTION:**

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

**INHALATION:**

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

---

#### 5. FIRE FIGHTING MEASURES

**FLAMMABLE PROPERTIES**

**FLASH POINT:** None

**AUTOIGNITION:** NA

**FLAMMABILITY LIMITS (% by volume in air):** Lower: NA Upper: NA

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**Revision Number:** 2

**Revision Date:** 12/21/93

**MSDS Number:** 003090

**NBA - No Data Available**

**NA - Not Applicable**

**EXTINGUISHING MEDIA:**

Water.

**NFPA RATINGS:** Health 1; Flammability 0; Reactivity 0.**FIRE FIGHTING INSTRUCTIONS:**

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 normal products of combustion or oxygen deficiency. Read the entire document.

**COMBUSTION PRODUCTS:**

Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and phosphorous. Heating this material may produce ammonia, HCl.

---

**6. ACCIDENTAL RELEASE MEASURES****CHEMTREC EMERGENCY NUMBER (24 hr):** (800)424-9300 or (202)483-7616**ACCIDENTAL RELEASE MEASURES:**

Clean up spills immediately, observing precautions in Exposure Controls/Personal Protection section.

---

**7. HANDLING AND STORAGE****HANDLING AND STORAGE:**

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of waste. For help with any spill, leak, fire or exposure involving this material, call day or night (800) 454-2333.

---

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****PERSONAL PROTECTIVE EQUIPMENT****EYE/FACE PROTECTION:**

Do not get this material in your eyes. Eye contact can be avoided by wearing chemical goggles.

**SKIN PROTECTION:**

Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including gloves.

**RESPIRATORY PROTECTION:**

No special respiratory protection is normally required. However, if operating conditions create airborne concentrations which exceed the recommended exposure standards, the use of an approved respirator is required.

**ENGINEERING CONTROLS:**

Use adequate ventilation to keep the airborne concentrations of this material below the recommended exposure standard.

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NDA - No Data Available

NA - Not Applicable



9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION:

Green powder with slight ammoniacal odor

pH: 6-7
VAPOR PRESSURE: NDA
VAPOR DENSITY (AIR=1): NA
BOILING POINT: NA
FREEZING POINT: NA
MELTING POINT: NA
SOLUBILITY: Completely soluble in water
SPECIFIC GRAVITY: NDA
DENSITY: 40 - 50 lb/ft3
EVAPORATION RATE: 0
PERCENT VOLATILE (VOL): 0

10. STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:

Ammonia gas may form upon heating above 200F.

CHEMICAL STABILITY:

Stable.

CONDITIONS TO AVOID:

No data available.

INCOMPATIBILITY WITH OTHER MATERIALS:

May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS:

No product toxicology data available. The hazard evaluation was based on data on the components.

SKIN EFFECTS:

No product toxicology data available. The hazard evaluation was based on data on the components.

ACUTE ORAL EFFECTS:

No product toxicology data available. The hazard evaluation was based on data on the components.

ACUTE INHALATION EFFECTS:

No product toxicology data available. The hazard evaluation was based on data on the components.

ADDITIONAL TOXICOLOGY INFORMATION:

Revision Number: 2 Revision Date: 12/21/93 MSDS Number: 003090
NDA - No Data Available NA - Not Applicable

This product contains nitrate salts. The estimated acute lethal oral dose of nitrate in humans is 0.5-5.0 g/kg. Thus, nitrate salts are no more acutely toxic than other neutral salts such as sodium chloride. However, nitrate may be reduced by intestinal bacteria to nitrite which, when absorbed, can cause fall in blood pressure due to vasodilation, fainting, confusion, formations of methemoglobin in the blood, cyanosis, coma, and possible respiratory paralysis.

## 12. ECOLOGICAL INFORMATION

### ECOTOXICITY:

No data available.

### ENVIRONMENTAL FATE:

No data available.

## 13. DISPOSAL CONSIDERATIONS

### DISPOSAL CONSIDERATIONS:

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material. If safe and practicable, reclaim material.

## 14. TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: NDA  
 DOT HAZARD CLASS: NDA  
 DOT IDENTIFICATION NUMBER: NDA  
 DOT PACKING GROUP: NDA

## 15. REGULATORY INFORMATION

SARA 311 CATEGORIES:	1. Immediate (Acute) Health Effects:	YES
	2. Delayed (Chronic) Health Effects:	NO
	3. Fire Hazard:	NO
	4. Sudden Release of Pressure Hazard:	NO
	5. Reactivity Hazard:	NO

### REGULATORY LISTS SEARCHED:

Revision Number: 2      Revision Date: 12/21/93      MSDS Number: 003090  
 NDA - No Data Available      NA - Not Applicable

- 01=SARA 313
- 02=MASS-RTK
- 03=NTP Carcinogen
- 04=CA Prop 65-Carcin
- 05=CA Prop 65-Repro Tox
- 06=IARC Group 1
- 07=IARC Group 2A
- 08=IARC Group 2B
- 09=SARA 302/304
- 10=PA RTK

- 11=NJ RTK
- 12=CERCLA 302.4
- 13=MN RTK
- 14=ACGIH TWA
- 15=ACGIH STEL
- 16=ACGIH Calc TLV
- 17=OSHA PEL
- 18=DOT Marine Pollutant
- 19=Chevron TWA
- 20=EPA Carcinogen

- 21=TSCA Sect 4(e)
- 22=TSCA Sect 5(a)(2)
- 23=TSCA Sect 6
- 24=TSCA Sect 12(b)
- 25=TSCA Sect 8(a)
- 26=TSCA Sect 8(d)
- 27=TSCA Sect 4(a)
- 28=Canadian WHMIS
- 29=OSHA CEILING
- 30=Chevron STEL

The following components of this material are found on the regulatory lists indicated.

NITRIC ACID POTASSIUM SALT  
is found on lists: 02,10,11.

16. OTHER INFORMATION

NFPA RATINGS: Health 1; Flammability 0; Reactivity 0;  
HMIS RATINGS: Health 1; Flammability 0; Reactivity 0;  
(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT:  
PRODUCT DISCONTINUED. This Material Safety Data Sheet will no longer be updated.

\*\*\*\*\*  
The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

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NDA - No Data Available      NA - Not Applicable

X-005021

**MONSANTO COMPANY**  
Safety Data Sheet  
Commercial Product

---

## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1. Product identifier

#### Ranger PRO® Herbicide

##### 1.1.1. Chemical name

Not applicable.

##### 1.1.2. Synonyms

None.

##### 1.1.3. EPA Reg. No.

524-517

### 1.2. Product use

Herbicide

### 1.3. Company

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

**Telephone:** 800-332-3111, **Fax:** 314-694-5557

**E-mail:** safety.datasheet@monsanto.com

### 1.4. Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted).  
FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

---

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification

OSHA Hazard Communication Standard, 29 CFR 1910.1200 (2012)

Acute toxicity, inhalation - Category 4

### 2.2. Label elements

#### 2.2.1. Signal word

WARNING!

#### 2.2.2. Hazard pictogram/pictograms



#### 2.2.3. Hazard statement/statements

Harmful if inhaled.

#### 2.2.4. Precautionary statement/statements

Avoid breathing dust/fume/gas/mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

### 2.3. Appearance and odour (colour/form/odour)

Amber /Liquid / Sweet

### 2.4. OSHA Status

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Refer to section 11 for toxicological and section 12 for environmental information.

---

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Active ingredient

Isopropylamine salt of N-(phosphonomethyl)glycine; {Isopropylamine salt of glyphosate}

### Composition

COMPONENT	CAS No.	% by weight (approximate)
Isopropylamine salt of glyphosate	38641-94-0	41
Other ingredients		59

The specific chemical identity is being withheld because it is trade secret information of Monsanto Company.

---

## 4. FIRST AID MEASURES

Use personal protection recommended in section 8.

### 4.1. Description of first aid measures

- 4.1.1. Eye contact:** If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice. Immediately flush with plenty of water.
- 4.1.2. Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- 4.1.3. Inhalation:** If inhaled, move person to fresh air. If person is not breathing, call emergency number or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- 4.1.4. Ingestion:** Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison center or doctor. Do not give anything by mouth to an unconscious person.

### 4.2. Most important symptoms and effects, both acute and delayed

- 4.2.1. Eye contact, short term:** May cause temporary eye irritation.
- 4.2.2. Skin contact, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.
- 4.2.3. Inhalation, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.
- 4.2.4. Single ingestion:** Not expected to produce significant adverse effects when recommended use instructions are followed.

### 4.3. Indication of any immediate medical attention and special treatment needed

- 4.3.1. Advice to doctors:** This product is not an inhibitor of cholinesterase.
- 4.3.2. Antidote:** Treatment with atropine and oximes is not indicated.

---

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

**5.1.1. Recommended:** Water, foam, dry chemical, carbon dioxide (CO<sub>2</sub>)

### 5.2. Special hazards

#### 5.2.1. Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.  
Environmental precautions: see section 6.

#### 5.2.2. Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (P<sub>x</sub>O<sub>y</sub>), nitrogen oxides (NO<sub>x</sub>)

**5.3. Fire fighting equipment:** Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

### 5.4. Flash point

Does not flash.

---

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions

Use personal protection recommended in section 8.

### 6.2. Environmental precautions

**SMALL QUANTITIES:**

Low environmental hazard.

**LARGE QUANTITIES:**

Minimise spread.

Keep out of drains, sewers, ditches and water ways.

Notify authorities.

### 6.3. Methods for cleaning up

**SMALL QUANTITIES:**

Flush spill area with water.

**LARGE QUANTITIES:**

Absorb in earth, sand or absorbent material.

Dig up heavily contaminated soil.

Collect in containers for disposal.

Refer to section 7 for types of containers.

Flush residues with small quantities of water.

Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

---

## 7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

### 7.1. Precautions for safe handling

When using do not eat, drink or smoke. Wash hands thoroughly after handling or contact. Thoroughly clean equipment after use. Do not contaminate drains, sewers and water ways when disposing of equipment rinse water. Refer to section 13 of the safety data sheet for disposal of rinse water.

### 7.2. Conditions for safe storage

Minimum storage temperature: -15 °C

Maximum storage temperature: 50 °C

**Compatible materials for storage:** stainless steel, fibreglass, plastic, glass lining

**Incompatible materials for storage:** galvanised steel, unlined mild steel, see section 10.

Keep out of reach of children.

Keep away from food, drink and animal feed.

Keep only in the original container.

Partial crystallization may occur on prolonged storage below the minimum storage temperature.

If frozen, place in warm room and shake frequently to put back into solution.

Minimum shelf life: 5 years.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Airborne exposure limits

Components	Exposure Guidelines
Isopropylamine salt of glyphosate	No specific occupational exposure limit has been established.
Other ingredients	No specific occupational exposure limit has been established.

**8.2. Engineering controls:** No special requirement when used as recommended.

### 8.3. Recommendations for personal protective equipment

**8.3.1. Eye protection:** If there is significant potential for contact: Wear chemical goggles.

**8.3.2. Skin protection:** No special requirement when used as recommended. If repeated or prolonged contact: Wear chemical resistant gloves.

**8.3.3. Respiratory protection:** No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

Colour/colour range:	Amber
Odour:	Sweet
Form:	Liquid
Physical form changes (melting, boiling, etc.):	
Melting point:	Not applicable.
Boiling point:	No data.
Flash point:	Does not flash.
Explosive properties:	No data.
Auto ignition temperature:	No data.
Self-accelerating decomposition temperature (SADT):	No data.

Oxidizing properties:	No data.
Specific gravity:	1.162 @ 20 °C / 15.6 °C
Vapour pressure:	No significant volatility.
Vapour density:	Not applicable.
Evaporation rate:	No data.
Dynamic viscosity:	No data.
Kinematic viscosity:	No data.
Density:	1.162 g/cm <sup>3</sup> @ 20 °C
Solubility:	Water: Completely miscible.
pH:	4.4 - 5.0
Partition coefficient:	log Pow: < 0.00

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

### 10.2. Stability

Stable under normal conditions of handling and storage.

### 10.3. Possibility of hazardous reactions

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

### 10.4. Incompatible materials

galvanised steel; unlined mild steel; see section 10.;  
Compatible materials for storage: see section 7.2.

### 10.5. Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

## 11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

**Likely routes of exposure:** Skin contact, eye contact

### Potential health effects

**Eye contact, short term:** May cause temporary eye irritation.

**Skin contact, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.

**Inhalation, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.

**Single ingestion:** Not expected to produce significant adverse effects when recommended use instructions are followed.

Data obtained on similar products and on components are summarized below.

### Similar formulation

#### Acute oral toxicity

**Rat, LD50:** 5,108 mg/kg body weight  
Practically non-toxic.



**Acute dermal toxicity**

**Rat, LD50 (limit test):** > 5,000 mg/kg body weight  
Practically non-toxic. No mortality.

**Skin irritation**

**Rabbit, 6 animals, OECD 404 test:**  
Days to heal: 3  
Primary Irritation Index (PII): 0.5/8.0  
Essentially non irritating.

**Eye irritation**

**Rabbit, 6 animals, OECD 405 test:**  
Days to heal: 3  
Slight irritation.

**Acute inhalation toxicity**

**Rat, LC50, 4 hours, aerosol:** 2.9 mg/L  
Other effects: weight loss, breathing difficulty  
Practically non-toxic.

**Skin sensitization**

**Guinea pig, 3-induction Buehler test:**  
Positive incidence: 0 %

**N-(phosphonomethyl)glycine; { glyphosate acid}**

**Genotoxicity**

Not genotoxic.

**Carcinogenicity**

Not carcinogenic in rats or mice. Listed as Category 2A by the International Agency for Research on Cancer (IARC) but our expert opinion is that classification as a carcinogen is not warranted.

**Reproductive/Developmental Toxicity**

Developmental effects in rats and rabbits only in the presence of significant maternal toxicity.  
Reproductive effects in rats only in the presence of significant maternal toxicity.

---

## 12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on similar products and on components are summarized below.

**Similar formulation**

**Aquatic toxicity, fish**

**Rainbow trout (*Oncorhynchus mykiss*):**  
Acute toxicity, 96 hours, static, LC50: 5.4 mg/L  
Moderately toxic.

**Aquatic toxicity, invertebrates**

**Water flea (*Daphnia magna*):**  
Acute toxicity, 48 hours, static, EC50: 11 mg/L  
Slightly toxic.

**Arthropod toxicity**

**Honey bee (*Apis mellifera*):**  
Oral/contact, 48 hours, LD50: > 100 µg/bee  
Practically non-toxic.

**Similar formulation**

**Aquatic toxicity, algae/aquatic plants**

**Green algae (*Selenastrum capricornutum*):**

Acute toxicity, 72 hours, static, EbC50 (biomass): 12.4 mg/L  
Slightly toxic.

**Green algae (*Selenastrum capricornutum*):**

Acute toxicity, 72 hours, static, NOEC: 6.3 mg/L

**N-(phosphonomethyl)glycine: { glyphosate acid}**

**Bioaccumulation**

**Bluegill sunfish (*Lepomis macrochirus*):**

Whole fish: BCF: < 1  
No significant bioaccumulation is expected.

**Dissipation**

**Soil, field:**

Half life: 2 - 174 days  
Koc: 884 - 60,000 L/kg  
Adsorbs strongly to soil.

**Water, aerobic:**

Half life: < 7 days

---

**13. DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

**13.1.1. Product**

Excess product may be disposed of by agricultural use according to label instructions. Keep out of drains, sewers, ditches and water ways. Recycle if appropriate facilities/equipment available. Burn in proper incinerator. Follow all local/regional/national/international regulations.

**13.1.2. Container**

See the individual container label for disposal information. Emptied containers retain vapour and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Empty packaging completely. Triple or pressure rinse empty containers. Do NOT contaminate water when disposing of rinse waters. Ensure packaging cannot be reused. Do NOT re-use containers. Store for collection by approved waste disposal service. Recycle if appropriate facilities/equipment available. Follow all local/regional/national/international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

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**14. TRANSPORT INFORMATION**

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

**14.1. US Dept. of Transportation (DOT) Hazardous Materials Regulations (49 CFR Parts 105-180)**

Proper Shipping Name (Technical Name if required):	Not regulated for domestic ground transportation. ( )
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**14.2. IMDG Code**

Proper Shipping Name	Not regulated for transport under IMO Regulations ( )
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(Technical Name if required):	
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**14.3. IATA/ICAO**

Proper Shipping Name (Technical Name if required):	Not regulated for transport under IATA/ICAO Regulations ()
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**15. REGULATORY INFORMATION**

**15.1. Environmental Protection Agency**

**15.1.1. TSCA Inventory**

All components are on the US EPA's TSCA Inventory

**15.1.2. SARA Title III Rules**

Section 311/312 Hazard Categories: Immediate  
Section 302 Extremely Hazardous Substances: Not applicable.  
Section 313 Toxic Chemical(s): Not applicable.

**15.1.3. CERCLA Reportable quantity**

Not applicable.

**15.1.4. Federal Insecticide, Fungicide, Rodenticide Act (FIFRA)**

This chemical is a pesticide product regulated by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

**CAUTION!**  
**CAUSES EYE IRRITATION**

Acute oral toxicity: FIFRA category IV.  
Acute dermal toxicity: FIFRA category IV.  
Acute inhalation toxicity: FIFRA category IV.  
Skin irritation: FIFRA category IV.  
Eye irritation: FIFRA category III.

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**16. OTHER INFORMATION**

The information given here is not necessarily exhaustive but is representative of relevant, reliable data. Follow all local/regional/national/international regulations. Please consult supplier if further information is needed. In this document the British spelling was applied. || Significant changes versus previous edition.

	Health	Flammability	Instability	Additional Markings
NFPA	1	1	1	

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), STOT SE (Specific Target Organ Toxicity, Single Exposure), STOT RE (Specific Target Organ Toxicity, Repeated Exposure), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, MONSANTO Company or any of its subsidiaries makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will MONSANTO Company or any of its subsidiaries be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE PRODUCT TO WHICH INFORMATION REFERS.

DATED 07-01-02  
 UPDATED: 03-01-05

**MATERIAL SAFETY DATA SHEET**  
 FOR WELDING CONSUMABLES AND RELATED PRODUCTS  
 "ESSENTIALLY SIMILAR" to U.S. Department of Labor Form OSHA 20  
 (to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200)

**SECTION I**

626 336 9022

AMERICAN CHEMICAL & FLUX PRODUCTS  
 Manufacturer's Name: DIV OF MARCO COMPANY Emergency Phone: \_\_\_\_\_  
 Address: 15451 PROCTOR AVE, CITY OF INDUSTRY CA 91745  
 Product Trade Name(s) SILVER BRAZING FLUX-WHITE Product Type: BRAZING FLUX

**SECTION II**

**HAZARDOUS INGREDIENTS/Identity Information**

N/A Not applicable

\*IMPORTANT: This Section covers materials from which this product is manufactured.

Ingredients of The Product	CAS No.	OSHA PEL Mg/M3	ACGIH TLV Mg/M3	Carcinogenicity
BORIC ACID	10043-35-3	None Established	Non Established	N/A
Potassium Tetraborate	1332-77-0	None Established	None Established	N/A
Potassium Bifluoride	7789-29-9	2.5mg/m <sup>3</sup> (as f)	2.5 mg/m <sup>3</sup> (as F)	N/A
Potassium Pentaborate	11128-29-3	None Established	Non Established	N/A
Sodium Dodecyl Sulfate	151-21-3	None Established	Non Established	N/A
DEIONIZED WATER	N/A	N/A	N/A	N/A
<b>NEPA/FMIS HAZARD CLASSIFICATION</b>				
HEALTH: 3				
FLAMMABLE: 0				
REACTIVITY: 0				

COLOR: WHITE CREAMY PASTE  
 ODOR: ODERLESS

**SECTION III  
 PHYSICAL DATA**

NOT APPLICABLE

MELTING POINT: 422.4°C  
 PH. 8.8-9.1  
 SPECIFIC GRAVITY (H2O=1): 1.49  
 SOLUBILITY IN WATER: 100%

SHIPPING CLASSIFICATION: CORROSIVE

DOT PROPER SHIPPING NAME: Class 8 Corrosive material

CORROSIVE LIQUID (contains potassium

bifluoride)

**SECTION IV  
 FIRE AND EXPLOSION HAZARD DATA**

PACKING GROUP III UN 3266

Welding arc and sparks can ignite combustibles and flammables. Refer to American National Standard Z49.1 for fire prevention during the use of welding and allied procedures. FLASH POINT: NOT APPLICABLE

**SECTION V  
 HEALTH HAZARD DATA**

"Electric arc-welding may create one or more of the following health hazards: Fumes and gases can be dangerous to your health. Arc Rays can injure eyes and burn skin. Electric Shock can kill.

EFFECTS OF OVEREXPOSURE: "Short-term overexposure to welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of nose, throat, or eyes, tightness in chest, fever and allergic reactions, (see Sections 4 and 7)." "Long-term (chronic) overexposure to welding fumes may lead to siderosis (iron deposit in lungs) and is believed by some investigators to affect pulmonary function: Skin and eye contact: Flush with water for at least 15 minutes.

EMERGENCY & FIRST AID PROCEDURES: Remove to fresh air, obtain medical attention. Employ first aid techniques recommended by the American Red Cross.

(Continued on Reverse Side)

## SECTION VI REACTIVITY DATA

STABILITY: UNSTABLE: NO

CONDITIONS TO AVOID: NONE; UNLESS OTHERWISE SPECIFIED

STABLE: YES

CONDITIONS TO AVOID: NONE; UNLESS OTHERWISE SPECIFIED

INCOMPATIBILITY (MATERIALS TO AVOID): NONE

**HAZARDOUS DECOMPOSITION PRODUCTS:** The composition and quality of welding fumes and gases are dependent upon the metal being welded, the process, procedure, and electrodes used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 2. Fume and gas decomposition products, and not the ingredients in the electrode, are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration in the electrode. Also, new compounds not in the electrode may form. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section 2, plus those from the base metal and coating, etc., as noted above.

1.8mg Fluoride Fumes per cu/m when heated can cause irritation to eyes, nose, throat.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc,

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample from inside the welder's helmet if worn or in the worker's breathing zone. See AWS F1.1 and AWS F1.2-1985, available from the American Welding Society.

SEE AWS PUBLICATION: "FUMES AND GASES IN THE WELDING ENVIRONMENT"

HAZARDOUS POLYMERIZATION: NOT APPLICABLE.

## SECTION VII SPILL OR LEAK PROCEDURES

NOT APPLICABLE

Scrape up and flush with plenty of water.

EPA WASTE Doo2, CORROSIVE (Dispose according to local, state and federal regulations)

**WASTE DISPOSAL METHOD:** Prevent waste from contaminating surrounding environment. Discard any product residue, disposable container or liner in an environmentally acceptable manner, in full compliance with Federal, State and Local regulations.

## SECTION VIII SPECIAL PROTECTION INFORMATION (See Note)

"Read and understand the manufacturer's instructions and the precautionary label on the product. *Ventilation* - Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes. *Respiratory Protection* - Use respirable fume respiratory or air supplied respirator when welding in a confined space or where local exhaust or ventilation does not keep exposure below the recommended exposure limit. *Eye Protection* - Wear helmet or use face shield with filter lens. Provide protective screens and flash goggles, if necessary, to shield others. As a rule of thumb start with a shade that is too dark to see the weld zone. Then go the the next lighter shade which gives sufficient view of the weld zone. *Protective Clothing* - Wear hand, head, and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to touch live electrical parts and to insulate himself from work and ground."

## SECTION IX SPECIAL PRECAUTIONS (See Note)

**OTHER PRECAUTIONS:** Use exhaust system to clear welding fumes. Make sure that inhaled air does not contain fume constituents above permissible exposure levels.

**NOTE:** Other precautions for additional safety information on welding and cutting, see American Standard Z49.1-1983, Safety in Welding and Cutting, and the Welding Handbook, Vol. 1, Chapter 9, Safe Practices in Welding and Cutting, both available from American Welding Society, Inc., 550 N.W. Le Jeune Road, P.O. Box 351040, Miami, FL 33135, Tel. (305) 443-9353.

# MATERIAL SAFETY DATA SHEET

Drexel Chemical Co.  
1700 Channel Avenue  
Memphis, TN 38113  
(901) 774-4370

Emergency Telephone No.

1-800-424-9300 (ChemTrec)

## SECTION I – GENERAL INFORMATION

TRADE NAME: **SIMAZINE 90DF**  
CHEMICAL NAME: 2-Chloro-4, 6-bis (Ethylamino)-s-Triazine  
CHEMICAL FAMILY: Triazine (Herbicide)  
EPA REG. NO.: 19713-252  
SIGNAL WORD: CAUTION

## SECTION II – INGREDIENTS (Class = H (Hazardous), NH (Non-Hazardous))

<u>NAME</u>	<u>CAS NO.</u>	<u>% (by wt.)</u>	<u>TLV</u>	<u>CLASS</u>
Simazine	122-34-9	90.0	5mg/m <sup>3</sup>	NH
Inerts	N/A	10.0	N/A	NH

## SECTION III – PHYSICAL DATA

<u>Boiling Point:</u>	N/A	<u>Specific Gravity</u>	N/A
<u>Vapor Pressure:</u>	1.5 x 10 <sup>-8</sup> @ 25°C (Simazine)	<u>% Volatiles:</u>	N/A
<u>Vapor Density:</u>	N/A	<u>Solubility in Water:</u>	dispersible
<u>pH (@ 5%):</u>	6-8	<u>Appearance/Odor:</u>	Off-white to beige granule solid, slight odor

## SECTION IV – FIRE & EXPLOSION DATA

Flash Point: NA  
Extinguishing Media: Dry chemical, CO<sub>2</sub>, water spray or foam  
Fire Fighting Procedures: In confined areas use self-contained breathing apparatus. Fight fire from upwind. Minimize runoff if possible.

## SECTION V – REACTIVITY DATA

Stability: Stable  
Conditions to Avoid: N.K.  
Incompatibility: Acids and alkalis  
Hazardous Decomposition Products: Toxic Oxides of Nitrogen and Carbon. Chloride fumes.  
Hazardous Polymerization: Will not occur

## SECTION VI – HEALTH HAZARD DATA

Carcinogenicity: N/A  
Toxicity Data: Oral LD50 (Rat) = >5,000 mg/kg  
Dermal LD50 (Rabbit) = >10,200 mg/kg  
TLV: None established  
N.F.P.A.: Health: 2, Fire: 0, Reactivity: 0  
(Rating: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Insignificant)  
Effects of Overexposure: Irritation to eyes, skin, and upper respiratory tract. Moderately toxic by ingestion.

## SECTION VII – EMERGENCY PROCEDURES

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious or convulsing person.

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.

## SECTION VIII- SPILL OR LEAK PROCEDURES

Steps to be taken in case of material leak or spill  
Sweep up spills and place in proper containers. Mop area with soap and water. Prevent run-off if possible. Assure protective clothing is worn.

Waste Disposal Method  
Dispose of in accordance with Local, State, and Federal Regulations.

## SECTION IX – SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH approved respirator or dust mask.  
Ventilation: General recommended  
Protective Gloves: Rubber impervious  
Eye Protection: Chemical goggles  
Other: Coverall, long-sleeve shirt, rubber boots

## SECTION X – SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling & Storage  
KEEP OUT OF REACH OF CHILDREN. FOLLOW LABEL DIRECTIONS CAREFULLY.

Store away from foodstuffs.

D.O.T. Description: Non-Regulated  
Freight Description: Agricultural Herbicide, Solid, N.O.S.  
Reportable Quantity: N/A  
E.R.G. Guide Sheet: 171

The information presented herein for consideration, while not guaranteed, is true and accurate to the best of our knowledge. No warranty, or guaranty is expressed or implied regarding the accuracy or reliability of such information and we shall not be liable for any loss or consequential damages arising out of the use thereof.

Date Reviewed: 1-28-2013

# SAFETY DATA SHEET

Rev Date: 03/18/15  
SDS 03

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

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**Product name:** SOIL MOIST™  
**Company:** JRM CHEMICAL INC  
4881 NEO PARKWAY  
CLEVELAND, OH 44128  
**Telephone:** 216-475-8488  
**Fax:** 216-475-6517  
**E-mail:** [jrm@en.com](mailto:jrm@en.com)  
**Emergency 800-962-4010**

**Product Use:** product aid in commercial applications.

## 2. HAZARDS IDENTIFICATION

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**Appearance and Odor:**

**Form:** Granular solid

**Color:** White

**Odor:** None

**Potential Health Effects:**

None. See Section 11 for more information.

**Potential Physical/Chemical Effects:**

The product swells in water. The product when wet renders surfaces extremely slippery.

**OSHA Regulatory Status:**

This material is not considered hazardous in accordance with OSHA 29 CFR 1910.1200.

**Potential Environmental Effects:**

None. See Section 12 for more information.

**Other information** No information available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Identification:**

Crosslinked polymer



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**Regulated Components:**

None.

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**4. FIRST AID MEASURES**

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**Inhalation:** Move to fresh air.

**Skin contact:** Wash with water and soap as a precaution. Get medical attention if irritation develops and persists.

**Eye contact:** Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention.

**Ingestion:** Rinse mouth with water. Do not induce vomiting.

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**5. FIRE FIGHTING MEASURES**

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**Suitable extinguishing media:** Water. Water spray. Foam. Dry powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media:** None.

**Precautions:** The product swells in water The product when wet renders surfaces extremely slippery

**Special protective equipment for firefighters:** No special protective equipment required.

**Specific methods:** Keep personnel removed and upwind of fire.

**Specific hazards:** In the event of fire the following can be released: Nitrogen Oxides. Carbon Oxides.

**Flash point (°C):** Not applicable.

**Auto ignition temperature (°C):** Not applicable.

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**6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions:** No special precautions required. The product swells in water. The product when wet renders surfaces extremely slippery

**Environmental precautions:** As with all chemical products, do not flush into surface water.

**Methods for cleaning up:** Do not flush with water. Clean up promptly by sweeping or vacuum Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

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**7. HANDLING AND STORAGE**

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**Handling:** Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Wash hands before breaks and at the end of workday.

**Storage:** Keep in a dry, cool and well-ventilated place. The recommended storage temperature is 5-30 °C.

**Technical measures/Precautions:** No special precautions required.

**Incompatible products:** Strong oxidizing agents. Acids.

**Technical measures/Storage conditions:** No special storage conditions required.

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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

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**Occupational Exposure Limits:**

None.

**Engineering measures:** Use local exhaust if dusting occurs. Natural ventilation is adequate in absence of dusts.

**Personal protective equipment:**

**Respiratory protection:** Dust safety masks are recommended where concentration of total dust is more than 10 mg/m<sup>3</sup>.

**Hand protection:** PVC or other plastic material gloves.

**Eye protection:** Safety glasses with side-shields. Do not wear contact lenses where this product is used.

**Skin and body protection:** Chemical resistant apron or protective suit if splashing or repeated contact with solution is likely.

**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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<b>Form:</b>	Granular solid
<b>Color:</b>	White
<b>Odor:</b>	None
<b>pH:</b>	5 - 8 @ 5 g/L
<b>Melting point/range (°C):</b>	> 150°C
<b>Flash point (°C):</b>	Not applicable.
<b>Boiling point (°C):</b>	Not applicable
<b>Auto ignition temperature (°C):</b>	Not applicable.
<b>Vapor pressure (mm Hg):</b>	Not applicable
<b>Approx. bulk density:</b>	0.6 - 0.9
<b>Viscosity (mPa.s):</b>	See Technical Bulletin
<b>Water solubility:</b>	Insoluble
<b>LogPow:</b>	-2

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**10. STABILITY AND REACTIVITY**

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**Stability:** Stable. Hazardous polymerization does not occur.

**Materials to avoid:** Strong oxidizing agents. Strong acids. Oxidizing agents may cause exothermic reactions.

**Hazardous decomposition products:** Thermal decomposition may produce: nitrogen oxides (NO<sub>x</sub>), carbon oxides (CO<sub>x</sub>). Hydrogen cyanide (hydrocyanic acid).

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**11. TOXICOLOGICAL INFORMATION**

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### **Product Information**

#### **Acute toxicity:**

**Oral:** LD50/oral/rat > 5000 mg/kg

**Dermal:** LD50/dermal/rat > 5000 mg/kg

**Inhalation:** The product is not expected to be toxic by inhalation.

#### **Irritation:**

**Skin:** Not irritating.

**Eyes:** Not irritating.

**Sensitization:** Not sensitizing.

**Mutagenicity:** Not mutagenic.

**Carcinogenicity:** Not carcinogenic.

**Reproductive effects:** Not toxic for reproduction.

**Chronic toxicity:** No chronic effects.

## **12. ECOLOGICAL INFORMATION**

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### **Product Information**

#### **Aquatic toxicity:**

**Toxicity to fish:** LC50/Danio rerio/96 hours > 100 mg/L (OECD 203)

**Toxicity to daphnia:** EC50/Daphnia magna/48 hours > 100 mg/L (OECD 202)

**Toxicity to algae:** IC50/Scenedesmus subspicatus/72 hours > 100 mg/L (OECD 201)

#### **Environmental fate:**

**Persistence and degradability:** Not readily biodegradable.

**Hydrolysis:** Does not hydrolyze.

**Bioaccumulation:** Does not bioaccumulate.

**LogPow:** -2

**LogKow:** Not determined.

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### 13. DISPOSAL CONSIDERATIONS

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**Disposal:** Dispose of in accordance with local, state and federal regulations.

**Container:** Rinse empty containers with water and use the rinse water to prepare the working solution. Can be landfilled or incinerated, when in compliance with local, state and federal regulations.

### 14. TRANSPORT INFORMATION

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**DOT:**

Not classified as dangerous in the meaning of DOT regulations.

**IMDG/IMO:**

Not classified as dangerous in the meaning of IMO/IMDG regulations.

**ICAO/IATA:**

Not classified as dangerous in the meaning of ICAO/IATA regulations.

### 15. REGULATORY INFORMATION

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**Product Information**

**US SARA Reporting Requirements:** None.

**RCRA status :** Not RCRA hazardous.

**SARA (Section 311/312) hazard class:** Not concerned.

**International Inventories:**

**USA (TSCA):** All components of this product are either listed on the inventory or are exempt from listing.

**China (IECSC):** All components of this product are either listed on the inventory or are exempt from listing.

**European Union (REACH):** All components of this product have been registered or pre-registered with the European Chemicals Agency or are exempt from registration.

**Australia (AICS):** All components of this product are either listed on the inventory or are exempt from listing.

**Japan (ENCS):** All components of this product are either listed on the inventory or are exempt from listing.

**Korea (ECL):** Status not yet confirmed. For Research & Development purposes only.

**Philippines (PICCS):** Status not yet confirmed. For Research & Development purposes only

**Taiwan (CSNN):** All components of this product are either listed on the inventory or are exempt from listing.

**New Zealand (NZIoC):** All components of this product are either listed on the inventory or are exempt from listing.

### 16. OTHER INFORMATION

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## 16. OTHER INFORMATION

### NFPA and HMIS Ratings:

#### NFPA:

Health:	1
Flammability:	1
Instability:	0

#### HMIS:

Health:	1
Flammability:	1
Physical Hazard:	0
PPE Code:	B

### This MSDS was prepared in accordance with the following:

ISO 11014-1: Material Safety Data Sheet for Chemical Products  
ANSI Z400.1-2004; Material Safety Data Sheets - Preparation

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### Revision Number: 03

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

# Material Safety Data Sheet

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### Texaco Regal® R&O 32 through 220

**Product Use:** Industrial Oil

**Product Number(s):** 00700, 00701, 00702, 00706, 00715, 01531, CPS220700, CPS220701, CPS220702, CPS220706, CPS220715, CPS221531

**Synonyms:** Texaco Regal® R&O 100, Texaco Regal® R&O 150, Texaco Regal® R&O 220, Texaco Regal® R&O 32, Texaco Regal® R&O 46, Texaco Regal® R&O 68

**Company Identification**

ChevronTexaco Global Lubricants  
A Division of Texaco Products Inc.  
6975-A Pacific Circle  
Mississauga, ONT L5T 2H3  
Canada  
www.chevron-lubricants.com

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**

ChevronTexaco Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**

email : lubemsds@chevrontexaco.com  
Product Information: (800) LUBE TEK  
MSDS Requests: (800) 414-6737

## SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	90 - 100 %weight

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

## SECTION 3 HAZARDS IDENTIFICATION

**IMMEDIATE HEALTH EFFECTS**

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

**Ingestion:** Not expected to be harmful if swallowed.

**Inhalation:** Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and

difficulty breathing.

#### SECTION 4 FIRST AID MEASURES

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

**Note to Physicians:** In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

#### SECTION 5 FIRE FIGHTING MEASURES

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

##### FLAMMABLE PROPERTIES:

**Flashpoint:** (Cleveland Open Cup) 190 °C (374 °F) (Min)

**Autoignition:** No Data Available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

##### PROTECTION OF FIRE FIGHTERS:

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

#### SECTION 6 ACCIDENTAL RELEASE MEASURES

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities as appropriate or required.

#### SECTION 7 HANDLING AND STORAGE

**Precautionary Measures:** DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible

Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**GENERAL CONSIDERATIONS:**

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**ENGINEERING CONTROLS:**

Use in a well-ventilated area.

**PERSONAL PROTECTIVE EQUIPMENT**

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

**Occupational Exposure Limits:**

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Attention: the data below are typical values and do not constitute a specification.**

**Color:** Colorless

**Physical State:** Liquid

**Odor:** Petroleum odor

**pH:** Not Applicable

**Vapor Pressure:** <0.01 mmHg @ 37.8 °C (100 °F)

**Vapor Density (Air = 1):** >1

**Boiling Point:** >260°C (500°F)

**Solubility:** Soluble in hydrocarbons; insoluble in water

**Freezing Point:** Not Applicable

**Specific Gravity:** 0.86 - 0.88 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

**Viscosity:** 22 cSt @ 40°C (104°F) (Min)

**Odor Threshold:** No Data Available

**Coefficient of Water/Oil Distribution:** No Data Available



**SECTION 10 STABILITY AND REACTIVITY**

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous Decomposition Products:** None known (None expected)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

**Sensitivity to Mechanical Impact:** No.

**SECTION 11 TOXICOLOGICAL INFORMATION****IMMEDIATE HEALTH EFFECTS**

**Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** No product toxicology data available.

**Acute Dermal Toxicity:** LD50: >5g/kg (rabbit). The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** LD50: >5 g/kg (rat) The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components. For additional information on the acute toxicity of the components, call the technical information center.

**ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as: carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

**SECTION 12 ECOLOGICAL INFORMATION****ECOTOXICITY**

The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

**ENVIRONMENTAL FATE**

This material is not expected to be readily biodegradable.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.S.M.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

**SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**TC Shipping Description:** NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER

## TDG REGULATIONS

**DOT Shipping Description:** PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

**Additional Information:** NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE.

<b>SECTION 15 REGULATORY INFORMATION</b>
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**REGULATORY LISTS SEARCHED:**

01-1=IARC Group 1  
 01-2A=IARC Group 2A  
 01-2B=IARC Group 2B  
 35=WHMIS IDL

No components of this material were found on the regulatory lists above.

**CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), KECI (Korea), PICCS (Philippines), TSCA (United States).

**WHMIS CLASSIFICATION:**

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

**MSDS PREPARATION:**

This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

**Revision Date:** 01/24/2005

<b>SECTION 16 OTHER INFORMATION</b>
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**HMIS RATINGS:** Health: 1 Flammability: 1 Reactivity: 0

**LABEL RECOMMENDATION:**

Label Category : INDUSTRIAL OIL 1

**REVISION STATEMENT:** This is a new Material Safety Data Sheet.

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - ChevronTexaco	NFPA - National Fire Protection Association (USA)

DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

**The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.**

Vegetation Management LLC  
 2901-12 Rivendell  
 Knoxville, TN 37922  
 206-812-8647  
 800-979-8994

**"For Chemical Emergency"**  
 Spill, Leak, Fire, Exposure or Accident, Call:  
 Chemtrec (24 Hours): (800) 424-9300  
 Outside U.S., call collect: (703) 527-3887

## MATERIAL SAFETY DATA SHEET

### SECTION 1 - PRODUCT IDENTIFICATION

PRODUCT NAME: <b>Vegetation Manager Oryzalin 4 Pro</b>	CHEMICAL FORMULA: <b>Oryzalin: 3,5-DinitroN4, N4-dipropyl-sulfanilamide</b>
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### SECTION 2 - HAZARDOUS INGREDIENT INFORMATION

Section 313 of SARA Title III: Ingredients subject to reporting are identified by asterisk (\*)

CAS NO.	COMPONENT	%	ACGIH TLV	OSHA PEL	OTHER
<b>019044-88-3</b>	<b>Oryzalin</b>	<b>41</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
	<b>Inert Ingredients</b>	<b>59</b>			

### SECTION 3 - PHYSICAL PROPERTIES

BOILING POINT: <b>212 F</b>	MELTING POINT: <b>N/A</b>	SPECIFIC GRAVITY (H <sub>2</sub> O=1) <b>1.138 – 1.239 @ 25C (77F)</b>	VAPOR PRESSURE (mmHg) <b>23 mmHg @ 25 C</b>
VAPOR DENSITY (AIR=1): <b>1.178</b>	% SOLUBILITY IN WATER: <b>Miscible in water</b>		% VOLATILE BY WEIGHT: <b>NE</b>
APPEARANCE: <b>Bright orange opaque liquid</b>	ODOR: <b>Slight aromatic odor</b>	EVAPORATION RATE (Butyl Acetate=1) <b>&lt;1</b>	

### SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT & METHOD: <b>No Ignition up to 200F (93.3 C) SCC</b>	FLAMMABLE LIMITS IN AIR - LEL:      UEL: <b>Water based product</b>
---	--

EXTINGUISHING MEDIA:  
**Water based product, will not burn**

SPECIAL FIRE FIGHTING PROCEDURES: If product is involved in a fire, wear positive-pressure, self-contained breathing apparatus and full protective clothing

UNUSUAL FIRE AND EXPLOSION HAZARDS: If the water in the product has evaporated, the explosion potential of oryzalin as airborne dust is rated as severe. The minimum ignition temperature for a dust cloud is 714 °F (379 °C).

### SECTION 5 - REACTIVITY DATA

STABILITY: Stable under normal conditions. If water in the mixture evaporates, however, the resultant mixture should be handled with care.

HAZARDOUS POLYMERIZATION: **N/A**

HAZARDOUS DECOMPOSITION PRODUCTS: Nitrogen oxides and other toxic gases may be formed if product is involved in a fire.

CONDITIONS & MATERIALS TO AVOID:  
**NONE**

### SECTION 6 - PROTECTIVE EQUIPMENT & EXPOSURE CONTROL METHODS

RESPIRATORY PROTECTION:  
**Atmospheric levels should be maintained below the exposure guidelines. For most conditions, no respiratory protection should be needed; however, if handling at elevated temperatures without sufficient ventilation, use NIOSH approved air-purifying respirator.**

VENTILATION	LOCAL EXHAUST: <b>ADEQUATE</b>	MECHANICAL: <b>ACCEPTABLE</b>	SPECIAL: <b>NONE</b>	OTHER: <b>NONE</b>
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PROTECTIVE GLOVES: <b>Chemical resistant gloves</b>	EYE PROTECTION: <b>Use safety glasses</b>
--	--

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: <b>Long sleeved shirt and long pants; shoes plus socks</b>	WORK/HYGIENIC PRACTICES: <b>AVOID SKIN AND EYE CONTACT</b>
---	---

PRODUCT NAME: Vegetation Manager Oryzalin 4 Pro

## SECTION 7 - HEALTH HAZARDS

PRIMARY ROUTES OF ENTRY:

### SKIN AND EYES

CARCINOGEN:

**NONE KNOWN**

NTP:

**N/A**

IARC MONOGRAPHS:

**N/A**

OSHA:

**N/A**

INHALATION:

**At room temperature, exposure to vapors are minimal due to physical properties.**

EYE CONTACT:

**May cause slight transient eye irritation. Corneal injury is unlikely.**

SKIN CONTACT:

**Prolonged exposure may cause some skin irritation.**

INGESTION:

**Single dose toxicity is low. The oral LD50 for rats is 5000 mg/kg**

## SECTION 8 - EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT:

**IMMEDIATELY FLUSH EYES WITH WATER FOR AT LEAST 15 MINS.**

SKIN CONTACT:

**Wash off in flowing water or shower.**

INHALATION:

**Remove to fresh air if effects occur. Consult a physician.**

INGESTION:

**If swallowed seek medical attention. DO NOT induce vomiting unless directed to do so by medical personnel.**

## SECTION 9 - SPILL, LEAK & DISPOSAL INFORMATION

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

**Use absorbent material to contain and clean up small spills. Scoop up and dispose as waste in approved disposal facility. Prevent runoff. DISPOSE OF IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.**

WASTE DISPOSAL METHOD:

**DISPOSE OF IN APPROVED WASTE DISPOSAL FACILITY IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.**

## SECTION 10 - SHIPPING DATA

DOT SHIPPING NAME:

**NONE**

## SECTION 11 - SPECIAL PRECAUTIONS & OTHER INFORMATION

SPECIAL INSTRUCTIONS:

OTHER INFORMATION/PRECAUTIONS:

**Read and follow all label instructions before use. Avoid contaminating water. Do not reuse containers. Open dumping is prohibited.**

COMMON ABBREVIATIONS THAT MAY HAVE BEEN USED: N/A = NOT APPLICABLE N/E = NOT ESTABLISHED

The information provided on this Material Safety Data Sheet is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Vegetation Management, LLC. The data on this sheet relates only to the specific material designated herein. Vegetation Management, LLC assumes no legal responsibility for the accuracy or completeness of this data, nor for use or reliance upon this data.

**DATE:** 03/14/02

## Material Safety Data Sheet

**MANUFACTURER:**

General Paint & Manufacturing Company  
201 Jandus Road  
Cary, IL 60013

<b>EMERGENCY TELEPHONE NUMBER:</b> (800)228-5635 ext 017 or (612)221-3999 ext 017	<b>TECHNICAL INFORMATION:</b> (847)639-5383 DATE: January 22, 1998 SUPERSEDES: NEW	<b>HMSIS:</b> H [1] F [2] R [0]
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**SECTION 1 - PRODUCT IDENTIFICATION**

PRODUCT CODE: XO-1, 2, 4-8, 11, 14, 15, 18, 20, 22, 23, 25-27, 31, D, N, P, T

PRODUCT NAME: XO-Rust Enamel

PRODUCT CLASS: Interior/Exterior Nonflat Solvent Based Paint

**SECTION 2 - HAZARDOUS INGREDIENTS**

INGREDIENT	CAS NUMBER	WT. %	OCCUPATIONAL EXPOSURE LIMITS		VAPOR PRESSURE mmHg@20°C
			TLV	PEL	
Mineral Spirits	64742-47-8	29-40	100ppm	100ppm	2.6
(S)Calcium Barium Phosphosilicate(1)	66402-68-4	1-3	10mg/m <sup>3</sup>	15mg/m <sup>3</sup>	NA
Carbon Black(2)	1333-86-4	.1-3	3.5mg/m <sup>3</sup>	3.5mg/m <sup>3</sup>	17.0
Aromatic Petroleum Distillates(3)	64742-95-6	1-3	100ppm	100ppm	3.0
Crystalline silica(4)	14464-46-1	1-3	.05mg/m <sup>3</sup>	.05mg/m <sup>3</sup>	NA
Hydrous Calcium Magnesium Silicate(5)	14807-96-6	5-8	2mg/m <sup>3</sup>	2mg/m <sup>3</sup>	NA

(S) - This ingredient is subject to the reporting requirements of Section 313 SARA Title III.

(1) - Not in XO-6 only; (2) - In XO-2, 8, 11, 15, 18, 20 only; (3) - In XO-22, P only; (4) - In 18, 31 only; (5) - In XO-18 only  
 NA - Not applicable. NE - Not established.

**SECTION 3 - PHYSICAL DATA**

BOILING RANGE: 300-380°F VAPOR DENSITY:  HEAVIER  LIGHTER THAN AIR  
 EVAPORATION RATE:  FASTER  SLOWER THAN ETHER 44-55 % VOLATILE VOLUME  
 VOLATILE ORGANIC COMPOUND(VOC) MAXIMUM: Less than 380 gm/l 3.2 lbs/gal  
 APPEARANCE/ODOR: Thick liquid/aliphatic DENSITY: 7.7-9.6 Wt(lbs)/Gal

PAGE 2 XO-Rust Enamel

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#### SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: OSHA Class II FLASH POINT: 105°F LEL: 0.9  
DOT Combustible Liquid

EXTINGUISHING MEDIA:

[X] FOAM [ ] ALCOHOL FOAM [X] CO<sub>2</sub> [X] DRY CHEMICAL [X] WATER FOG [ ] OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode when exposed to extreme heat. Isolate from heat, sparks and open flame.

SPECIAL FIRE FIGHTING PROCEDURES: Use a self-contained breathing apparatus with full face mask in a positive pressure demand mode. Treat as a volatile liquid fire. Water spray may be ineffective. If water spray is used, fog nozzles are preferable. Water may be used to cool sealed containers to prevent pressure build-up and possible explosion or auto-ignition when exposed to the heat of a fire.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide and unidentified organic compounds.

---

#### SECTION 5 - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

INHALATION: Exposure to large amounts of vapors, mists or sanding dusts may cause moderate irritation to the lungs, nose, and throat. May also cause dizziness, nausea or fatigue.

SKIN CONTACT: Exposure may cause mild irritation. Prolonged exposure may cause drying and cracking.

EYE CONTACT: Causes irritation, including redness, stinging and watering.

INGESTION: Moderately toxic in large amounts. Could cause drowsiness, nausea or headache.

CARCINOGENICITY: This product contains crystalline silica and carbon black (see Section 2). Crystalline silica and carbon black has been classified by IARC (but not NTP or OSHA) regarding their carcinogenicity based on laboratory animal studies. Crystalline silica is classified by IARC as a carcinogen (Group 1). Carbon black is classified as a possible carcinogen for humans (2B).

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: Preexisting skin, eye and respiratory disorders may be aggravated by exposure to this product.

PRIMARY ROUTE(S) OF ENTRY: [X] DERMAL [X] INHALATION [ ] INGESTION

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air. Use artificial respiration if necessary. Seek medical attention.

SKIN CONTACT: Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse.

EYE CONTACT: Immediately flush eyes with large amounts of water. If symptoms persist, seek medical attention.

INGESTION: Give 1 or 2 glasses of water to dilute. Do not induce vomiting. Get medical attention immediately.

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#### SECTION 6 - REACTIVITY DATA

STABILITY: Stable HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBILITY (Materials to avoid): Avoid contact with strong oxidizing agents.

Page 3 XO-Rust Enamel

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#### **SECTION 7 - SPILL OR LEAK PROCEDURES**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Eliminate all ignition sources. Contain spill, absorb liquid with clay, sand or floor absorbent. Prevent run-off to sewers, streams or other bodies of water.

**WASTE DISPOSAL METHOD:** Observe all federal, state and local regulations regarding proper disposal.

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#### **SECTION 8 - SAFE HANDLING AND USE INFORMATION**

**RESPIRATORY PROTECTION:** NIOSH/MSHA jointly approved air purifying respirator if TLV limits are exceeded. Approved mechanical filter to remove solid airborne particles of overspray during application.

**VENTILATION:** Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV.

**PROTECTIVE CLOTHING:** Wear safety glasses with side shields to prevent eye contact. Contact lenses should not be worn. Use solvent resistant gloves to avoid prolonged contact.

**OTHER PROTECTIVE EQUIPMENT:** Eyewash fountains and safety showers in the event of an accident.

**HYGIENIC PRACTICES:** Wash hands thoroughly after use, and before eating, drinking or smoking.

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#### **SECTION 9 - SPECIAL PRECAUTIONS**

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** Keep out of reach of children. Keep liquid and vapor away from heat, sparks, and open flame. Close container after each use. Store in a cool dry area.

**OTHER PRECAUTIONS: CAUTION:** Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

**WARNING:** This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

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The information contained in this MSDS is based on information and data provided by the supplier of the raw material used in the manufacture of this product. Although General Paint & Manufacturing Company believes such information and data to be reliable, General Paint & Manufacturing Company makes no warranty, expressed or implied, regarding the accuracy and completeness of such information and data.



**3E COMPANY**

1905 Aston Avenue, #100

Carlsbad, CA 92008

Ph: 760-602-8700

Fax: 760-602-8888

**Material Safety Data Sheet  
Transmittal Form**

09-Apr-01

Request #: 443765

Processed By: Helene Reyes

Recipient:

ATTN: MIKE

907-563-4984

Requester:

TIM CRAIG

Anchorage True Value Hard 5279  
Cotter Company

TM

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<u>Index3E</u>	<u>Manufacturer</u>	<u>Product Name</u>	<u>UPC</u>	<u>Item</u>
	<u>ORDERED/Actual</u>	<u>ORDERED/Actual</u>		<u>SKU</u>

R The MSDS is attached for the following product(s).

TRUT00007204

X02

Verified Current:

TruServ Manufacturing

XO-Rust Enamel

9/15/99

END OF ORDER DETAIL - Request # 443765



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## MATERIAL SAFETY DATA SHEET / FICHE SIGNALÉTIQUE

### SECTION I - MATERIAL IDENTIFICATION AND USE / IDENTIFICATION DE LA MATIÈRE ET USAGE

#### MATERIAL NAME / IDENTIFIÉ - NOM / IDENTIFICATION DE LA MATIÈRE

PRODUCT NAME: XO-Rust Interior/Exterior Enamel	<u>HEALTH/SANTE</u>	<input type="checkbox"/> 1
PRODUCT CODE(S): XO-10 Aluminum	<u>FLAMMABILITY/</u> <u>INFLAMMABILITÉ</u>	<input type="checkbox"/> 2
PRODUCT USE: Interior/Exterior Enamel	<u>REACTIVITY</u> <u>RÉACTIVITÉ</u>	<input type="checkbox"/> 0
DATE: May 12, 2011	<u>PERSONAL PROTECTION/</u> <u>PROTECTION PERSONNELLE</u>	<input checked="" type="checkbox"/> X
SUPERCEDES: May 24, 2007	WHMIS: <b>B3,D2A</b>	

Manufacturer's name/nom du fabricant <b>General Paint &amp; Manufacturing Company</b>			Supplier's name / nom du fournisseur <b>TruServ Canada Cooperative, Inc.</b>		
Street address / adresse <b>201 Jandus Road</b>			Street address / adresse <b>P.O. Box 6800</b>		
City / Ville <b>Cary, IL</b>	State/Province <b>60013</b>	Postal code/code postal <b>USA</b>	City / Ville <b>Winnipeg, Manitoba</b>	Province <b>R3C 3A9</b>	Postal code/code postal
Emergency phone no/no de téléphone d'urgence <b>1/866-257-3981</b>			Emergency phone no/no de téléphone d'urgence <b>1/866-257-3981</b>		
Chemical name/dénomination chimique <b>Mixture/mélange</b>		Chemical family/famille chimique <b>Mixture/mélange</b>		Chemical formula/formule chimique <b>Mixture/mélange</b>	
Trade name/Appellation commerciale <b>See above/voir ci-dessus</b>		Molecular wt/poids moléculaire <b>Unknown/Inconnu</b>		Material use/Utilisation de la matière <b>See above/voir ci-dessus</b>	

### SECTION II - HAZARDOUS MATERIALS/INGRÉDIENTS DANGEREUX DE LA MATIÈRE

Hazardous Ingredients / Ingrédients dangereux	Approximate concentration / concentration approximative(%)	CAS, NA or UN numbers Numéro CAS, NA ou onu	TLV	LD <sub>50</sub> Specify species and route LD <sub>50</sub> Préciser l'espèce et la voie d'administration
Stoddard Solvent	37-39	8052-41-3	100 ppm	5g/kg oral (rat)
Aromatic Petroleum Distillates	1-3	64742-95-6	100 ppm	4.3 g/kg oral (rat)
Aluminum Pigment	11-13	7429-90-5	10 mg/m <sup>3</sup>	NA
Linseed Oil	26-29	67746-08-1	NA	NA
Naphthalene	0.1-0.21	91-20-3	10 ppm	NE
Cobalt Compounds	0.1-0.2	mixture	NA	NA

### SECTION III - PHYSICAL DATA FOR MATERIAL / CARACTÉRISTIQUES PHYSIQUES DE LA MATIÈRE

Physical State/État physique <input type="checkbox"/> Gas/gaz <input checked="" type="checkbox"/> Liquid/liquide <input type="checkbox"/> Solid/solide		Odour and appearance / Odeur et apparence <b>Odor like petroleum solvent</b>	
Odour threshold (ppm) Seuil de l'odeur (ppm) <b>Unknown/Inconnu</b>	Specific gravity Densité relative <b>.97-1.0</b>	Vapour pressure (mm) Tension de vapeur (mm) <b>2.6 @ 20°C</b>	Vapour density (air=1) Densité de vapeur (air=1) <b>&gt; 1</b>
Evaporation rate Taux d'évaporation <b>Slower than petroleum ether</b>	Boiling point (°C) Point d'ébullition (°C) <b>149-193°C</b>	Freezing point (°C) Point de congélation (°C) <b>NA/SO</b>	Solubility in water (20°C) Solubilité dans l'eau (20°C) <b>0%</b>
% Volatile (by volume) % Volatilité (par volume) <b>52-55</b>	pH <b>NA/SO</b>		Coefficient of water oil distribution Coefficient de repartition eau huile <b>NA/SO</b>

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<b>SECTION IV - FIRE AND EXPLOSION HAZARD / RISQUES D'INCENDIE ET D'EXPLOSION DU MATÉRIEL</b>	
Flashpoint(°C)(method)/Point d'éclair(méthode)	<b>38°C</b>
Upper explosion limit (% by volume) Seuil maximal d'inflammabilité(% par volume)	<b>6.0%</b>
Lower explosions limit (% by volume) Seuil minimal d'inflammabilité (%par volume)	<b>1.0%</b>
Means of extinction/moyens d'extinction <input checked="" type="checkbox"/> Foam/mousse <input checked="" type="checkbox"/> CO <sub>2</sub> <input checked="" type="checkbox"/> Dry chemical/poudre chimique <input checked="" type="checkbox"/> Water fog/eau pulvérisée	
Special Procedures/Marche à suivre spéciale <b>Do not expose to sparks or fire. Respiratory equipment should be worn to avoid inhalation of vapors. Water should not be used except as a fog to keep container cool.</b>	
Hazardous combustion products/ Produits de combustion dangereux <b>CO, CO<sub>2</sub></b>	
<b>SECTION V - REACTIVITY DATA / DONNÉES SUR LA RÉACTIVITÉ</b>	
Chemical stability / Stabilité	<input checked="" type="checkbox"/> Yes/oui <input type="checkbox"/> No/non
Incompatibility to other substances/ Incompatibilité avec d'autres substance	<b>Strong acids, oxidizing agents and extremely alkaline materials.</b>
Hazardous decomposition products/ Produits de décomposition dangereux	<b>CO &amp; CO<sub>2</sub></b>
Route of entry / Voie d'administration Skin contact/contact avec la peau <input checked="" type="checkbox"/> Skin absorption/absorption par la peau <input type="checkbox"/> Eye contact/contact oculaire <input checked="" type="checkbox"/> Inhalation acute/inhalation aigué <input checked="" type="checkbox"/> Inhalation chronic/inhalation chronique <input checked="" type="checkbox"/> Ingestion <input checked="" type="checkbox"/>	
Effects of acute exposure to material / effets de l'exposition aiguë à la matière <b>SKIN - Slight irritation</b> <b>INGESTION - Could cause irritation</b> <b>EYES - Causes slight irritation</b> <b>INHALATION - Headache, dizziness, irritation of eyes, nose or throat.</b>	
Effects of chronic exposure to material / Effets de l'exposition chronique à la matière <b>INHALATION: Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.</b>	
Carcinogenicity, reproductive effects, teratogenicity, mutagenicity/cancérogénicité, effets nocifs sur la reproduction, tératogénicité, mutagénicité <b>Contains cobalt compounds. Cobalt compounds have been classified by IARC (not NTP or OSHA) as possible carcinogens for humans (2B) from lab animal studies. Contains naphthalene. IARC and NTP have classified naphthalene as a possible carcinogen for humans.</b>	
<b>SECTION VII - PREVENTIVE MEASURES / MESURES PRÉVENTIVES</b>	
<b>PERSONAL PROTECTIVE EQUIPMENT / MATÉRIEL PERSONNEL DE PROTECTION</b>	
Gloves(Specify)/Gants (Préciser) <b>Solvent resistant</b>	Eye (Specify) / Yeux (Préciser) <b>Goggles or protective glasses</b>
Respiratory (Specify) / Appareil Respiratoire (Préciser) <b>Dust &amp; vapor mask if sprayed. Dust mask if dried film is sanded.</b>	
Other (Specify) / Autres (Préciser ) <b>NA/SO</b>	
Engineering Controls (e.g. Ventilation, enclosed process, specify) / Mécanismes Techniques (ex. Ventilation, opération en milieu fermé préciser) <b>Good ventilation</b>	

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<b>SECTION VII - PREVENTIVE MEASURES / MESURES PRÉVENTIVES</b>		
Leak and spill procedure / Mesures en cas de fuite ou de déversement <b>Dike or contain spill with sand, earth, etc. Transfer liquid to disposal container Keep spill out of sewers and open water</b>		
Waste Disposal / Élimination des résidus <b>Check with local authorities</b>		
Handling procedures and equipment / Méthodes et équipement pour la manutention <b>Avoid prolonged or repeated inhalation of vapors or spray mists. Avoid prolonged or repeated skin contact.</b>		
Storage requirements / Exigences d'entreposage <b>Keep away from open flame and spark.</b>		
Special shipping information / Renseignements spéciaux pour l'expédition <b>None</b>		
<b>SECTION VIII - FIRST AID MEASURES / PREMIERS SOINS</b>		
<b>Eye contact: Flush with water. Call a physician.</b>		
<b>Skin contact: Wash with soap and water</b>		
<b>Inhalation: Remove victim from area. Apply artificial respiration if necessary. Call a physician.</b>		
<b>Ingestion: Do not induce vomiting, keep person warm and quiet. Get medical attention.</b>		
<b>SECTION IX - PREPARATION DATE OF MSDS / FICHE SIGNALÉTIQUE</b>		
Prepared by / Préparé par <b>Regulatory Compliance Department</b>	Telephone number/N° de téléphone <b>1/800/323-7545</b>	Date printed <b>June 22, 2011</b>



# Material Safety Data Sheet

24 Hour Emergency:  
CHEMTREC: 1-800-424-9300

Outside U.S. and Canada  
Chemtrec: 202-483-7616

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals

## Section 1 - Chemical Product / Company Information

Product Name: YELLOW CHLORINATED RUBBER TRAFFIC SAFETY PAINT  
 Identification Number: 12Y-D347  
 Product Use/Class: 55  
 Supplier: Aexcel Corporation  
 7373 Production Drive  
 Mentor, OH 44060  
 Preparer: Webb, Lorie

Revision Date: 05/19/2008  
 Supersedes : 05/19/2008  
 Manufacturer: Aexcel Corporation  
 7373 Production Drive  
 Mentor, OH 44060

## Section 2 - Composition / Information On Ingredients

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Wt. %</u>	<u>ACGIH TLV-TWA</u>	<u>ACGIH TLV-STEL</u>	<u>OSHA PEL-TWA</u>
METHYL ETHYL KETONE	78-93-3	13.	200	300	NE
LACOLENE	64742-89-8	8.	NE	NE	NE
ALIPHATIC PETROLEUM DISTILLATES	64742-89-8	5.	300	400	300
TOLUENE	108-88-3	3.	50	150	100

## Section 3 - Hazards Identification

Emergency Overview: Flammable liquid and vapor.

Effects Of Overexposure - Eye Contact: Mild eye irritation. Direct eye contact may cause irritation.

Effects Of Overexposure - Skin Contact: Direct skin contact may cause irritation. Skin irritant.

Effects Of Overexposure - Inhalation: Inhalation may cause irritation to the respiratory tract (nose, mouth, mucous membranes).

Effects Of Overexposure - Ingestion: Harmful: may cause lung damage if swallowed.

Effects Of Overexposure - Chronic Hazards: Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness.

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

## Section 4 - First Aid Measures

First Aid - Eye Contact: Flush eye(s) immediately with plenty of water. Rinse with plenty of water.

First Aid - Skin Contact: Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician. Wash off with soap and water.

First Aid - Inhalation: Move to fresh air in case of accidental inhalation of vapors or decomposition products. Move to fresh air.

First Aid - Ingestion: Call a physician or Poison Control Center immediately. Consult a physician.

## Section 5 - Fire Fighting Measures

Flash Point, F: 18 TCC

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam

Unusual Fire And Explosion Hazards: Remove all sources of ignition. May be ignited by open flame. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Vapors are heavier than air and may spread along floors.

Special Firefighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

<u>Chemical Name</u>	<u>LEL</u>	<u>UEL</u>	<u>FLASH POINT F. DEG</u>	<u>AUTO-IGNITION TEMP. F DEG</u>
METHYL ETHYL KETONE	1.80	11.50	23	759
LACOLENE	1.20	8.20	18	450
ALIPHATIC PETROLEUM DISTILLATES	0.90	7.00	50	450
TOLUENE	1.00	7.00	45	896

## Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Soak up with inert absorbent material and dispose of as hazardous waste.

## Section 7 - Handling And Storage

Handling: Containers of this material may be hazardous when emptied. Hazardous fumes can also occur in post-processing operations. Handle in accordance with good industrial hygiene and safety practice. All metal parts of the mixing and processing equipment must be grounded.

Storage: Harmful - Store away from foodstuffs.

## Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits. Ensure adequate ventilation.

Respiratory Protection: In the case of respirable dust and/or fumes, use self-contained breathing apparatus. In case of insufficient ventilation, wear suitable respiratory equipment.

Skin Protection: Impervious gloves.

Eye Protection: Safety glasses with side-shields.

Other protective equipment: Impervious clothing.

Hygienic Practices: Keep working clothes separately. It is good practice in industrial hygiene to avoid contact with solvents by using appropriate protective measures whenever possible.

## Section 9 - Physical And Chemical Properties

Odor: Characteristic  
 Appearance: Heavy Yellow Liquid  
 Specific Gravity: 1.386  
 Physical State: Liquid

(See section 16 for abbreviation legend)

<u>CHEMICAL NAME</u>	<u>VAPOR DENSITY</u>	<u>EVAPORATION RATE</u>	<u>BOILING POINT</u>	<u>VP mmHg</u>	<u>at DEG. F</u>
METHYL ETHYL KETONE	2.50	5.70	175	78.00	68
LACOLENE	3.65	3.50	185	38.00	68
ALIPHATIC PETROLEUM DISTILLATES	3.80	2.00	240	10.20	68
TOLUENE	3.20	2.00	233	16.70	68

## Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid heat, sparks, open flame and other ignition sources.

Incompatibility: Keep away from strong oxidizing agents, heat and open flames.

Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide

Hazardous Polymerization: Will not occur.

Stability: Stable under normal conditions.

## Section 11 - Toxicological Information

No Data.

## Section 12 - Ecological Information

Ecological Information: Do not allow material to contaminate ground water system.

## Section 13 - Disposal Information

Disposal Information: Contact waste disposal services. Do not flush into surface water or sanitary sewer system.

## Section 14 - Transportation Information

DOT Proper Shipping Name: Paint, Flammable Liquid	Packing Group: II
DOT Hazard Class: 3	Resp. Guide Page: 128
DOT UN/NA Number: 1263	

## Section 15 - Regulatory Information

CERCLA - SARA Hazard Category

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

SARA Section 312:

Chemical Name

METHYL ETHYL KETONE  
LACOLENE  
ALIPHATIC PETROLEUM DISTILLATES  
TOLUENE

CAS Number

78-93-3  
64742-89-8  
64742-89-8  
108-88-3

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name

TOLUENE

CAS Number

108-88-3

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

U.S. State Regulations: As follows -

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

None

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name

TOLUENE

CAS Number

108-88-3

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS:

**Section 16 - Other Information**

**HMIS Ratings:**

Health: 2                      Flammability: 3                      Reactivity: 0                      Personal Protection:

VOLATILE ORGANIC COMPOUNDS, GR/LTR: 410.76

**REASON FOR REVISION:**

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained on this MSDS has been checked and should be accurate. However, it is the responsibility of the user to comply with all Federal, State, and Local laws and regulations.