1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: Perfect Seal #4

External Keys:

CN00876	GM of Canada Approval Number
10-2018, 1050026	Distributable Material (Part #)
12346146	SPO Catalog Discontinued
GASKET SEALING COMPOUND	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: Perfect Seal, Inc.

Address:

3322 Beekman Street	USA	Ohio	45223	Cincinnati	P.O. Box 11267	Mailing

Communication Lines:

Phone	513-542-8444	Information and Emergency
Fax	513-542-8445	

SUPPLIER INFORMATION

Supplier: GM of Canada - Oshawa

Address:

1908 Colonel Sam Drive	CAN	ON	L1H8P7	Oshawa	Mailing

Comment:

PRODUCT TYPE: SEALANT.

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
ISOPROPYL ALCOHOL	67-63-0	=	24.1	%Wt	Yes
2-PROPANOL, 1-METHOXY-	107-98-2	=	4.8	%Wt	Yes
Silica	7631-86-9	<	71.1	%Wt	No
CASTOR OIL	8001-79-4	<	71.1	%Wt	No
Soybean oil, polymd., oxidized	68152-81-8	<	71.1	%Wt	No

3 HAZARDS IDENTIFICATION

Specific Hazards:

PRIMARY ROUTES OF ENTRY: SKIN, INGESTION, INHALATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Eye Contact	General	EYE IRRITANT. LIQUID IS AN EYE IRRITANT.
Ingestion	General	MODERATELY TOXIC BY INGESTION.

Medical Conditions Aggravated By Exposure:

VAPOR ABOVE TLV IS IRRITATING TO EYES, NOSE, THROAT, AND CAN CAUSE HEADACHE, DIZZINESS, AND NAUSEA.

4 FIRST AID MEASURES

First Aid By::

Inhalation	REMOVE TO FRESH AIR. CALL PHYSICIAN.
Skin Contact	WASH THOROUGHLY WITH SOAP AND WATER.

4 FIRST AID MEASURES

First Aid By::

Eye Contact	FLUSH WITH WATER FOR AT LEAST 15 MINUTES AND CONSULT PHYSICIAN.
Ingestion	DO NOT INDUCE VOMITING AND GET MEDICAL ATTENTION.

5 FIRE FIGHTING MEASURES

Flash Point:

= 54 °F CC

Explosive Limits:

Upper Explosive Limit (UEL)	=	20	'%'	% BY VOLUME IN AIR
Lower Explosive Limit (LEL)	=	3	'%'	% BY VOLUME IN AIR

Extinguishing Media:

: CO2, DRY CHEMICAL, FOAM

Fire and Explosion Hazards:

NONE.
HAZARDOUS PRODUCTS FORMED BY FIRE OR THERMAL DECOMPOSITION:
CARBON DIOXIDE AND CARBON MONOXIDE

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

FOR LARGE SPILLS VENTILATE AREA AND REMOVE SOURCES OF IGNITION.

SPILL OR LEAK PROCEDURES

Recovery:

SCRAPE OR WIPE UP AS MUCH MATERIAL AS POSSIBLE AND STORE IN A CLOSED CONTAINER RESIDUES MAY BE CLEANED WITH ISOPROPYL ALCOHOL.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

AVOID PROLONGED BREATHING OF VAPORS AND CONTACT WITH EYES.

STORAGE

Storage Conditions:

DC) NOT STORE NEAR HEAT, SPARKS OR FLAME.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

VENTILATION SUFFICIENT TO MAINTAIN VAPOR PRESSURE BELOW TLV.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
ISOPROPYL ALCOHOL	67-63-0	PEL-TWA	400ppm	-	OSHA - Permissible Exposure Limits (PELs)
ISOPROPYL ALCOHOL	67-63-0	GM OEG -TWA	200ppm	-	GM Occupational Exposure

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
ISOPROPYL ALCOHOL	67-63-0	GM OEG -STEL	400ppm	-	GM Occupational Exposure Guidelines (OEG)
ISOPROPYL ALCOHOL	67-63-0	TLV-TWA	200ppm	-	Threshold Limit Values (TLVs) - ACGIH
ISOPROPYL ALCOHOL	67-63-0	TLV-STEL	400ppm	-	Threshold Limit Values (TLVs) - ACGIH
ISOPROPYL ALCOHOL	67-63-0	State-TWA	400ppm	-	MICHIGAN
ISOPROPYL ALCOHOL	67-63-0	State-STEL	500ppm	-	MICHIGAN
ISOPROPYL ALCOHOL	67-63-0	State-TWA	400ppm	-	NEW YORK
ISOPROPYL ALCOHOL	67-63-0	State-STEL	500ppm	-	NEW YORK
ISOPROPYL ALCOHOL	67-63-0	State-TWA	400ppm	-	TENNESSEE
ISOPROPYL ALCOHOL	67-63-0	State-STEL	500ppm	-	TENNESSEE
2-PROPANOL, 1-METHOXY-	107-98-2	State-STEL	150ppm	-	TENNESSEE
2-PROPANOL, 1-METHOXY-	107-98-2	GM OEG -TWA	100ppm	-	GM Occupational Exposure Guidelines (OEG)
2-PROPANOL, 1-METHOXY-	107-98-2	GM OEG -STEL	150ppm	-	GM Occupational Exposure Guidelines (OEG)
2-PROPANOL, 1-METHOXY-	107-98-2	TLV-TWA	100ppm	-	Threshold Limit Values (TLVs) - ACGIH
2-PROPANOL, 1-METHOXY-	107-98-2	TLV-STEL	150ppm	-	Threshold Limit Values (TLVs) - ACGIH
2-PROPANOL, 1-METHOXY-	107-98-2	State-TWA	100ppm	-	MICHIGAN
2-PROPANOL, 1-METHOXY-	107-98-2	State-STEL	150ppm	-	MICHIGAN
2-PROPANOL, 1-METHOXY-	107-98-2	State-TWA	100ppm	-	NEW YORK
2-PROPANOL, 1-METHOXY-	107-98-2	State-STEL	150ppm	-	NEW YORK
2-PROPANOL, 1-METHOXY-	107-98-2	State-TWA	100ppm	-	TENNESSEE

PERSONAL PROTECTIVE EQUIPMENT

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	WEAR SAFETY GLASSES OR GOGGLES.
Hand Protection	WEAR RUBBER OR PLASTIC GLOVES.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: BROWN.
Odor: MILD.

PHYSICAL PROPERTIES

pH Value:

N/A

Changes of State:

Boiling Point	=	195	°F

Vapor Pressure:

= 29 MM @ 68 F

Vapor Density:

= 2.5

Specific Gravity:

= 1.03

Solubility:

Water	=	.86

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable
Incompatible Materials:
HYDROFLUORIC ACID, STRONG OXIDIZERS
Hazardous Polymerization:
WILL NOT OCCUR.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Thermal Decomposition	HAZARDOUS PRODUCTS FORMED BY FIRE OR THERMAL DECOMPOSITION: CARBON DIOXIDE AND CARBON MONOXIDE
Decomposition	(NON THERMAL): NONE KNOWN

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:
NTP, IARC MONOGRAPHS, OSHA REGULATED: NO.

12 ECOLOGICAL INFORMATION

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:
DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

14 TRANSPORT INFORMATION

14 TRANSPORT INFORMATION

DOT Shipping Name:

CONSUMER COMMODITY

DOT Hazard Class:

ORM-D

Comment:

IATA
TYPE OR CLASS: CLASS 3
PROPER SHIPPING NAME: ADHESIVE, FLAMMABLE LIQUID, UN1I33
IMCO
PROPER SHIPPING NAME: CONSUMER COMMODITY

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	1
HMIS Flammability	3
NFPA Flammability	3
NFPA Health	1
NFPA Reactivity	0

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: Yes
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

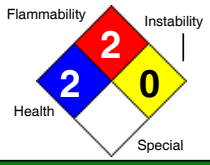
TSCA:	All ingredients are either on or exempt from the TSCA Inventory.
SARA 313:	SARA 313 inherited from ingredient list.

16 OTHER INFORMATION

Comments:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

MATERIAL SAFETY DATA SHEET
WHITEWALL TIRE CLEANER



Printed: 03/04/2010
Revision: 10/24/2007
Supercedes Revision: 12/01/2005
Date Created: 12/14/1995

1. Product and Company Identification

Product Code: 710-1301
Product Name: WHITEWALL TIRE CLEANER
Manufacturer/Supplier/Distributor Information
Company Name: Excelda Manufacturing
12785 Emerson Dr.
Brighton, MI 48116
Emergency Contact: MEDICAL EMERGENCY (888)314-4052
Alternate Emergency Contact: DOT EMERGENCY (800)424-9300
Information: INFORMATION (248)486-3800
Chemical Family: Aqueous cleaning compound

2. Composition/Information on Ingredients

Chemical Name	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits
1. Isopropyl alcohol	67-63-0	0.0 -5.0 %	400 PPM	400 PPM	500 PPM STEL
2. Propanol, (2-Methoxymethylethoxy)-	34590-94-8	0.0 -5.0 %	100 PPM	100 PPM	150 PPM STEL
3. Sodium phosphate, Tribasic	7758-29-4	0.0 -5.0 %	No data.	No data.	No data.
4. Poly(oxy-1,2-ethanediyl),.alpha.-(4-nonylphenyl)-.omega.-hydroxy-,branched	127087-87-0	0.0 -5.0 %	No data.	No data.	No data.
5. Silicic acid (H2SiO3), Disodium salt	6834-92-0	0.0 -5.0 %	No data.	No data.	No data.
6. Water	7732-18-5	80.0 -95.0 %	No data.	No data.	No data.

Chemical Name	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Isopropyl alcohol	NT8050000	No data.	No data.	No data.	No data.
2. Propanol, (2-Methoxymethylethoxy)-	JM1575000	No data.	No data.	No data.	No data.
3. Sodium phosphate, Tribasic	YK4570000	No data.	No data.	No data.	No data.
4. Poly(oxy-1,2-ethanediyl),.alpha.-(4-nonylphenyl)-.omega.-hydroxy-,branched	RB2451000	No data.	No data.	No data.	No data.
5. Silicic acid (H2SiO3), Disodium salt	VV9275000	No data.	No data.	No data.	No data.
6. Water	ZC0110000	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview

Combustible Liquid. Harmful if inhaled. Irritating or corrosive to eyes, skin, and gastrointestinal tract.

Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes

Potential Health Effects (Acute and Chronic)

EYES: Can cause severe eye irritation or chemical burns.

SKIN: Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).

INGESTION: May cause burns, ulceration or, in extreme cases, perforation.

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, drowsiness, cough, discomfort or difficulty in breathing.

Signs and Symptoms Of Exposure

EYES: Irritation, redness, and/or burning sensation.

SKIN: Irritation, redness, itching, and/or discomfort.

INHALATION: Irritation, cough, discomfort, drowsiness, or difficulty in breathing.

INGESTION: Irritation, burning sensation, or other discomfort of the mouth, throat and stomach.

Medical Conditions Generally Aggravated By Exposure

Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis.

OSHA Hazard Classes:

HEALTH HAZARDS : Irritant, Corrosive
PHYSICAL HAZARDS : Combustible Liquid
TARGET ORGANS & EFFECTS: Eyes, Skin, Respiratory System

4. First Aid Measures

Emergency and First Aid Procedures

EYES: Flush eye with water for 15 minutes. Get medical attention.

SKIN: Wash with soap and water. Get medical attention if irritation develops or persists.

INGESTION: If swallowed, do NOT induce vomiting. Give victim a glass of water. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

INHALATION: If inhaled, remove from exposure.

5. Fire Fighting Measures

Flash Pt: 144.00 F (62.2 C) Method Used: Pensky-Marten Closed Cup
Explosive Limits: LEL: No data. UEL: No data.

Fire Fighting Instructions

As in all cases of fires involving chemicals, full bunker gear including a self-contained breathing apparatus and protective clothing should be worn. Use water spray to keep containers cool, remove if practical.

Flammable Properties and Hazards

Material contains flammable ingredients which may cause an ignitable mixture with air at or above the flash point of the material.

Hazardous Combustion Products

Oxides of carbon.

Extinguishing Media

Dry Chemicals, CO2 or Alcohol Resistant Foam. Water spray may be used to keep containers cool.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Cover with absorbent materials. Collect spilled material. Place in a container for disposal.

7. Handling and Storage

Precautions To Be Taken in Handling

Do not get in eyes, on skin or clothing. Avoid prolonged or repeated contact with skin. Keep away from food and drinking water.

Precautions To Be Taken in Storing

Store containers in cool well ventilated area away from sources of heat, sparks, open flame, or direct sunlight. Keep out of reach of children.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

None expected to be required during normal usage. In extreme conditions where mists, or vapors are generated in high quantities or if used in confined spaces a NIOSH/OSHA approved respirator may be required.

Eye Protection

Safety glasses, chemical safety goggles. A face shield in conjunction with safety goggles is recommended to prevent eye contact when mists, vapors, or spray are generated.

Protective Gloves

Rubber, neoprene or other chemical resistant gloves.

Other Protective Clothing

Sufficient to prevent skin contact.

Engineering Controls (Ventilation etc.)

General ventilation is sufficient for normal usage. If used in a confined space or in such manner as generates excessive mists or vapors, local ventilation may need to be provided to maintain air concentration levels below the OSHA permitted amounts.

Work/Hygienic/Maintenance Practices

Do not smoke while using. Wash hands after use. Remove clothing if it becomes wetted from liquid and may come in contact with eyes or skin. Launder clothes before reuse. Use good personal hygiene at all times.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	144.00 F (62.2 C) Method Used: Pensky-Marten Closed Cup
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	1.01 - 1.03 at 25.0 C (77.0 F)
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	complete at 25.0 C (77.0 F)
Percent Volatile:	> 82.0 % by weight.
VOC / Volume:	< 9.5000 WT%
Heat Value:	No data.
Particle Size:	No data.
Corrosion Rate:	No data.
pH:	11.5 - 13.0

Appearance and Odor

Clear blue liquid alcoholic odor.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

Heat, sparks, open flame.

Incompatibility - Materials To Avoid

Strong acids, oxidizing materials.

Hazardous Decomposition Or Byproducts

Oxides of carbon.

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

None known.

11. Toxicological Information

See Section 3 for health hazards.

Carcinogenicity/Other Information

This product does not contain any OSHA carcinogens at a level greater than 0.1%.

Chemical Name	CAS #	NTP	IARC	ACGIH	OSHA
1. Isopropyl alcohol	67-63-0	n.a.	n.a.	A4	n.a.
2. Propanol, (2-Methoxymethylethoxy)-	34590-94-8	n.a.	n.a.	n.a.	n.a.
3. Sodium phosphate, Tribasic	7758-29-4	n.a.	n.a.	n.a.	n.a.
4. Poly(oxy-1,2-ethanediyl),.alpha.-(4-nonylphenyl)-.omega.-hydroxy-,branched	127087-87-0	n.a.	n.a.	n.a.	n.a.
5. Silicic acid (H2SiO3), Disodium salt	6834-92-0	n.a.	n.a.	n.a.	n.a.
6. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

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

12. Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Due to the allowable pH tolerances of this product, this product may have a pH greater than 12.5, and as such be a RCRA characteristic based hazardous waste. It is the duty of the user of this product to determine if this product is hazardous at the time of disposal.

All notification, clean up and disposal should be carried out in accordance with federal, state and local regulations. Preferred methods of waste disposal are incineration or biological treatment in federal/state approved facility.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name Corrosive liquid, n.o.s. (sodium metasilicate)
DOT Hazard Class: 8
DOT Hazard Label: CORROSIVE
UN/NA Number: UN1760
Packing Group: III

Additional Transport Information

DOT Hazard determination may be reclassed according to 49 CFR 173.154.

Note: The information provided in Section 14 is based on the rules and regulations governing the shipment of non-bulk containers and may not apply when using bulk packaging to ship this material.

15. Regulatory Information

US EPA SARA Title III

Chemical Name	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Isopropyl alcohol	67-63-0	No	No	Yes	No
2. Propanol, (2-Methoxymethylethoxy)-	34590-94-8	No	No	No	
3. Sodium phosphate, Tribasic	7758-29-4	No	Yes 5000 LB	No	
4. Poly(oxy-1,2-ethanediyl),.alpha.-(4-nonylphenyl)-.omega.-hydroxy-,branched	127087-87-0	No	No	No	
5. Silicic acid (H2SiO3), Disodium salt	6834-92-0	No	No	No	
6. Water	7732-18-5	No	No	No	

US EPA CAA, CWA, TSCA

Chemical Name	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Isopropyl alcohol	67-63-0	No		Inventory	
2. Propanol, (2-Methoxymethylethoxy)-	34590-94-8	No		Inventory, 8A PAIR	
3. Sodium phosphate, Tribasic	7758-29-4	No		Inventory	
4. Poly(oxy-1,2-ethanediyl),.alpha.-(4-nonylphenyl)-.omega.-hydroxy-,branched	127087-87-0	No		Inventory, 8A PAIR	
5. Silicic acid (H2SiO3), Disodium salt	6834-92-0	No		Inventory	
6. Water	7732-18-5	No		Inventory	

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302: EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.

Sec.304: EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.

Sec.313: EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.

Sec.110: EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

Inventory: Chemical Listed in the TSCA Inventory.

5A(2): Chemical Subject to Significant New Rules (SNURS)

6A: Commercial Chemical Control Rules

8A: Toxic Substances Subject To Information Rules on Production

8A CAIR: Comprehensive Assessment Information Rules - (CAIR)

8A PAIR: Preliminary Assessment Information Rules - (PAIR)

8C: Records of Allegations of Significant Adverse Reactions

8D: Health and Safety Data Reporting Rules

8D TERM: Health and Safety Data Reporting Rule Terminations

12(b): Notice of Export

Other Important Lists:

CWA NPDES: EPA Clean Water Act NPDES Permit Chemical

CAA HAP: EPA Clean Air Act Hazardous Air Pollutant

CAA ODC: EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)

CA PROP 65: California Proposition 65

International Regulatory Lists:

EPA Hazard Categories:

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

[X] Yes [ ] No Acute (immediate) Health Hazard

[ ] Yes [X] No Chronic (delayed) Health Hazard

[X] Yes [ ] No Fire Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard
[ ] Yes [X] No Reactive Hazard

Regulatory Information

Prop 65: No chemicals which appear on California's Proposition 65 carcinogen or reproductive hazard list are known to be present in this product.

SARA Title III, Section 313: No chemicals present in this product are subject to the reporting requirements of Section 313.

Regulatory Information Statement

The 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. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes all risk in use of the material.

16. Other Information

Company Policy or Disclaimer

THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT THAT IS ACCURATE TO THE BEST KNOWLEDGE OF EXCELDA MANUFACTURING. THE DATA ON THIS SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN. EXCELDA MANUFACTURING ASSUMES NO LEGAL RESPONSIBILITY FOR USE OR RELIANCE UPON THIS DATA.

Material Safety Data Sheet

Revision Number: 003.1

Issue date: 06/09/2010

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: MULTAN GEAR MARK 39SY20 (235 PE
Product type: Lubricant

IDH number: 596675

Region: United States

Company address:
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact information:
Telephone: 248.583.9300
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS:

Physical state: Liquid
Color: Yellow
Odor: Petroleum

HEALTH: 2
FLAMMABILITY: 1
PHYSICAL HAZARD: 0
Personal Protection: See MSDS Section 8

WARNING: CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS.

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: Inhalation of vapors or mists of the product may be irritating to the respiratory system. Excessive inhalation of this material causes headache, dizziness, nausea and incoordination. Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection.

Skin contact: This product may cause irritation to the skin. Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. If this material is injected beneath the skin, regardless of amount injected, get immediate medical attention. Do not wait for symptoms to develop. A component in this product may be absorbed through the skin in harmful amounts.

Eye contact: This product may be severely irritating to the eyes.

Ingestion: Ingestion of this product may cause nausea, vomiting and diarrhea. May cause dizziness, incoordination, headache, nausea, and vomiting. Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Lubricating grease	Proprietary	30 - 60
Yellow Pigment	Proprietary	30 - 60
Surfactant	Proprietary	1 - 5

4. FIRST AID MEASURES

Inhalation: If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

Skin contact: Immediately wash skin thoroughly with soap and water. If symptoms develop and persist, get medical attention. If this material is injected beneath the skin, regardless of amount injected, get immediate medical attention. Do not wait for symptoms to develop.

Eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion: Get immediate medical attention. Do not induce vomiting.

Notes to physician: This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

5. FIRE FIGHTING MEASURES

Flash point: > 300 °F (> 148.89 °C)

Autoignition temperature: Not applicable

Flammable/Explosive limits - lower: Not applicable

Flammable/Explosive limits - upper: Not applicable

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear full protective clothing. Wear self-contained breathing apparatus.

Unusual fire or explosion hazards: This product is combustible at high temperatures.

Hazardous combustion products: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Wear appropriate protective equipment and clothing during clean-up. Eliminate ignition sources including sources of electrical, static or frictional sparks.

Clean-up methods: Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of according to Federal, State and local governmental regulations.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Do not take internally. For industrial use only. Provide adequate ventilation.

Storage: Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Do not pressurize, cut, heat or weld containers. Empty product containers may contain product residue. Do not reuse empty containers.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Lubricating grease	None	None	None	None
Yellow Pigment	5 mg/m3 TWA Iron oxide fume as Fe	10 mg/m3 STEL Iron oxide fume as Fe	None	None
Surfactant	None	None	None	None

Engineering controls: Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

Respiratory protection: If ventilation is not sufficient to effectively prevent buildup of aerosols, mists or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Eye/face protection: Wear safety glasses; chemical goggles (if splashing is possible).

Skin protection: Chemical resistant, impermeable gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Yellow
Odor: Petroleum
Odor threshold: Not available
pH: Not determined
Vapor pressure: Not determined
Boiling point/range: > 300 °F (> 148.9 °C)
Melting point/ range: Not available
Specific gravity: 0.90 at 60 °F (15.56 °C)
Vapor density: Not determined
Flash point: > 300 °F (> 148.89 °C)
Flammable/Explosive limits - lower: Not applicable
Flammable/Explosive limits - upper: Not applicable
Autoignition temperature: Not applicable
Evaporation rate: Not determined
Solubility in water: Negligible
Partition coefficient (n-octanol/water): Not available
VOC content: Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Hazardous reactions: None under normal processing.

Hazardous decomposition products: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Incompatible materials: This product may react with strong acids, bases and oxidizing agents.

Conditions to avoid: Keep away from heat, ignition sources and incompatible materials.

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Lubricating grease	No	No	No
Yellow Pigment	No	No	No
Surfactant	No	No	No

Hazardous components	Health Effects/Target Organs
Lubricating grease	No Data
Yellow Pigment	Irritant
Surfactant	Irritant

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

Hazardous waste number: Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification: None above reporting de minimus

CERCLA/SARA Section 302 EHS: None above reporting de minimus
CERCLA/SARA Section 311/312: Immediate Health
CERCLA/SARA 313: None above reporting de minimus

California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
WHMIS hazard class:	D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Jennifer Mckay, Regulatory Affairs Specialist

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Corporation has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Corporation's products. In light of the foregoing, Henkel Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

Material Safety Data Sheet

Revision Number: 006.2

Issue date: 11/19/2012

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **LOCTITE® 518™ GASKET ELIMINATOR® FLANGE SEALANT**
Product type: Anaerobic Adhesive

IDH number: 135482
Item number: 51845
Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: 860.571.5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS:

Physical state: Gel
Color: Red
Odor: Mild

HEALTH: *2
FLAMMABILITY: 1
PHYSICAL HAZARD: 1
Personal Protection: See MSDS Section 8

WARNING: CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
MAY BE HARMFUL IF SWALLOWED.

Relevant routes of exposure: Skin, Lungs, Eyes

Potential Health Effects

Inhalation: May cause irritation to nose and throat.
Skin contact: May cause allergic skin reaction. Causes skin irritation.
Eye contact: Vapors may irritate eyes. Contact with eyes will cause irritation.
Ingestion: May cause gastrointestinal tract irritation if swallowed.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders. Acrylic acid: Respiratory disorders. Lung disease.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Polyurethane methacrylate resin	Proprietary	60 - 100
Polyglycol dimethacrylate	25852-47-5	5 - 10
Silica, amorphous, fumed, crystal-free	112945-52-5	5 - 10
Acrylic acid	79-10-7	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Ethylene glycol	107-21-1	1 - 5
1-Acetyl-2-phenylhydrazine	114-83-0	0.1 - 1
Cumene	98-82-8	0.1 - 1

4. FIRST AID MEASURES

Inhalation: If symptoms develop and persist, get medical attention. Move to fresh air.

Skin contact: Wash with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If symptoms develop and persist, get medical attention.

Eye contact: Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.

Ingestion: Keep individual calm. Do not induce vomiting. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point: > 100.00 °C (> 212°F) Tagliabue closed cup

Autoignition temperature: Not available.

Flammable/Explosive limits - lower: 2 % (Acrylic Acid)

Flammable/Explosive limits - upper: 8 % (Acrylic Acid)

Extinguishing media: Foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Unusual fire or explosion hazards: None

Hazardous combustion products: Irritating organic vapours. Oxides of nitrogen. Oxides of sulfur. Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Ensure adequate ventilation. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling: Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.

Storage: For safe storage, store at or below 38 °C (100.4 °F)
Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyurethane methacrylate resin	None	None	None	None
Polyglycol dimethacrylate	None	None	None	None
Silica, amorphous, fumed, crystal-free	10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction.	20 MPPCF TWA 0.8 mg/m3 TWA	None	None
Acrylic acid	2 ppm TWA (SKIN)	None	None	1 ppm TWA 3 ppm STEL (SKIN)
Cumene hydroperoxide	None	None	(SKIN) 1 ppm (6 mg/m3) TWA	None
Ethylene glycol	100 mg/m3 Ceiling Aerosol.	None	None	None
1-Acetyl-2-phenylhydrazine	None	None	None	None
Cumene	50 ppm TWA	50 ppm (245 mg/m3) TWA (SKIN)	None	None

Engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Use an organic vapor respirator for concentrations exceeding the Occupational Exposure Limit.

Eye/face protection: Safety goggles or safety glasses with side shields.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Gel
Color: Red
Odor: Mild
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: < 10 mm hg (80 °F (26.7 °C))
Boiling point/range: > 300 °F (> 148.9 °C) None
Melting point/ range: Not available.
Specific gravity: 1.1 at 26.60 °C (79.88 °F)
Vapor density: Not available.
Flash point: > 100.00 °C (> 212°F) Tagliabue closed cup
Flammable/Explosive limits - lower: 2 % (Acrylic Acid)
Flammable/Explosive limits - upper: 8 % (Acrylic Acid)
Autoignition temperature: Not available.
Evaporation rate: Not available.
Solubility in water: Slight
Partition coefficient (n-octanol/water): Not available.
VOC content: 1.77 %; 19.44 g/l (calculated)

10. STABILITY AND REACTIVITY

Stability: Stable

Hazardous reactions: Will not occur.

Hazardous decomposition products: Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours. Phenolics. Oxides of carbon.

Incompatible materials: Iron. Acids and bases. Rust. Reducing agents. Aluminum. Strong oxidizing agents. Free radical initiators. Aldehydes. Oxygen scavengers. Strong alkalis. Zinc. copper

Conditions to avoid: See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

11. TOXICOLOGICAL INFORMATION

Acute oral product toxicity: LD50 (rat) > 5,000 mg/kg (Estimated)

Acute dermal product toxicity: LD50 (rabbit) > 2,000 mg/kg

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyurethane methacrylate resin	No	No	No
Polyglycol dimethacrylate	No	No	No
Silica, amorphous, fumed, crystal-free	No	No	No
Acrylic acid	No	No	No
Cumene hydroperoxide	No	No	No
Ethylene glycol	No	No	No
1-Acetyl-2-phenylhydrazine	No	No	No
Cumene	No	Group 2B	No

Hazardous components	Health Effects/Target Organs
Polyurethane methacrylate resin	Irritant, Allergen
Polyglycol dimethacrylate	Irritant, Allergen
Silica, amorphous, fumed, crystal-free	Nuisance dust
Acrylic acid	Allergen, Corrosive, Irritant, Kidney, Liver
Cumene hydroperoxide	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Ethylene glycol	Blood, Bone Marrow, Central nervous system, Developmental, Eyes, Irritant, Kidney, Liver, Metabolic
1-Acetyl-2-phenylhydrazine	Allergen, Blood, Kidney, Mutagen, Some evidence of carcinogenicity
Cumene	Central nervous system, Irritant, Lung

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this sections are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12(b) Export Notification: None above reporting de minimus

CERCLA/SARA Section 302 EHS: None above reporting de minimis
Hydroquinone (CAS# 123-31-9).

CERCLA/SARA Section 311/312: Delayed Health, Immediate Health

CERCLA/SARA 313: 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 (40 CFR 372). Acrylic acid (CAS# 79-10-7). Cumene hydroperoxide (CAS# 80-15-9). Ethylene glycol (CAS# 107-21-1).

California Proposition 65: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

WHMIS hazard class: D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 9, 10

Prepared by: Kyra Kozak Woods, Manager, Regulatory Affairs

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1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: 1052948 5.25 DRI-SLIDE

Recommended Use:

Paint product.

External Keys:

10-4040, 1052948	Distributable Material (Part #)
ACDelco DRI-SLIDE Lubricant	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: Valspar Corporation

Address:

1101 Third Street South	USA	Minnesota	55415	Minneapolis	P.O. Box 1461	55440	MAILING

Communication Lines:

Phone	888-345-5732	Medical emergency
Phone	612-332-7371	Information

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
STODDARD SOLVENT	8052-41-3	Range	50-55	%Wt	Yes
PROPANE	74-98-6	Range	10-15	%Wt	Yes
BUTANE	106-97-8	Range	10-15	%Wt	Yes
OIL	989903-10-7	Range	6-15	%Wt	No
MESITYLENE	108-67-8	Range	1-5	%Wt	Yes
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	Range	1-5	%Wt	Yes
COLOR PIGMENTS	989942-36-0	Range	1-5	%Wt	No
XYLENE	1330-20-7	Range	1-5	%Wt	Yes

Comment:

No hazardous components per OSHA guidelines.

3 HAZARDS IDENTIFICATION

Hazards Overview:

Acute Other Health Effects: May cause frostbite. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Specific Hazards:

Primary Routes of Exposure: Inhalation, Ingestion, Skin absorption.
Target Organ and Other Health Effects: Causes headache, drowsiness or other effects to the central nervous system. Liver injury may occur. Blood disorders. Cardiac arrhythmias. idney injury may occur.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Eye contact	General	Moderate eye irritation.
Skin Contact	General	Causes skin irritation. May cause defatting of the skin. Can be absorbed through skin.
Ingestion	General	Irritation of the mouth, throat, and stomach. Aspiration hazard if swallowed - can enter lungs and cause damage.
Inhalation	General	Causes respiratory tract irritation. Harmful by inhalation. Asphyxia. May cause

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
		bronchopneumonia or bronchitis. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

Effects Of Overexposure:

This product contains ingredients that may contribute to the following potential chronic health effects:
Notice: 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.
Prolonged exposure over TLV may produce pneumoconiosis.

Medical Conditions Aggravated By Exposure:

Not provided

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention immediately. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. Do not give direct mouth-to-mouth resuscitation if inhaled. To protect rescuer, use air-viva, oxy-viva or one-way mask. Resuscitate in a well-ventilated area.
Skin Contact	Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.
Eye Contact	Get medical attention, if symptoms develop or persist. Immediately flush eye(s) with plenty of water. Remove any contact lenses and open eyes wide apart.
Ingestion	Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Notes To Physician:

Any respiratory or skin condition.

5 FIRE FIGHTING MEASURES

Flash Point:

= -132 °F -91°C

Explosive Limits:

Lower Explosive Limit (LEL)	=	1	'%'
Upper Explosive Limit (UEL)	=	10	'%'

Autoignition Temperature:

Not Determined

Extinguishing Media:

Carbon dioxide, dry chemical, foam and/or water fog.

Special Fire Fighting Procedures:

Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or air mask for large spills in a confined area.

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:

Wipe, scrape or soak up in an inert material and put in a container for disposal. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

STORAGE

Storage Conditions:

Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Ventilation: Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
STODDARD SOLVENT	8052-41-3	State-TWA	525mg/m3	-	NEW YORK
STODDARD SOLVENT	8052-41-3	State-TWA	525mg/m3	-	TENNESSEE
STODDARD SOLVENT	8052-41-3	GM OEG-TWA	525mg/m3	-	GM Occupational Exposure Guidelines (OEG)
STODDARD SOLVENT	8052-41-3	TLV-TWA	525mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
STODDARD SOLVENT	8052-41-3	PEL-TWA	2900mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
STODDARD SOLVENT	8052-41-3	TLV-TWA	525mg/m3	-	GM Occupational Exposure Guidelines (OEG)
STODDARD SOLVENT	8052-41-3	State-TWA	525mg/m3	-	MICHIGAN
PROPANE	74-98-6	PEL-TWA	1000ppm	-	OSHA - Permissible Exposure Limits (PELs)

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
PROPANE	74-98-6	GM OEG -TWA	1000ppm	-	GM Occupational Exposure Guidelines (OEG)
PROPANE	74-98-6	TLV-TWA	1000ppm	-	Threshold Limit Values (TLVs) - ACGIH
PROPANE	74-98-6	State-TWA	1000ppm	-	MICHIGAN
PROPANE	74-98-6	State-TWA	1000ppm	-	NEW YORK
PROPANE	74-98-6	State-TWA	1000ppm	-	TENNESSEE
BUTANE	106-97-8	TLV-TWA	1000ppm	-	Threshold Limit Values (TLVs) - ACGIH
MESITYLENE	108-67-8	GM OEG -TWA	25ppm	-	GM Occupational Exposure Guidelines (OEG)
MESITYLENE	108-67-8	TLV-TWA	25ppm	-	Threshold Limit Values (TLVs) - ACGIH
MESITYLENE	108-67-8	PEL-TWA	25ppm	-	OSHA - Permissible Exposure Limits (PELs)
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	GM OEG -TWA	25ppm	-	GM Occupational Exposure Guidelines (OEG)
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	TLV-TWA	25ppm	-	Threshold Limit Values (TLVs) - ACGIH
XYLENE	1330-20-7	State-TWA	100ppm	-	NEW YORK
XYLENE	1330-20-7	State-STEL	150ppm	-	NEW YORK
XYLENE	1330-20-7	State-TWA	100ppm	-	TENNESSEE
XYLENE	1330-20-7	State-STEL	150ppm	-	TENNESSEE
XYLENE	1330-20-7	PEL-TWA	100ppm	-	OSHA - Permissible Exposure Limits (PELs)
XYLENE	1330-20-7	GM OEG -TWA	100ppm	-	GM Occupational Exposure Guidelines (OEG)

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
XYLENE	1330-20-7	TLV-STEL	150ppm	-	Threshold Limit Values (TLVs) - ACGIH
XYLENE	1330-20-7	GM OEG-STEL	150ppm	-	GM Occupational Exposure Guidelines (OEG)
XYLENE	1330-20-7	TLV-TWA	100ppm	-	Threshold Limit Values (TLVs) - ACGIH
XYLENE	1330-20-7	State-TWA	100ppm	-	MICHIGAN
XYLENE	1330-20-7	State-STEL	150ppm	-	MICHIGAN

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Chemical goggles, also wear a face shield if splashing hazard exists.
Hand Protection	Appropriate chemical resistant gloves should be worn.
Respiratory Protection	If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions

Special Precautions:

To prevent skin contact wear protective clothing covering all exposed areas.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Odor: Normal for this product type.

Comment:

Physical state: Aerosol.

PHYSICAL PROPERTIES

pH Value:

Not Determined

Changes of State:

Boiling Point	Not Determined

Vapor Pressure:

Not Determined

Vapor Density:

= 5

Evaporation Rate:

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Evaporation Rate:

= 1

Density:

Density = 6.36 lb/gal

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Heat.

Incompatible Materials:

Strong oxidizing agents.

Hazardous Polymerization:

None anticipated.

Comment:

Sensitivity to impact: Subject to static discharge hazards. Please see bonding and grounding information in this MSDS.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Hazardous Decomposition Products: Carbon monoxide and carbon dioxide. Oxides of sulfur.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Data By Chemical:

Chemical Name	CAS Number	Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
PROPANE	74-98-6	Inhalation	LC50	=	658	mg/l/4h	rat	
BUTANE	106-97-8	Inhalation	LC50	=	658	mg/l/4h	rat	
OIL	989903-10-7	Inhalation	LC50	=	2.18	mg/l/4h	rat	
OIL	989903-10-7	dermal	LD50	>	2000	mg/kg	rabbit	
OIL	989903-10-7	oral	LD50	>	5000	mg/kg	rat	
MESITYLENE	108-67-8	Inhalation	LC50	=	24	g/m3	rat	4 h
MESITYLENE	108-67-8	oral	LD50	=	5000	mg/kg	rat	
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	Inhalation	LC50	=	18	g/m3	rat	4h
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	oral	LD50	=	3400	mg/kg	rat	
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	dermal	LD50	>	3160	mg/kg	rabbit	
XYLENE	1330-20-7	oral	LD50		4300	mg/kg	rat	
XYLENE	1330-20-7	Inhalation	LC50	=	47635	mg/l/4h	rat	
XYLENE	1330-20-7	Inhalation	LC50	=	5000	ppm	rat	4h
XYLENE	1330-20-7	dermal	LD50	>	1700	mg/kg	Rabbit	

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

XYLENE (1330-20-7): NTP Evidence of Carcinogenicity: male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

No information on ecology is available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Disposal should be made in accordance with federal, state and local regulations.

14 TRANSPORT INFORMATION

DOT Shipping Name:

CONSUMER COMMODITY ORM-D [Paint]

DOT UN Code:

CONCOM

Comment:

U.S Hazmat and/or International DG shipment exceptions
The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

International Air Transport Association (IATA):
UN ID Number (msds): UN1950
Proper Shipping Name: AEROSOLS, FLAMMABLE
Hazard Class: 2.1

International Maritime Organization (IMO):
IMO UN/ID Number (msds): UN1950
Proper Shipping Name: AEROSOLS, FLAMMABLE
Hazard Class: 2.1
Marine Pollutant: Yes
Marine Pollutant Ingredient 1: STODDARD SOLVENT
Marine Pollutant Ingredient 2 : 1,3,5-TRIMETHYLBENZENE

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	2
NFPA Flammability	4
NFPA Reactivity	1

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: Yes
SARA 313: Yes
Immediate Health: Yes
Delayed Health: Yes
Fire: No
Sudden Pressure Release: Yes
Reactive: No
Other Regulation:

SARA 313:	1,2,4-TRIMETHYLBENZENE (95-63-6): Listed. XYLENE (1330-20-7): form R reporting required for 1.0% de minimis concentration.

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Other Regulation:

CERCLA RQ in lbs.	100
TSCA:	All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

STATE/LOCAL REGULATIONS

Comment:

Right to Know: The specific chemical identity of a component may be withheld as a trade secret under 34 Pennsylvania Code, Chapter 317.
Pennsylvania Right To Know:
BUTANE
1,3,5-TRIMETHYLBENZENE
PROPRIETARY COLOR PIGMENT
XYLENE
PROPRIETARY OIL
PROPRIETARY OIL
PROPANE
PROPRIETARY COLOR PIGMENT
STODDARD SOLVENT
1,2,4-TRIMETHYLBENZENE

16 OTHER INFORMATION

Comments:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: 82 BLACK SUPER WEATHERSTRIP ADHESIVE

Recommended Use:

Product Type: Adhesive.

External Keys:

12345097	Distributable Material (Part #)
Weather Strip Adhesive Gel - Black	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: ITW Permatex

Address:

10 Columbus Blvd.	USA	Connecticut	06106	Hartford	MAILING

Communication Lines:

Phone	877-376-2839	EMERGENCY
Phone	877-376-2839	INFO
Phone	800-255-3924	EMERGENCY
Phone	813-348-0585	International Emergency
Internet	www.permatex.com	Website (with MSDS)

Comment:

Prepared By: Denise Boyd, Health and Safety Manager, 877-376-2839.

Comment:

Process MSDS as OSHA Compliant.

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
TOLUENE	108-88-3	Range	15-25	%Wt	Yes
2-BUTANONE	78-93-3	Range	15-25	%Wt	Yes
ACETONE	67-64-1	Range	15-25	%Wt	Yes
HEXANE	110-54-3	Range	5-15	%Wt	Yes

3 HAZARDS IDENTIFICATION

Hazards Overview:

Toxicity: May cause eye, skin and respiratory irritation. Prolonged and repeated exposure to methyl ethyl ketone and/or n-hexane may cause peripheral neuropathy by damaging peripheral nerve tissue (that of arms and legs) and result in muscular weakness and loss of sensation. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as "solvent" or "painter's syndrome"). Symptoms include fatigue, concentration difficulties, anxiety, depression, rapid mood swings, and short-term memory loss. Short term inhalation toxicity is low. Breathing small amounts during normal handling is not likely to cause harmful effects; breathing large amounts may be harmful. Single dose toxicity is low. Swallowing small amounts is not likely to cause harmful effects; swallowing large amounts may be harmful. Toluene: Repeated exposure has been associated with high frequency hearing loss based on evidence in laboratory animals; the human health consequences of this finding is uncertain. This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance to these findings to humans is uncertain. This material (or a component) shortens the time of onset or worsens the liver and kidney damage induced by other chemicals .

Specific Hazards:

Primary Routes of Entry: Eye and skin contact, ingestion, inhalation.

Specific Hazards (Routes Of Exposure):

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Observation
Eye Contact	May cause eye irritation.
Skin Contact	May cause skin irritation.
Inhalation	May cause respiratory irritation. Short term inhalation toxicity is low. Breathing small amounts during normal handling is not likely to cause harmful effects; breathing large amounts may be harmful.
Ingestion	Swallowing small amounts is not likely to cause harmful effects; swallowing large amounts may be harmful.

Effects Of Overexposure:

Signs and Symptoms of Exposure: Eyes: Exposure to liquid or vapor causes mild eye irritation. Symptoms may include burning, tearing, redness, stinging, blurred vision and corneal injury. Skin: Exposure may cause mild skin irritation. Prolonged or repeated exposure may dry the skin. Symptoms may include redness, burning, drying, cracking and skin burns. Preexisting skin disorders may be aggravated by exposure. Skin absorption is possible, but harmful effects are not expected from this route under normal conditions of handling and use. Swallowing: This material can enter the lungs during swallowing or vomiting and cause lung inflammation and/or damage. Aspiration into the lungs can cause chemical pneumonia which can be fatal.
Excessive overexposure may cause giddiness, dizziness, headache, nausea and in extreme cases, unconsciousness and respiratory depression. Breathing: Symptoms are typically seen at air concentrations exceeding the recommended exposure limits. Symptoms may include nasal and respiratory irritation, central nervous system (CNS) depression (dizziness, drowsiness, weakness, fatique, nausea, headache, possible unconsciousness, coma and even death)..

Medical Conditions Aggravated By Exposure:

Heart disease, respiratory disorders, liver and kidney diseases, amenia, rhythm disorders of the heart. Toluene: Eye, liver, skin, respiratory and central nervous system disorders, alcoholism.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move to fresh air in case of accidental inhalation of vapours. Oxygen or artificial respiration if needed. Obtain medical attention.
Skin Contact	Wash off with soap and water. If skin irritation persists, call a physician.
Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Ingestion	Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

5 FIRE FIGHTING MEASURES

Flash Point:

= -15 °F TCC

Explosive Limits:

Upper Explosive Limit (UEL)	=	13.0
Lower Explosive Limit (LEL)	=	1.2

Extinguishing Media:

Carbon Dioxide, Dry Chemicals, Foam.

Fire and Explosion Hazards:

Hazardous Products of Combustion: Oxides of carbon, Oxides of nitrogen, Hydrogen chloride.
Unusual Fire/Explosion Hazards: Keep containers cool. Closed containers may rupture or explode when exposed to extreme heat.

Special Fire Fighting Procedures:

5 FIRE FIGHTING MEASURES

Special Fire Fighting Procedures:

Firefighters should wear self-contained breathing apparatus. Water spray may be ineffective on flames but should be used to keep fire-exposed containers cool.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Eliminate all sources of ignition. Use an NIOSH-approved respirator where occupational exposure limits may be exceeded. Maintain good ventilation.

Environmental Precautions:

Prevent from entering waterways or sewers.

SPILL OR LEAK PROCEDURES

Recovery:

Store in a closed waste container until disposal.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Do not use near heat, sparks or open flame. Use in a well ventilated area to prevent irritation by vapors. Intentionally concentrating and inhaling the vapor may be harmful or fatal. Avoid contact with skin and eyes. Keep container closed when not in use. Wash thoroughly after handling.

STORAGE

Storage Conditions:

Store away from heat, sparks or open flame. Do not store at temperatures above 100°F (38°C).

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits (or to the lowest feasible levels when limits have not been established) during the use of this product.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source	Memo
TOLUENE	108-88-3	PEL-TWA	200ppm	-	OSHA - Permissible Exposure Limits (PELs)	
TOLUENE	108-88-3	PEL-Ceiling	300ppm	-	OSHA - Permissible Exposure Limits (PELs)	
TOLUENE	108-88-3	GM OEG -TWA	50ppm	-	GM Occupational Exposure Guidelines (OEG)	Skin
TOLUENE	108-88-3	TLV-TWA	20ppm	-	Threshold Limit Values (TLVs) - ACGIH	Skin
TOLUENE	108-88-3	State-TWA	100ppm	-	MICHIGAN	
TOLUENE	108-88-3	State-				

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source	Memo
		STEL	150ppm	-	MICHIGAN	
TOLUENE	108-88-3	State-TWA	100ppm	-	NEW YORK	
TOLUENE	108-88-3	State-STEL	150ppm	-	NEW YORK	
TOLUENE	108-88-3	State-TWA	100ppm	-	TENNESSEE	
TOLUENE	108-88-3	State-STEL	150ppm	-	TENNESSEE	
2-BUTANONE	78-93-3	PEL-TWA	200ppm	-	OSHA - Permissible Exposure Limits (PELs)	
2-BUTANONE	78-93-3	GM OEG -TWA	200ppm	-	GM Occupational Exposure Guidelines (OEG)	
2-BUTANONE	78-93-3	GM OEG -STEL	300ppm	-	GM Occupational Exposure Guidelines (OEG)	
2-BUTANONE	78-93-3	TLV-TWA	200ppm	-	Threshold Limit Values (TLVs) - ACGIH	
2-BUTANONE	78-93-3	TLV-STEL	300ppm	-	Threshold Limit Values (TLVs) - ACGIH	
2-BUTANONE	78-93-3	State-TWA	200ppm	-	MICHIGAN	
2-BUTANONE	78-93-3	State-STEL	300ppm	-	MICHIGAN	
2-BUTANONE	78-93-3	State-TWA	200ppm	-	NEW YORK	
2-BUTANONE	78-93-3	State-STEL	300ppm	-	NEW YORK	
2-BUTANONE	78-93-3	State-TWA	200ppm	-	TENNESSEE	
2-BUTANONE	78-93-3	State-STEL	300ppm	-	TENNESSEE	
ACETONE	67-64-1	GM OEG -TWA	500ppm	-	GM Occupational Exposure Guidelines (OEG)	
ACETONE	67-64-1	GM OEG -STEL	750ppm	-	GM Occupational Exposure Guidelines	

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source	Memo
ACETONE	67-64-1	TLV-TWA	500ppm	-	(OEG) Threshold Limit Values (TLVs) - ACGIH	
ACETONE	67-64-1	TLV-STEL	750ppm	-	Threshold Limit Values (TLVs) - ACGIH	
ACETONE	67-64-1	State-TWA	750ppm	-	MICHIGAN	
ACETONE	67-64-1	State-STEL	1000ppm	-	MICHIGAN	
ACETONE	67-64-1	State-TWA	750ppm	-	NEW YORK	
ACETONE	67-64-1	State-STEL	1000ppm	-	NEW YORK	
ACETONE	67-64-1	State-TWA	750ppm	-	TENNESSEE	
ACETONE	67-64-1	State-STEL	1000ppm	-	TENNESSEE	
ACETONE	67-64-1	PEL-TWA	1000ppm	-	OSHA - Permissible Exposure Limits (PELs)	
HEXANE	110-54-3	PEL-TWA	500ppm	-	OSHA - Permissible Exposure Limits (PELs)	
HEXANE	110-54-3	GM OEG -TWA	50ppm	-	GM Occupational Exposure Guidelines (OEG)	Skin
HEXANE	110-54-3	TLV-TWA	50ppm	-	Threshold Limit Values (TLVs) - ACGIH	Skin
HEXANE	110-54-3	State-TWA	50ppm	-	MICHIGAN	
HEXANE	110-54-3	State-TWA	50ppm	-	NEW YORK	
HEXANE	110-54-3	State-TWA	50ppm	-	TENNESSEE	

Comment:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Safety glasses.
Hand Protection	Rubber or plastic gloves.
Respiratory Protection	An approved organic vapor respirator should be worn when exposures are expected to exceed the applicable

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

limits.

Skin Protection: Long sleeves and long pants.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: Black.

Odor: Solvent.

Comment:

Appearance: liquid

PHYSICAL PROPERTIES

pH Value:

Does not apply

Changes of State:

Boiling Point = 131 °F 55ºC

Vapor Pressure:

= 175 mm Hg (@ 68 degrees F.)

Vapor Density:

= 1 (Air=1).

Evaporation Rate:

Not Determined

Specific Gravity:

= 0.9

Solubility:

Water: (Nil.)

VOC:

Theoretical VOC (by. wt.)	=	52	%Wt		
Theoretical VOC (by. vol.)	=	3.9	lb/gal	calculated from MSDS data by GM Tech Review.	N/A

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Keep away from heat, sparks and open flame. - No smoking.

Incompatible Materials:

Avoid contact with bases and strong oxidizers, Acids.

Hazardous Polymerization:

WILL NOT OCCUR.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Thermal Decomposition	Oxides of carbon, Oxides of nitrogen, Hydrogen chloride.

11 TOXICOLOGICAL INFORMATION

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

TOLUENE (108-88-3):
NTP: male rat-no evidence; female rat-no evidence; male mice-no, female mice-no.
ACGIH Carcinogens: A4 - Not Classifiable as a Human Carcinogen.
IARC: Group 3; Monograph 71, Monograph 47, 1989.

ACETONE (67-64-1) NTP: Not known.
ACGIH Carcinogens: A4 - Not Classifiable as a Human Carcinogen.

Reproductive Effects:

California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

12 ECOLOGICAL INFORMATION

ECOTOXICITY

Comment:

No data available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number: D001/D035 as per 40CFR 261.21 and a TCLP waste per 261.24 (methyl ethyl ketone and benzene)

14 TRANSPORT INFORMATION

DOT Information:

Marine Pollutant: None.

DOT Shipping Name:

Consumer Commodity (not more than one liter).

DOT Hazard Class:

ORM-D

DOT UN Code:

None.

Comment:

IATA:
Proper Shipping Name: Consumer Commodity (Not more than 500 ml)
Class or Division: Class 9
UN/NA Number: ID 8000
IMDG:
Proper Shipping: Adhesives, Limited Quantity
Hazard Class: Class 3.2
UN Number: UN 1133

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	2
NFPA Flammability	3
NFPA Reactivity	0
HMIS Health	2
HMIS Flammability	3
HMIS Reactivity	0

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: Yes
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
RCRA:

Hazardous Waste Number	Hazardous Waste
D001	D035 as per 40CFR 261.21 and a TCLP waste per 261.24 (methyl ethyl ketone and benzene)

Other Regulation:

SARA 313 Chemicals:	The following component(s) is listed as a SARA Section 313 Toxic Chemical: TOLUENE (108-88-3), N-HEXANE (110-54-3).
TSCA Inventory Status:	All components of this product are listed (or exempt) on the EPA TSCA inventory.

STATE/LOCAL REGULATIONS

Comment:

California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

16 OTHER INFORMATION

Comments:

Additional health effects information for individual ingredients is available from the MSDS Processing Center.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: DOW CORNING 4 ELECTRICAL INSULATING COMPOUND
Product Code: 01903128
External Keys:

12345579, 10-4064	Distributable Material (Part #)
10-4007	Distributable Material (Part #)
769841	Distributable Material (Part #)
DIELECTRIC SILICONE GREASE	Primary Tradename - Distributable Material
SILICONE GREASE DIELECTRIC	Primary Tradename - Distributable Material
10953481 (Canada)	Distributable Material (Part #)
CN35871	GM of Canada Approval Number
88900334	Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: DOW CORNING CORP
Address:

2200 W. SALSBURG ROAD (CORP.) - SOUTH SAGINAW ROAD (MFG. SITE)	USA	MICHIGAN	48686-0994	MIDLAND	MAILING

Communication Lines:

Phone	989-636-1000	EMERGENCY 24 HR EMERGENCY
Phone	989-496-6000	INFO
Phone	989-496-5900	24 Hour Emergency
Phone	989-496-6315	Product Disposal Information
Phone	800-424-9300	CHEMTREC
Internet	www.dowcorning.com	Website with MSDS

SUPPLIER INFORMATION

Supplier: DOW CORNING CANADA INC.
Address:

15-6400 MILLCREEK DRIVESUITE 146	CAN	ONTARIO	L5N3E7	MISSISSAUGA	MAILING

Communication Lines:

Phone	905-826-9600	INFO

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
Siloxanes and Silicones, di-Me, polymers with Me silsesquioxanes	68037-74-1	>	60.0	%Wt	No
Silica	7631-86-9	Range	7.0 - 13.0	%Wt	No
Siloxanes and Silicones, di-Me, hydroxy-terminated	70131-67-8	Range	5.0 - 10.0	%Wt	No

Comment:

2 INGREDIENT INFORMATION

FORMULATION

Comment:

This is not a hazardous material as defined in the OSHA Hazard Communication Standard.

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	Acute	NO SIGNIFICANT IRRITATION EXPECTED FROM A SINGLE SHORT-TERM EXPOSURE.
Eye Contact	Acute	DIRECT CONTACT MAY CAUSE TEMPORARY REDNESS AND DISCOMFORT.
Inhalation	Acute	NO SIGNIFICANT EFFECTS EXPECTED FROM A SINGLE SHORT-TERM EXPOSURE.
Ingestion	Acute	LOW INGESTION HAZARD IN NORMAL USE.

Effects Of Overexposure:

Skin: No known applicable information.
Inhalation: No known applicable information.
Oral: No known applicable information.

Medical Conditions Aggravated By Exposure:

Medical Conditions Aggravated by Exposure: No known applicable information.

4 FIRST AID MEASURES

First Aid By::

Inhalation	NO FIRST AID SHOULD BE NEEDED.
Skin Contact	NO FIRST AID SHOULD BE NEEDED.
Eye Contact	IMMEDIATELY FLUSH WITH WATER.
Ingestion	NO FIRST AID SHOULD BE NEEDED.

Notes To Physician:

Treat according to person's condition and specifics of exposure.

5 FIRE FIGHTING MEASURES

Flash Point:

=	100	°C	CC.
=	212	°F	CC.

Explosive Limits:

Upper Explosive Limit (UEL)	Not Determined	Flammability Limits in Air
Lower Explosive Limit (LEL)	Not Determined	Flammability Limits in Air

Autoignition Temperature:

Not Determined

Extinguishing Media:

On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.

Fire and Explosion Hazards:

UNUSUAL FIRE HAZARDS: NONE.

Special Fire Fighting Procedures:

FIRE FIGHTING MEASURES: SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING SHOULD BE

5 FIRE FIGHTING MEASURES

Special Fire Fighting Procedures:

WORN IN FIGHTING LARGE FIRES INVOLVING CHEMICALS. DETERMINE THE NEED TO EVACUATE OR ISOLATE THE AREA ACCORDING TO YOUR LOCAL EMERGENCY PLAN. USE WATER SPRAY TO KEEP FIRE EXPOSED CONTAINERS COOL.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Eyes: Use proper protection - safety glasses as a minimum.
Skin: Washing at mealtime and end of shift is adequate.
Inhalation/Suitable Respirator: No respiratory protection should be needed.
Precautionary Measures: Avoid eye contact. Use reasonable care.

SPILL OR LEAK PROCEDURES

Recovery:

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clears area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Other Precautions:

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Use with adequate ventilation. Avoid eye contact.

STORAGE

Storage Conditions:

Use reasonable care and store away from oxidizing materials.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Engineering Controls: LOCAL VENTILATION: NONE SHOULD BE NEEDED. GENERAL VENTILATION: RECOMMENDED.

EXPOSURE LIMITS

Comment:

Component Exposure Limits: There are no components with workplace exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	PERSONAL PROTECTIVE EQUIPMENT FOR ROUTINE HANDLING: USE PROPER PROTECTION-SAFETY GLASSES AS A MINIMUM.
Respiratory Protection	PERSONAL PROTECTIVE EQUIPMENT FOR ROUTINE HANDLING: INHALATION: NO RESPIRATORY PROTECTION SHOULD BE NEEDED. SUITABLE RESPIRATOR: NONE SHOULD BE NEEDED.
Hand Protection	Contact local health and safety representative for appropriate glove type for your specific application(s).

Special Precautions:

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Special Precautions:

NOTE: THESE PRECAUTIONS ARE FOR ROOM TEMPERATURE HANDLING. USE AT ELEVATED TEMPERATURE OR AEROSOL/SPRAY APPLICATIONS MAY REQUIRE ADDED PRECAUTIONS.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Paste
Color: TRANSLUCENT WHITE.
Odor: SOME ODOR.
Comment:

Physical Form: Grease

PHYSICAL PROPERTIES

pH Value:

Not Determined	Not Available

Changes of State:

Boiling Point	Not Determined
Melting/Freezing Point	Not Determined

Vapor Pressure:

Not Determined	=	25	°C

Vapor Density:

Not Determined

Specific Gravity:

>	1	=	25	°C

Solubility:

Water	Not Determined

Viscosity:

Viscosity	Not Determined

Total Amount Of::

Percent Volatile	Not Determined

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable
Conditions to Avoid:

None.

Incompatible Materials:

Oxidizing material can cause a reaction.

Hazardous Polymerization:

Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION

10 STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	THERMAL BREAKDOWN OF THIS PRODUCT DURING FIRE OR VERY HIGH HEAT CONDITIONS MAY EVOLVE THE FOLLOWING HAZARDOUS DECOMPOSITION PRODUCTS: CARBON OXIDES AND TRACES OF INCOMPLETELY BURNED CARBON COMPOUNDS. SILICON DIOXIDE, FORMALDEHYDE.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

CALIFORNIA: WARNING: THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED BY THE STATE OF CALIFORNIA UNDER THE SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65) AS BEING KNOWN TO CAUSE CANCER.

Reproductive Effects:

CALIFORNIA: WARNING: THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED BY THE STATE OF CALIFORNIA UNDER THE SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65) AS BEING KNOWN TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM: NONE KNOWN.

Comment:

SPECIAL HAZARD INFORMATION ON COMPONENTS: NO KNOWN APPLICABLE INFORMATION.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Environmental Fate and Distribution
Complete information is not yet available.
Environmental Effects Complete information is not yet available.
Fate and Effects in Waste Water Treatment Plants: Complete information is not yet available.

ECOTOXICITY

Comment:

Acute Aquatic Toxicity (mg/L): High: <= 1; Medium: >1 and <= 100; low: >100
Acute terrestrial Toxicity: High: <=100; Medium: >100 and <=2000; Low: >2000

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

RCRA HAZARD CLASS (40 CFR 261): WHEN A DECISION IS MADE TO DISCARD THIS MATERIAL, AS RECEIVED, IS IT CLASSIFIED AS A HAZARDOUS WASTE: NO. STATE OR LOCAL LAWS MAY IMPOSE ADDITIONAL REGULATORY REQUIREMENTS REGARDING DISPOSAL. CALL DOW CORNING CORPORATE ENVIRONMENTAL MANAGEMENT, (989) 496-6315, IF ADDITIONAL INFORMATION IS REQUIRED.

14 TRANSPORT INFORMATION

DOT Information:

DOT ROAD SHIPMENT INFORMATION (29 CFR 172.101): NOT SUBJECT TO DOT.

Comment:

OCEAN SHIPMENT (IMDG): NOT SUBJECT TO IMDG CODE. AIR SHIPMENT (IATA): NOT IATA REGULATED. (VENTED PACKAGES FORBIDDEN FOR AIR TRANSPORT). CALL DOW CORNING TRANSPORTATION, (989(496-8577, IF ADDITIONAL INFORMATION IS REQUIRED.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Flammability	1
NFPA Health	0
NFPA Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
RCRA:

Hazardous Waste

RCRA HAZARD CLASS (40 CFR 261): WHEN A DECISION IS MADE TO DISCARD THIS MATERIAL, AS RECEIVED, IS IT CLASSIFIED AS A HAZARDOUS WASTE: NO.

Other Regulation:

TSCA STATUS	ALL CHEMICAL SUBSTANCES IN THIS MATERIAL ARE INCLUDED ON OR EXEMPTED FROM LISTING ON THE TSCA INVENTORY OF CHEMICAL SUBSTANCES.
EPA SARA TITLE III CHEMICAL LISTINGS: SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES	NONE.
EPA SARA TITLE III CHEMICAL LISTINGS Section 304 CERCLA Hazardous Substances (40 CFR 302)	None.
EPA SARA TITLE III CHEMICAL LISTINGS Section 311/312 Hazard Class (40 CFR 370)	Acute: No. Chronic: No. Fire: No. Pressure: No. Reactive: No.
EPA SARA TITLE III CHEMICAL LISTINGS Section 313 Toxic Chemicals (40 CFR 372)	None present or none present in regulated quantities.

STATE/LOCAL REGULATIONS

Comment:

CALIFORNIA: WARNING: THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED BY THE STATE OF CALIFORNIA UNDER THE SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65) AS BEING KNOWN TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM: NONE KNOWN.
MASSACHUSETTS: SILICA, AMORPHOUS (7631-86-9) 7.0-13.0 WT %.
NEW JERSEY: DIMETHYL, METHYL SILICONE RESIN (68037-74-1) >60.0 WT %. SILICA, AMORPHOUS (7631-86-9) 7.0-13.0 WT %. DIMETHYL SILOXANE, HYDROXY-TERMINATED (70131-67-8) 5.0-10.0 WT %.
PENNSYLVANIA: DIMETHYL, METHYL SILICONE RESIN (68037-74-1) >60.0 WT %. SILICA, AMORPHOUS (7631-86-9) 7.0-13.0 WT %. DIMETHYL SILOXANE, HYDROXY-TERMINATED (70131-67-8) 5.0-10.0 WT %.

16 OTHER INFORMATION

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: GM 12345632 INSTANT GEL ADHESIVE 2 GR

External Keys:

10-1005, 12345632	Distributable Material (Part #)
ACDelco Instant Gel Adhesive	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: ITW Permatex

Address:

10 Columbus Blvd.	USA	Connecticut	06106	Hartford	MAILING

Communication Lines:

Phone	877-376-2839	EMERGENCY
Phone	877-376-2839	INFO
Phone	800-255-3924	EMERGENCY
Phone	813-348-0585	International Emergency
Internet	www.permatex.com	Website (with MSDS)

Comment:

Process MSDS as OSHA Compliant.

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
2-Propenoic acid, 2-cyano-, ethyl ester	7085-85-0	>	70	%Wt	Yes
POLYMETHYLMETHACRYLATE	9011-14-7	<	25	%Wt	No
SILICA, AMORPHOUS FUMED	112945-52-5	<	5	%Wt	No
HYDROQUINONE	123-31-9	<	1	%Wt	Yes

3 HAZARDS IDENTIFICATION

Hazards Overview:

Toxicity: Skin contact may cause burns. Bonds skin rapidly and strongly. Causes eye irritation. Irritates mucous membranes. Note: This product does not contain microcyrstalline silica.

Specific Hazards:

Primary Routes of Entry: Eye and skin contact, ingestion, inhalation.

Medical Conditions Aggravated By Exposure:

None known

Additional Health Hazard Data:

Signs and Symptoms of Exposure: Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure to vapors may produce symptoms of non-allergic asthma in sensitive individuals. Repeated skin contact may cause allergic skin reactions.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move to fresh air in case of accidental inhalation of vapours. Oxygen or artificial respiration if needed. Obtain medical attention.
Skin Contact	Remove excess adhesive. Soak in warm, soapy water. The adhesive will come loose from the skin in several hours. Cured adhesive does not present a health hazard even when bonded to the skin. For skin adhesion, first immerse the bonded surfaces in warm, soapy water. Peel or roll the surfaces apart with the aid of a blunt edge, e. g., spatula or teaspoon handle; then remove adhesive from the skin with soap and water. Do not try to pull

4 FIRST AID MEASURES

First Aid By::

	surfaces apart with a direct opposing action. Cyanoacrylates give off heat on solidification. In rare cases, a large drop will increase in temperature enough to cause a bum. Bums should be treated normally after the lump of cyanoacrylate is released from the tissue as described above.
Eye Contact	In the event that eyelids are stuck together or bonded to the eyeball, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1-4 days. There will be no residual damage. Do not try to open the eyes by manipulation. If cyanoacrylate is introduced into the eyes, it will attach to the eye protein and will disassociate from it over intermittent periods, generally several hours. This will cause periods of weeping until clearance is achieved. During this period, double vision may be experienced together with a lachrymatory effect, and it is important to understand the cause and realize that disassociation will normally occur within a matter of hours, even with gross contamination.
Ingestion	Ingestion is not likely. The adhesive solidifies and adheres in the mouth. If lips are accidentally stuck together, apply lots of warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Peel or roll lips apart. Do not try to pull the lips with direct opposing action. Saliva will lift the adhesive in one half to two days.

5 FIRE FIGHTING MEASURES

Flash Point:

= 185 °F TCC

Explosive Limits:

Lower Explosive Limit (LEL)	Not Determined
Upper Explosive Limit (UEL)	Not Determined

Extinguishing Media:

Recommended Extinguishing Media: Carbon Dioxide, Dry Chemicals, Foam.

Fire and Explosion Hazards:

Hazardous Products of Combustion: Oxides of carbon, Irritating vapors.
Unusual Fire/Explosion Hazards: May polymerize exothermically.

Comment:

Firefighters should wear self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:

Spill Procedures: Flood with water to polymerize. Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal.

Disposal:

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Avoid contact with skin and eyes. Avoid contact with clothing. Do not inhale vapors. Keep container closed when not in use. Wash hands before eating and smoking.

STORAGE

Storage Conditions:

Store away from water or moisture. Store at temperatures not exceeding 25°C.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits (or to the lowest feasible levels when limits have not been established) during the use of this product.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
2-Propenoic acid, 2-cyano-, ethyl ester	7085-85-0	GM OEG -TWA	0.2ppm	-	GM Occupational Exposure Guidelines (OEG)
2-Propenoic acid, 2-cyano-, ethyl ester	7085-85-0	TLV-TWA	0.2ppm	-	Threshold Limit Values (TLVs) - ACGIH
HYDROQUINONE	123-31-9	PEL-TWA	2mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
HYDROQUINONE	123-31-9	GM OEG -TWA	2mg/m3	-	GM Occupational Exposure Guidelines (OEG)
HYDROQUINONE	123-31-9	TLV-TWA	2mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
HYDROQUINONE	123-31-9	State-TWA	2mg/m3	-	MICHIGAN
HYDROQUINONE	123-31-9	State-TWA	2mg/m3	-	NEW YORK
HYDROQUINONE	123-31-9	State-TWA	2mg/m3	-	TENNESSEE

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Safety glasses.
Hand Protection	Rubber or plastic gloves.
Skin Protection	Do not wear protective clothes containing cotton.
Respiratory Protection	An approved organic vapor respirator should be worn when exposures are expected to exceed the applicable limits.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Odor: Irritating

Comment:

Physical state: Liquid
Appearance: Gel

PHYSICAL PROPERTIES

pH Value:

Concentrate	Does not apply.

Changes of State:

Boiling Point	=	365	°F

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Vapor Pressure:

=	1	mm Hg	=	20	°C

Vapor Density:

Nil (air=1)

Evaporation Rate:

Nil

Specific Gravity:

= 1.05

Solubility:

Water	Polymerized

VOC:

Analytical VOC (by. wt.)	<	0.17	lb/gal	Calculated from MSDS data by General Motors Technical Review.	SCAQMD 316B
Analytical VOC (by. vol.)	<	20	g/l		(California SCAQMD Method 316B)

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Avoid contact with clothes, fabrics, rags or tissue. Contact with these material may cause polymerization.

Incompatible Materials:

Polymerized by contact with water, alcohols, amines or alkalies.

Hazardous Polymerization:

May occur Hazardous polymerization may occur if over-catalyzed or insufficiently aerated after catalyzation. This polymerization is exothermic.

Comment:

Chemical Stability: Stable at normal conditions.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Hazardous Products of Combustion: Oxides of carbon, Irritating vapors

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

POLY (METHYL METHACRYLATE) 9011-14-7: <25 Weight%: IARC Group 3 Vol. 19, pg 187; 1979
SILICON DIOXIDE, AMORPHOUS 112945-52-5: <5 Weight%: IARC Amorphous Silica, Group 3: Vol. 68:1997
1,4-DIHYDROXYBENZENE 123-31-9: <1 Weight%: NTP: male rat-some evidence; female rat-some evidence; male mice-no evidence; female mice-some evidence
ACGIH: A3 - Animal Carcinogen
IARC: Group 3; Monograph 71, 1999; Supplement 7,1987; Monograph 15,1977

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

No data available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material.

14 TRANSPORT INFORMATION

DOT Shipping Name:

Not regulated

DOT Hazard Class:

None

DOT UN Code:

None

Comment:

IATA
Proper Shipping Name: Not regulated
Class or Division: None
UN/ID Number: None
IMDG
Proper Shipping: Not regulated
Hazard Class: None
UN Number: None
Marine Pollutant: None

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	2
NFPA Flammability	2
NFPA Reactivity	1
HMIS Health	2
HMIS Flammability	2
HMIS Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

SARA 313 Chemicals	The following component(s) is listed as a SARA Section 313 Toxic Chemical. NONE
TSCA Inventory Status	All components of this product are listed (or exempt) on the EPA TSCA inventory.

STATE/LOCAL REGULATIONS

Comment:

California Proposition 65: No California Prop 65 chemicals are known to be present.

16 OTHER INFORMATION

Comments:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: FUSOR 120 SMC REPAIR ADHESIVE HARDENER

Recommended Use:

PRODUCT USE/CLASS: STRUCTURAL EPOXY.

External Keys:

12345726	Distributable Material (Part #)
Fusor 120 SMC Repair Adhesive Hardener	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: LORD CORPORATION

Address:

111 Lord Dive	USA	NORTH CAROLINA	27512-8012	CARY	MAILING

Communication Lines:

Phone	800-424-9300	CHEMTREC
Phone	614-763-2345	EMERGENCY
Phone	814-868-3611	INFO
Phone	703-527-3887	Chemtrec outside Continental US

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
PHENOL	108-95-2	<	10	%Wt	Yes
POLYAMIDE RESIN	989921-84-2	<	20	%Wt	No
AMINE COMPOUND	989971-72-7	<	10	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

EMERGENCY OVERVIEW: Gray Paste, with Mild odor. Harmful if inhaled. Harmful if absorbed through skin. May cause skin and eye bums. May cause allergic skin reaction. May cause allergic respiratory reaction. May cause respiratory tract irritation

Specific Hazards:

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT, SKIN ABSORPTION, INHALATION, INGESTION, EYE CONTACT.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Eye Contact	General	May be corrosive to eyes; contact may cause eye bums. Eye contact may cause severe eye damage, including vision disturbances, corneal damage, and blindness.
Skin Contact	General	May be absorbed through the skin in harmful amounts. May be corrosive to skin; contact may cause skin bums, May cause skin sensitization. May cause allergic skin reaction. May cause dermatitis.
Inhalation	General	Possible irritation of the respiratory system can occur causing

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
		a variety of symptoms such as dryness of the throat, tightness of the chest, and shortness of breath. May cause headache and nausea. Inhalation may cause temporary blurring of vision, May cause respiratory sensitization. May cause allergic respiratory reaction.
Ingestion	General	Harmful if swallowed, Ingestion is not an expected route of entry in industrial or commercial uses.

Effects Of Overexposure:

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS- May cause respiratory sensitization. Extremely high vapor concentrations may cause lung damage. May cause liver or kidney damage. May affect the gastrointestinal system. Chronic skin contact may cause dermatitis. May cause nervous system disorders.

Medical Conditions Aggravated By Exposure:

NOT PROVIDED.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move per-son to fresh air. Restore and support continued breathing. If breathing is difficult, give oxygen. Get immediate medical attention.
Skin Contact	Flush contaminated skin with large amounts of water while removing contaminated clothing. Wash affected skin areas with soap and water. Get medical attention if symptoms occur.
Eye Contact	Flush eyes immediately with large amount of water for at least 15 minutes holding eyelids open while flushing. Get prompt medical attention.
Ingestion	If swallowed, do not induce vomiting, Give victim one or two glasses of water or milk, Call a physician or poison control center immediately for further instructions. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

5 FIRE FIGHTING MEASURES

Flash Point:

= 201 F SCC 93 C.

Explosive Limits:

Upper Explosive Limit (UEL)	=	8.6	%Vol
Lower Explosive Limit (LEL)	=	1.7	%Vol

Autoignition Temperature:

Not Determined

Extinguishing Media:

CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATER FOG.

Fire and Explosion Hazards:

KEEP CONTAINERS TIGHTLY CLOSED. CLOSED CONTAINERS MAY RUPTURE WHEN EXPOSED TO EXTREME HEAT. USE WATER SPRAY TO KEEP FIRE EXPOSED CONTAINERS COOL. DURING A FIRE, IRRITATING AND/OR TOXIC GASES AND PARTICULATE MAY BE GENERATED BY THERMAL DECOMPOSITION OR COMBUSTION.

Special Fire Fighting Procedures:

5 FIRE FIGHTING MEASURES

Special Fire Fighting Procedures:

WEAR FULL FIREFIGHTING PROTECTIVE CLOTHING, INCLUDING SELF-CONTAINED BREATHING APPARATUS (SCBA). IF WATER IS USED, FOG NOZZLES ARE PREFERABLE.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Keep non-essential personnel a
safe distance away from the spill area. Avoid breathing vapors. Use self-contained breathing equipment, Notify appropriate authorities if necessary. Avoid contact. Before attempting cleanup, refer to hazard caution information in other sections of the MSDS form.

SPILL OR LEAK PROCEDURES

Recovery:

Scoop spilled material into an appropriate container for proper disposal. (If necessary, use inert absorbent material to aid in containing the spill).

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Keep closure tight and container upright to prevent leakage. Avoid skin and eye contact. Wash thoroughly after handling. Avoid breathing of vapor or spray mists. Do not handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation.

STORAGE

Storage Conditions:

Store only in well-ventilated areas, Keep container closed when not in use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels Mow recommended exposure limits.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source	Memo
PHENOL	108-95-2	PEL-TWA	5ppm	-	OSHA - Permissible Exposure Limits (PELs)	Skin
PHENOL	108-95-2	GM OEG -TWA	5ppm	-	GM Occupational Exposure Guidelines (OEG)	Skin
PHENOL	108-95-2	TLV-TWA	5ppm	-	Threshold Limit Values (TLVs) - ACGIH	Skin
PHENOL	108-95-2	State-TWA	5ppm	-	MICHIGAN	
PHENOL	108-95-2	State-TWA	5ppm	-	NEW YORK	
PHENOL	108-95-2	State-TWA	5ppm	-	TENNESSEE	

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	USE SAFETY EYEWEAR INCLUDING SAFETY GLASSES WITH SIDE SHIELDS AND CHEMICAL GOGGLES WHERE SPLASHING MAY OCCUR.
Respiratory Protection	USE A NIOSH APPROVED AIR-PURIFYING ORGANIC VAPOR RESPIRATOR IF OCCUPATIONAL LIMITS ARE EXCEEDED. FOR EMERGENCY SITUATIONS, CONFINED SPACE USE, OR OTHER CONDITIONS WHERE EXPOSURE LIMITS MAY BE GREATLY EXCEEDED, USE AN APPROVED AIR-SUPPLIED RESPIRATOR. OBSERVE OSHA REGULATIONS (29CFR 1910.134) FOR RESPIRATOR USE.
Hand Protection	USE NEOPRENE, NITRILE, OR RUBBER GLOVES TO PREVENT SKIN CONTACT.

Hygiene Measures:

REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE. WASH HANDS BEFORE EATING, SMOKING, OR USING TOILET FACILITY. FOOD OR BEVERAGES SHOULD NOT BE CONSUMED ANYWHERE THIS PRODUCT IS HANDLED OR STORED. WASH THOROUGHLY AFTER HANDLING.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Paste
Color: GRAY
Odor: MILD. ODOR THRESHOLD: NOT DETERMINED.

PHYSICAL PROPERTIES

pH Value:

Not Applicable

Changes of State:

Boiling Range	=	358 - 448	F
Freezing Point	Not Determined		

Vapor Pressure:

Not Determined

Vapor Density:

HEAVIER THAN AIR.

Evaporation Rate:

Not Applicable

Density:

Density	=	10.2687	lb/gal

Specific Gravity:

=	1.23	Specific Gravity Calculated from MSDS data by General Motors Technical Review.

Solubility:

Water	INSOLUBLE.

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

VOC:

Theoretical VOC (by. wt.)	=	0	lb/gal	calculated.

Total Amount Of::

Percent Volatile by Weight	=	0	%Wt
Percent Volatile by Volume	=	0	%Vol

Additional Chemical and Physical Data:

COEFFICIENT OF WATER/ OIL DISTRIBUTION:	Not Determined

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

High temperatures.

Incompatible Materials:

Strong acids, bases, and strong oxidizers.

Hazardous Polymerization:

HAZARDOUS POLYMERIZATION WILL NOT OCCUR UNDER NORMAL CONDITIONS.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	CARBON MONOXIDE, CARBON DIOXIDE, ORGANIC OR INORGANIC NITROGEN COMPOUNDS INCLUDING TRACES OF HYDROGEN CYANIDE.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Additional Information:

ORAL/DERMAL PRODUCT LD50: NO DATA. PRODUCT LC50: NO DATA.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

NO INFORMATION.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

DISPOSAL SHOULD BE DONE IN ACCORDANCE WITH FEDERAL (40CFR PART 261), STATE AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. IF WASTE IS DETERMINED TO BE HAZARDOUS, USE LICENSED HAZARDOUS WASTE TRANSPORTER AND DISPOSAL FACILITY.

14 TRANSPORT INFORMATION

Comment:

THIS PRODUCT IS NOT REGULATED FOR NON-BULK ROAD SHIPMENTS. FOR THE MOST ACCURATE SHIPPING INFORMATION, REFER TO YOUR TRANSPORTATION/COMPLIANCE DEPARTMENT REGARDING CHANGES IN PACKAGE SIZE, MODE OF SHIPMENT OR OTHER REGULATORY DESCRIPTORS.

15 REGULATORY INFORMATION

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	2
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	2
NFPA Reactivity	0

Comment:

NFPA assigned by General Motors Technical Review.
HMIS Health = 2*
* - Indicates a chronic hazard~ see Section 3

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: Yes
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

OSHA HazCorn Standard:	This product is considered hazardous as defined by 29 CFR 1910.1200 (OSHA HazCorn Standard.)
SARA Section 313:	This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Super-fund Amendment and Reauthorization Act of 1986 and 40 CFR part 372: Phenol (108-95-2) < 10% Wt.
TOXIC SUBSTANCES CONTROL ACT INVENTORY STATUS:	The chernical substances in this product are on the TSCA Section 8
TSCA 12(b) EXPORT NOTIFICATION:	This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States: None.

16 OTHER INFORMATION

Comments:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: FUSOR 120 SMC REPAIR ADHESIVE RESIN

Recommended Use:

ADHESIVE

External Keys:

12345726	Distributable Material (Part #)
Fusor 120 SMC Repair Adhesive Resin	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: LORD CORPORATION

Address:

111 Lord Dive	USA	NORTH CAROLINA	27512-8012	CARY	MAILING

Communication Lines:

Phone	800-424-9300	CHEMTREC
Phone	614-763-2345	EMERGENCY
Phone	814-868-3611	INFO
Phone	703-527-3887	Chemtrec outside Continental US

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
EPOXY RESIN	989902-09-8	<	70	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

EMERGENCY OVERVIEW: White Liquid, with Mild odor. May cause skin and eye irritation. May cause allergic skin reaction. May cause respiratory tract irritation.

Specific Hazards:

PRIMARY ROUTE(S) OF ENTRY: Skin Contact, Inhalation, Ingestion, Eye Contact

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	MAY CAUSE SKIN IRRITATION. MAY CAUSE SKIN SENSITIZATION.
Eye Contact	General	MAY CAUSE IRRITATION.
Inhalation	General	MAY CAUSE RESPIRATORY TRACT IRRITATION.
Ingestion	General	HARMFUL IF SWALLOWED. INGESTION IS NOT AN EXPECTED ROUTE OF ENTRY IN INDUSTRIAL OR COMMERCIAL USES.

Effects Of Overexposure:

EFFECTS OF OVEREXPOSURE -CHRONIC HAZARDS: Chronic skin contact may cause dermatitis.

Medical Conditions Aggravated By Exposure:

NOT PROVIDED.

4 FIRST AID MEASURES

First Aid By::

4 FIRST AID MEASURES

First Aid By::

Inhalation	MOVE PERSON TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET IMMEDIATE MEDICAL ATTENTION.
Skin Contact	FLUSH CONTAMINATED SKIN WITH LARGE AMOUNTS OF WATER WHILE REMOVING CONTAMINATED CLOTHING. WASH AFFECTED SKIN AREAS WITH SOAP AND WATER. GET MEDICAL ATTENTION IF SYMPTOMS OCCUR.
Eye Contact	FLUSH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES HOLDING EYELIDS OPEN WHILE FLUSHING. GET PROMPT MEDICAL ATTENTION.
Ingestion	If swallowed, do not induce vomiting. Give victim one or two glasses of water or milk. Call a physician or poison control center immediately for further instructions. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

5 FIRE FIGHTING MEASURES

Flash Point:

=	201	F	SCC	93 C.

Explosive Limits:

Upper Explosive Limit (UEL)	Not Applicable
Lower Explosive Limit (LEL)	Not Applicable

Autoignition Temperature:

Not Determined

Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

Fire and Explosion Hazards:

Keep containers tightly closed, Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool, During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

Special Fire Fighting Procedures:

Wear full firefighting protective clothing, including self-contained breathing apparatus (SC13A). If water is used, fog nozzles are preferable.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Avoid breathing vapors. Notify appropriate authorities if necessary. Avoid contact. Use appropriate respiratory protection for large spills or spills in confined area. Keep non-essential personnel away from spill area.

SPILL OR LEAK PROCEDURES

Recovery:

Scoop spilled material into an appropriate container for proper disposal. (If necessary, use inert absorbent material to aid in containing the spill).

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Keep closure tight and container upright to prevent leakage, Avoid skin and eye contact. Wash thoroughly after handling. Do not handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation.

7 HANDLING AND STORAGE

STORAGE

Storage Conditions:

Store only in well-ventilated areas. Keep container closed when not in use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits,

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Use safety eyewear including safety glasses with side shields and chemical goggles where splashing may occur.
Skin Protection	Use disposable or impervious clothing if work clothing contamination is likely.
Respiratory Protection	Use a NIOSH approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other Conditions where exposure limits may be greatly exceeded, use an approved air-supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use.
Hand Protection	Use neoprene, nitrile, or rubber gloves to prevent skin contact.

Hygiene Measures:

WASH HANDS BEFORE EATING, SMOKING, OR USING TOILET FACILITY. FOOD OR BEVERAGES SHOULD NOT BE CONSUMED ANYWHERE THIS PRODUCT IS HANDLED OR STORED. WASH THOROUGHLY AFTER HANDLING. Remove and wash contaminated clothing before reuse.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: WHITE.
Odor: MILD.ODOR THRESHOLD: Not Determined..

PHYSICAL PROPERTIES

pH Value:

Not Applicable

Changes of State:

Boiling Range	Not Applicable
Freezing Point	Not Determined

Vapor Pressure:

Not Determined

Vapor Density:

HEAVIER THAN AIR.

Evaporation Rate:

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Evaporation Rate:

Not Applicable

Density:

Density	=	11.8110	lb/gal

Specific Gravity:

= 1.42 Specific Gravity Calculated from MSDS data by General Motors Technical Review.

Solubility:

Water INSOLUBLE.

VOC:

Theoretical VOC (by. wt.)	=	0	lb/gal	0 g/l Calculated.

Total Amount Of::

Percent Volatile by Volume	=	0	%Vol
Percent Volatile by Weight	=	0	%Wt

Additional Chemical and Physical Data:

COEFFICIENT OF WATER/ OIL DISTRIBUTION:	Not Determined

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

HIGH TEMPERATURES.

Incompatible Materials:

AMINES, ACIDS, WATER, HYDROXYL, OR ACTIVE HYDROGEN COMPOUNDS.

Hazardous Polymerization:

Hazardous polymerization will not occur under normal conditions.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	CARBON MONOXIDE, CARBON DIOXIDE, ALDEHYDES.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Additional Information:

PRODUCT LD50:(ORAL): NO DATA.(DERMAL): NO DATA.PRODUCT LC50: NO DATA.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

NO INFORMATION.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

DISPOSE SHOULD BE DONE IN ACCORDANCE WITH FEDERAL (40 CFR PART 261), STATE AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. IF WASTE IS DETERMINED TO BE HAZARDOUS, USE LICENSED HAZARDOUS WASTE TRANSPORTER AND DISPOSAL FACILITY.

14 TRANSPORT INFORMATION

Comment:

THIS PRODUCT IS NOT REGULATED FOR NO BULK ROAD SHIPMENTS. FOR THE MOST ACCURATE SHIPPING INFORMATION, REFER TO YOUR TRANSPORTATION/COMPLIANCE DEPARTMENT REGARDING CHANGES IN PACKAGE SIZE, MODE OF SHIPMENT OR OTHER REGULATORY DESCRIPTORS.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	2
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	2
NFPA Reactivity	0

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

OSHA HazCom Standard:	This product is considered hazardous as defined by 29 CFR 191 O~ 1200 (OSHA HazCom Standard.)
SARA SECTION 313:	This product contains the following substances subject to the reporting requirements of Section 313 Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372: None.
TOXIC SUBSTANCES CONTROL ACT INVENTORV STATUS:	The chemical substances in this product are on the TSCA Section 8 Inventory.
TOXIC SUBSTANCES CONTROL ACT 12 (b) EXPORT NOTIFICATION:	This product contains the following chernical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States: None.

16 OTHER INFORMATION

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: SYNTHETIC OIL 605

Recommended Use:

Lubricating Oil.

External Keys:

10-4041, 12345982	Distributable Material (Part #)
SUPERCHARGER OIL	Primary Tradename - Distributable Material
CN38063	GM of Canada Approval Number

MANUFACTURER INFORMATION

Manufacturer: Nye Lubricants, Inc.

Address:

12 Howland Road	USA	Massachusetts	02719	Fairhaven	Mailing

Communication Lines:

Phone	508-996-6721	Information
Phone	508-758-4405	MSDS
Phone	508-993-4685	MSDS
Fax	508-997-5285	Fax
Internet	www.nyelubricants.com	Website (with MSDS)
Phone	800-424-9300	Emergency (CHEMTREC)

Emergency Phone:

Emergency Number	Phone	(800) 424-9300

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
SYNTHETIC OIL	989920-65-7	=	100	%Wt	No
Fatty acids, C5-10, esters with dipentaerythritol	70983-72-1	=	98	%Wt	No
Phosphoric acid, (1,1-dimethylethyl) phenyl diphenyl ester	56803-37-3	=	0	%Wt	No
PHOSPHORIC ACID, TRIPHENYL ESTER	115-86-6	=	0	%Wt	Yes
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	=	0	%Wt	No
BENZENEPROPANOIC ACID, 3,5-BIS(1,1-DIMETHYLETHYL)-4-HYDROXY-, THIODI-2,1-ETHANEDIYL ESTER	41484-35-9	=	0	%Wt	No
Phosphoric acid, bis[(1,1-dimethylethyl)phenyl] phenyl ester	65652-41-7	=	0	%Wt	No
1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-ar-methyl-	94270-86-7	=	0	%Wt	No
Phenol, 4-(1,1-dimethylethyl)-, phosphate (3:1)	78-33-1	=	0	%Wt	No
BUTYLATED TRIPHENYL PHOSPHATE MIXTURE	989987-19-6	=	0	%Wt	No
Polydimethylsiloxanes	63148-62-9	=	0	%Wt	No

Comment:

2 INGREDIENT INFORMATION

FORMULATION

Comment:

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

3 HAZARDS IDENTIFICATION

Hazards Overview:

Emergency overview: Prolonged and/or repeated skin contact may result in mild irritation or redness. May be ignited by heat, sparks or flames. Contact with eyes may cause irritation. Health injuries are not known or expected under normal use.

Specific Hazards:

Routes of exposure: Skin contact. Eye contact.
Target organs: Eyes. Skin.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Eye contact	General	Contact with eyes may cause irritation.
Skin Contact	General	Prolonged and/or repeated skin contact may result in mild irritation or redness.
Inhalation	General	Health injuries are not known or expected under normal use.
Ingestion	General	Health injuries are not known or expected under normal use.

Medical Conditions Aggravated By Exposure:

Not provided.

4 FIRST AID MEASURES

First Aid Procedures:

If you feel unwell, seek medical advice (show the label where possible).

First Aid By::

Inhalation	If symptoms develop, remove affected person from source of exposure into fresh air. Get immediate medical attention.
Skin Contact	Wash off with soap and water. Get medical attention if symptoms occur. Wash clothing separately before reuse.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.
Ingestion	If ingestion of a large amount does occur, seek medical attention. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions.

5 FIRE FIGHTING MEASURES

Product Flammability:

The product is not flammable. No unusual fire or explosion hazards noted.

Flash Point:

Not Available	Flash point class: Combustible IIIB

Explosive Limits:

Upper Explosive Limit (UEL)	Not Available
Lower Explosive Limit (LEL)	Not Available

Autoignition Temperature:

Not

5 FIRE FIGHTING MEASURES

Autoignition Temperature:

Available

Extinguishing Media:

Water Fog. Foam. Carbon dioxide (C02). Dry chemical.

Non Suitable Extinguishing Media:

Water. Do not use water jet as an extinguisher, as this will spread the fire.

Special Fire Fighting Procedures:

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Move containers from fire area if you can do it without risk.

Comment:

Hazardous combustion products. Carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Oxides of silicon. Oxides of phosphorus. Acrolein. Formaldehyde. Aldehydes. Ketones.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Observe precautions from other sections.

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Prevent entry into waterways, sewers, basements or confined areas.

SPILL OR LEAK PROCEDURES

Recovery:

Methods for containment: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.
Methods for cleaning up: Should not be released into the environment.
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Soak up with inert absorbent material. Absorb in vermiculite, dry sand or earth and place into containers. Clean contaminated surface thoroughly. Following product recovery, flush area with water.
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Avoid prolonged or repeated skin contact with this material. Do not handle or store near an open flame, heat or other sources of ignition. Avoid breathing gas/vapors/ mist/fumes. Do not take internally. Do not taste or swallow. Avoid contact with eyes. Wash thoroughly after handling. Avoid release to the environment. Handle and open container with care.

STORAGE

Storage Conditions:

Keep away from heat and sources of ignition. Store in cool place. Store in a closed container away from incompatible materials. Use care in handling/storage.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

EXPOSURE LIMITS

Limit Values:

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
PHOSPHORIC ACID, TRIPHENYL ESTER	115-86-6	PEL-TWA	3mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
PHOSPHORIC ACID, TRIPHENYL ESTER	115-86-6	GM OEG -TWA	3mg/m3	-	GM Occupational Exposure Guidelines (OEG)
PHOSPHORIC ACID, TRIPHENYL ESTER	115-86-6	TLV-TWA	3mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
PHOSPHORIC ACID, TRIPHENYL ESTER	115-86-6	State-TWA	3mg/m3	-	MICHIGAN
PHOSPHORIC ACID, TRIPHENYL ESTER	115-86-6	State-TWA	3mg/m3	-	NEW YORK
PHOSPHORIC ACID, TRIPHENYL ESTER	115-86-6	State-TWA	3mg/m3	-	TENNESSEE

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Wear safety glasses; chemical goggles (if splashing is possible).
Skin Protection	Wear suitable protective clothing.
Hand Protection	Wear nitrile, neoprene, PVC or viton gloves.
Respiratory Protection	An air purifying respirator with an organic vapor cartridge may be used under certain circumstances where airborne concentrations are expected to exceed exposure limits, or if irritation or symptoms are experienced. Respiratory protection must be provided in accordance with 29 CFR 1910.134. No personal respiratory protective equipment normally required.

Hygiene Measures:

When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly after handling. Launder contaminated clothing before reuse.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: Clear
Odor: Slight

PHYSICAL PROPERTIES

pH Value:

Concentrate	Not Available

Changes of State:

Boiling Point	Not Available
Melting/Freezing Point	Not Available

Vapor Pressure:

Not Available

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Vapor Density:

Not Available

Density:

Density	=	1	g/cm³ (cc)

Specific Gravity:

=	1	Specific Gravity calculated from MSDS data by GM Tech Review.

Solubility:

Water	Not Available

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Heat, flames and sparks.

Incompatible Materials:

Strong acids, alkalies and oxidizing agents.

Comment:

Chemical stability: Material is stable under normal conditions.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Oxides of phosphorus. Oxides of silicon. Formaldehyde.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Data By Chemical:

Chemical Name	CAS Number	Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
SYNTHETIC OIL	989920-65-7	dermal	LD50	=	2601	g/kg	rabbit	estimated
SYNTHETIC OIL	989920-65-7	oral	LD50	=	1646	g/kg	chicken	estimated
SYNTHETIC OIL	989920-65-7	oral	LD50	=	428	g/kg	mouse	estimated
SYNTHETIC OIL	989920-65-7	oral	LD50	=	1251	g/kg	rat	estimated
SYNTHETIC OIL	989920-65-7		LD50	=	32927	mg/kg	cat	estimated

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC and NTP.

Comment:

Further information: This product has no known adverse effect on human health.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Potential environmental effects: May cause long-term adverse effects in the environment.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Environmental effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Components of this product have been identified as having potential environmental concerns.

ECOTOXICITY

Comment:

SYNTHETIC OIL 605 (Mixture): LC50 Fish: 9835 mg/l 96.00 hours estimated.
* Estimates for product may be based on additional component data not shown.
Ecotoxicity: Contains a substance which causes risk of hazardous effects to the environment.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

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. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). 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. Dispose in accordance with all applicable regulations.
Waste from residues / unused products: Not applicable.
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14 TRANSPORT INFORMATION

DOT Information:

Not regulated as dangerous goods.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	0
HMIS Flammability	0
NFPA Flammability	0
NFPA Health	0
NFPA Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

TCSA:	U.S. manufacturers are required to comply with the TSCA Inventory.
OSHA regulatory status:	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
CERCLA/SARA Hazardous Substances:	Not applicable.
Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2)	Not regulated.
DEA Essential Chemical Code Number	Not regulated.
Drug Enforcement Administration (DEA). List 1 & 2	Not regulated.

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Other Regulation:

Exempt Chemical Mixtures (21 CFR 1310.12(c))	
DEA Exempt Chemical Mixtures Code Number	Not regulated.
CERCLA (Superfund) reportable quantity	None
Section 302 extremely hazardous substance:	No
Section 311 hazardous chemical:	No
United States & Puerto Rico:	Toxic Substances Control Act (TSCA) Inventory: No. A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

Comment:

TSCA: ALL COMPONENTS COMPLY WITH TSCA. // EPA REGULATIONS: SARA 311/312 CODES: N/A // SARA TOXIC CHEMICAL (40 CFR 372.65): N/A //SARA EHS (EXTREMELY HAZARDOUS SUBSTANCE) (40 CFR 355): NOT LISTED. THRESHOLD PLANNING QUANTITY (TPQ): N/A // OSHA REGULATIONS: AIR CONTAMINANTS (29 CFR 1910.1000): OIL MIST IN AIR IF HEATED ABOVE 250 C.LIMIT FOR AIRBORNE CONCENTRATION IS 5 MG/M3.

STATE/LOCAL REGULATIONS

Comment:

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16 OTHER INFORMATION

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: 12345996 HI TEMP GREASE

Recommended Use:

None specified.

External Keys:

12345996	Distributable Material (Part #)
High Temperature Grease	Primary Tradename - Distributable Material
10-4009	Distributable Material (Part #)
88900336	SPO Catalog Discontinued
12345997	Distributable Material (Part #)
10953482	Distributable Material (Part #)
10953501	Distributable Material (Part #)
CN31069	GM of Canada Approval Number
10-4048	Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: VALSPAR CORPORATION

Address:

411 NORTH DARLING	USA	MICHIGAN	49412	FREMONT	MAILING

Communication Lines:

Phone	231-924-3950	EMERGENCY
Phone	231-924-3950	INFO

SUPPLIER INFORMATION

Supplier: GM of Canada - Oshawa

Address:

1908 Colonel Sam Drive	CAN	ON	L1H8P7	Oshawa	Mailing

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
PROPRIETARY ADDITIVE	989987-67-9	<	34	%Wt	No
OIL	989903-10-7	Range	65-70	%Wt	No
ZINC OXIDE	1314-13-2	Range	1-5	%Wt	Yes

Comment:

If this section is blank there are no hazardous components per OSHA guidelines.

3 HAZARDS IDENTIFICATION

Specific Hazards:

Primary Routes of Exposure: Inhalation, Ingestion, Skin absorption.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Eye Contact	General	Moderate eye irritation
Skin Contact	General	Causes skin irritation.
Ingestion	General	None known.
Inhalation	General	Causes respiratory tract irritation. Harmful by inhalation.

Medical Conditions Aggravated By Exposure:

3 HAZARDS IDENTIFICATION

Medical Conditions Aggravated By Exposure:

Any respiratory or skin condition.

Additional Health Hazard Data:

CHRONIC HAZARDS: Health studies may vary from person to person. Intentional misuse b deliberate concentration and inhalation may be harmful or fatal. As a precaution, exposure to liquids or vapors should be minimized.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention immediately.
Skin Contact	Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.
Eye Contact	Get medical attention, if symptoms develop or persist. Immediately flush eye(s) with plenty of water. Remove any contact lenses and open eyes wide apart.
Ingestion	Get medical attention if symptoms occur.

Notes To Physician:

Any respiratory or skin condition.

5 FIRE FIGHTING MEASURES

Flash Point:

>	450	°F	232°C

Explosive Limits:

Upper Explosive Limit (UEL)	Not Determined	FLAMMABLE LIMITS
Lower Explosive Limit (LEL)	Not Determined	FLAMMABLE LIMITS

Autoignition Temperature:

Not Determined

Extinguishing Media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire and Explosion Hazards:

None known.

Special Fire Fighting Procedures:

Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Avoid contact with eyes.

SPILL OR LEAK PROCEDURES

Recovery:

Remove ignition sources. Dike and take up with absorbent material. Ensure adequate ventilation.

7 HANDLING AND STORAGE

STORAGE

Storage Conditions:

Keep container closed when not in use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Ventilation: Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
ZINC OXIDE	1314-13-2	GM OEG -TWA	2mg/m3	-	GM Occupational Exposure Guidelines (OEG)
ZINC OXIDE	1314-13-2	TLV-TWA	5mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
ZINC OXIDE	1314-13-2	TLV-STEL	10mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
ZINC OXIDE	1314-13-2	State-TWA	10mg/m3	-	MICHIGAN
ZINC OXIDE	1314-13-2	State-TWA	10mg/m3	-	NEW YORK
ZINC OXIDE	1314-13-2	State-TWA	10mg/m3	-	TENNESSEE
ZINC OXIDE	1314-13-2	GM OEG -STEL	10mg/m3	-	GM Occupational Exposure Guidelines (OEG)
ZINC OXIDE	1314-13-2	PEL-TWA	5mg/m3	-	OSHA - Permissible Exposure Limits (PELs)

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Respiratory Protection	Wear appropriate, properly fitted respirator (NIOSH approved) during spray application or in other situation where mists may be generated unless air monitoring vapor mist levels are below applicable limits- where applicable limits have been established. When respirators are used, follow respirator manufacturer's directions for use.
Hand Protection	Appropriate chemical resistant gloves should be worn.
Eye Protection	Wear safety glasses or goggles to protect against exposure.

Special Precautions:

Other Personnel Protection Data: Ensure that eyewash stations and safety showers are close to the workstation location.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Odor: Normal for this product type.

Comment:

Physical State: liquid

PHYSICAL PROPERTIES

pH Value:

Not Determined

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Changes of State:

Boiling Point	Not Determined

Vapor Pressure:

Not Determined

Vapor Density:

= 14 (Air=1)

Evaporation Rate:

Not Determined butyl acetate = 1.0

Density:

Density = 7.61 lb/gal

Specific Gravity:

= 0.914 Typical.

Solubility:

WATER: Negligible Lss than 0.1%

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

None known.

Incompatible Materials:

Strong oxidizing agents.

Hazardous Polymerization:

None anticipated.

Comment:

Sensitivity to static discharge: Sensitivity to static discharge is not expected.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Carbon monoxide and carbon dioxide. Oxides of sulfur. Nitrogen compounds.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Data By Chemical:

Chemical Name	CAS Number	Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
PROPRIETARY ADDITIVE	989987-67-9	Inhalation	LC50	=	2.18	mg/l	Rat	4 H
PROPRIETARY ADDITIVE	989987-67-9	dermal	LD50	>	2000	mg/kg	Rabbit	
PROPRIETARY ADDITIVE	989987-67-9	oral	LD50	>	5000	mg/kg	Rat	
ZINC OXIDE	1314-13-2	oral	LD50	>	5000	mg/kg	Rat	

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

CARCINOGENIC LISTING: NTP: No. IARC: No. ACGIH: No.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

No information on ecology is available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Disposal should be made in accordance with federal, state and local regulations.

14 TRANSPORT INFORMATION

DOT Shipping Name:

PAINT ADDITIVE, NOT REGULATED

Comment:

U.S. Highway & Rail Shipments: The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

International Air Transport Association (IATA):
Proper Shipping Name: Contact Supplier for further information.
International Maritime Organization (IMO):
Proper Shipping Name: Contact Supplier for further information.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	1
NFPA Flammability	1
NFPA Reactivity	0
HMIS Health	1
HMIS Flammability	1
HMIS Reactivity	0
HMIS PPE	X

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: Yes
SARA 313: No
Immediate Health: Yes
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

SARA 313:	ZINC OXIDE 1314-13-2: YES
TSCA:	All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

15 REGULATORY INFORMATION

STATE/LOCAL REGULATIONS

Comment:

Right to Know: The specific chemical identity of a component may be withheld as a trade secret under 34 Pennsylvania Code, Chapter 317.
Pennsylvania Right To Know:
PROPRIETARY OIL: Trade Secret
ZINC OXIDE: 1314-13-2

16 OTHER INFORMATION

Comments:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: GM 12346004 PIPE SEALANT WITH PTFE

External Keys:

10-2008, 12346004	Distributable Material (Part #)
Pipe Sealant with PTFE	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: ITW Permatex

Address:

10 Columbus Blvd.	USA	Connecticut	06106	Hartford	MAILING

Communication Lines:

Phone	877-376-2839	EMERGENCY
Phone	877-376-2839	INFO
Phone	800-255-3924	EMERGENCY
Phone	813-348-0585	International Emergency
Internet	www.permatex.com	Website (with MSDS)

Comment:

As of 07.Jul.2011, the MSDS dated 15.Feb.2005 is the most recent per the manufacturer.

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
Poly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]-	25852-47-5	Range	30 - 40	%Wt	No
Hexanedioic acid, polymer with 1,3-butanediol, hexadecanoate	68332-62-7	Range	20 - 30	%Wt	No
Cellulose, acetate butanoate	9004-36-8	Range	10 - 20	%Wt	No
ETHYLENE, TETRAFLUORO-, POLYMER	9002-84-0	Range	1 - 10	%Wt	No
POLYETHYLENE	9002-88-4	Range	1 - 10	%Wt	No
SILICA, AMORPHOUS FUMED	112945-52-5	Range	1 - 10	%Wt	No
1,2-BENZISOTHIAZOLIN-3-ONE, 1,1-DIOXIDE	81-07-2	Range	1 - 10	%Wt	No
TITANIUM OXIDE	13463-67-7	Range	1 - 10	%Wt	Yes
HYDROPEROXIDE, alpha,alpha-DIMETHYLBENZYL-	80-15-9	Range	0.5 - 5	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

Toxicity: Note: This product does not contain microcyrstalline silica. May cause eye and skin irritation. Ingestion may irritate digestive tract and cause nausea, vomiting and diarrhea. May cause skin sensitization.

Specific Hazards:

Primary Routes of Entry: Eye and skin contact, ingestion, inhalation.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Eye contact	General	May cause redness to eyes and irritation to nasal passages.

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	Repeated skin contact may cause allergic skin reactions.

Medical Conditions Aggravated By Exposure:

Preexisting skin disorders.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move to fresh air in case of accidental inhalation of vapors. Obtain medical attention.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes If skin irritation persists, call a physician
Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Ingestion	If swallowed, DO NOT induce vomiting Keep individual calm. Obtain medical attention.

5 FIRE FIGHTING MEASURES

Flash Point:

> 200 °F TCC

Explosive Limits:

Lower Explosive Limit (LEL)	Not Determined
Upper Explosive Limit (UEL)	Not Determined

Extinguishing Media:

Recommended Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical.

Fire and Explosion Hazards:

Hazardous Products Formed by Fire or Thermal Decomposition: Irritating vapors. Oxides of carbon.
Unusual Fire/Explosion Hazards: None

Comment:

Firefighters should wear self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:

Spill Procedures: Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal.

Disposal:

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Avoid prolonged skin contact. Keep away from eyes. Do not inhale vapors.

STORAGE

Storage Conditions:

Store below 100 degrees F. Keep in cool and dark place. Avoid direct sunlight.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
TITANIUM OXIDE	13463-67-7	PEL-TWA	15mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
TITANIUM OXIDE	13463-67-7	GM OEG -TWA	10mg/m3	-	GM Occupational Exposure Guidelines (OEG)
TITANIUM OXIDE	13463-67-7	TLV-TWA	10mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
TITANIUM OXIDE	13463-67-7	State-TWA	10mg/m3	-	MICHIGAN
TITANIUM OXIDE	13463-67-7	State-TWA	5mg/m3	-	NEW YORK
TITANIUM OXIDE	13463-67-7	State-TWA	10mg/m3	-	TENNESSEE

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Safety glasses.
Hand Protection	Rubber or plastic gloves.
Respiratory Protection	An approved respirator (i.e. NIOSH, etc.) should be worn when exposures are expected to exceed the applicable limits.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: White
Odor: Mild
Comment:

Physical state: paste

PHYSICAL PROPERTIES

pH Value:

Solution	Does not apply

Changes of State:

Boiling Point	>	300	°C

Vapor Pressure:

Not Determined

Vapor Density:

Heavier than air.

Evaporation Rate:

Not

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Evaporation Rate:

Determined

Specific Gravity:

= 1.15

Solubility:

Water Insoluble

VOC:

Theoretical VOC (by. wt.) Not Determined

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Heat

Incompatible Materials:

Metal salts, heat and amines.

Hazardous Polymerization:

Will not occur.

Comment:

Chemical Stability: Stable at normal conditions

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Hazardous Products Formed by Fire or Thermal Decomposition: Irritating vapors Oxides of carbon.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

SILICON DIOXIDE, AMORPHOUS 112945-52-5: Percent: 1- 10: NTP: Not listed; ACGIH Carcinogens: Not listed; IARC: Amorphous Silica, Group 3: Vol. 68: 1997

SACCHARIN B1-07-2: Percent: 1- 10: NTP: Delisted April 2000; ACGIH Carcinogens: ---; IARC: Group 3: Vol 73, Page 517: 1999

TITANIUM DIOXIDE 13463-67-7: Percent: 1- 10: NTP: Not listed; ACGIH Carcinogens: Not listed; IARC: Group 3; Vol 47, pg 307, 1989

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

No data available

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.

US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material

14 TRANSPORT INFORMATION

DOT Shipping Name:

Unrestricted

14 TRANSPORT INFORMATION

DOT Hazard Class:

None

DOT UN Code:

None

Comment:

Marine Pollutant: None
IATA
Proper Shipping Name: Not regulated
Class or Division: None
UN/NA Number: None
IMDG
Proper Shipping: Unrestricted
Hazard Class: None
UN Number: None

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	2
NFPA Flammability	1
NFPA Reactivity	1
HMIS Health	2
HMIS Flammability	1
HMIS Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: Yes
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

SARA 313 Chemicals: The following component (s) is listed as a SARA section 313 toxic chemical	SARA 313 Information: DIMETHYLBENZYL HYDROPEROXIDE
TSCA Inventory Status	Listed on Inventory: YES All components of this product are listed (or exempt) on the EPA TSCA inventory.

STATE/LOCAL REGULATIONS

Comment:

CALIFORNIA PROP 65: No California Prop 65 chemicals are known to be present.

16 OTHER INFORMATION

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: Syntorq LT 75W-85W
Product Code: 459664
Recommended Use:

Metal forming oil. For specific application advice see appropriate Technical Data Sheet or consult our company representative.

External Keys:

12346190	Distributable Material (Part #)
ACDELCO SYNTHETIC MANUAL TRANSMISSION FLUID, 75W-90 GL-4	Primary Tradename - Distributable Material
10-4059	Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: BP Lubricants USA Inc.
Address:

1500 Valley Road	USA	New Jersey	07474	Wayne	MAILING

Communication Lines:

Phone	973-633-2200	EMERGENCY
Phone	732-980-9100	EMERGENCY
Phone	973-633-2200	INFO
Phone	908-980-9100	MSDS
Fax	973-633-7475	Telecopier
Phone	800-321-8642	BP Emergency Response Center

Comment:

Prepared by: Product Stewardship

Comment:

MANUFACTURER NAME CHANGE. FORMERLY MANUFACTURED BY CASTROL NORTH AMERICA.

2 INGREDIENT INFORMATION

Chemical Family: SYNTHETIC HYDROCARBON MIXTURE

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
OIL	989903-10-7	<	100	%Wt	No

Comment:

This product does not contain any hazardous ingredients at or above regulated thresholds.

3 HAZARDS IDENTIFICATION

Hazards Overview:

Emergency overview CAUTION !
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Specific Hazards:

3 HAZARDS IDENTIFICATION

Specific Hazards:

Routes of entry Dermal contact. Eye contact. Inhalation. Ingestion.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Eye Contact	General	May cause eye irritation.
Inhalation	General	May cause respiratory tract irritation.
Ingestion	General	Ingestion may cause gastrointestinal irritation and diarrhea.

Medical Conditions Aggravated By Exposure:

Not provided.

Comment:

See toxicological Information (section 11).

4 FIRST AID MEASURES

First Aid By::

Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
Skin Contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if symptoms occur.
Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Get medical attention if symptoms occur.

5 FIRE FIGHTING MEASURES

Flash Point:

=	392	F	COC	200 C.

Extinguishing Media:

Use an extinguishing agent suitable for surrounding fires.

Non Suitable Extinguishing Media:

Do not use water jet.

Fire and Explosion Hazards:

In a fire or if heated, a pressure increase will occur and the container may burst. Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and shocks and mechanical impacts. Hazardous combustion products: Decomposition products may include the following materials: carbon oxides (CO, CO2) (carbon monoxide, carbon dioxide)

Special Fire Fighting Procedures:

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. Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus
(SCBA) with a full facepiece operated in positive pressure mode.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. 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).

SPILL OR LEAK PROCEDURES

Recovery:

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, 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.
Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation Wear appropriate respirator when ventilation is inadequate.

STORAGE

Storage Conditions:

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well ventilated area, away from incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Containers that are opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Use only with adequate ventilation If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Some states may enforce more stringent exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Avoid contact with eyes. Safety glasses with side shields or chemical goggles.
Skin Protection	Avoid contact with skin and clothing. Wear suitable protective clothing.
Respiratory Protection	Use adequate ventilation. In accordance with good industrial hygiene and safety work practices,

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

	airborne exposures should be controlled to the lowest extent practicable.
Hand Protection	The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

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.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: Clear. Yellow. [Light]

PHYSICAL PROPERTIES

Changes of State:

Melting/Freezing Point	=	32	F	0 c. Melting point.

Specific Gravity:

Range	0.777	0.957

Solubility:

Water	Insoluble.

Viscosity:

Dynamic Viscosity	=	34	Pas	(34000 cP) at 40°C
	=	75		Kinematic: mm2/s (75 cSt) at 40°C
	=	12		Kinematic: mm2/s (12 cSt) at 100°C

Total Amount Of::

Percent Volatile by Weight	Not Available BY WEIGHT: NA.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable
Conditions to Avoid:

Not available.

Incompatible Materials:

Reactive or incompatible with the following materials: oxidizing materials.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Hazardous Polymerization:

Will not occur.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Thermal Decomposition	Hazardous combustion products: Decomposition products may include the following materials: carbon oxides (CO, CO2) (carbon monoxide, carbon dioxide)
Decomposition	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

No known significant effects or critical hazards.
WARNING: This product contains a chemical known to the State of California to cause cancer.
Ethyl acrylate

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

No testing has been performed by the manufacturer.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14 TRANSPORT INFORMATION

DOT Information:

Not classified as hazardous for transport.

Comment:

Not classified as hazardous for transport (TDG, IMO/IMDG, IATA/ICAO)

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	1
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	1
NFPA Reactivity	0
HMIS PPE	B

NATIONAL REGULATIONS

SARA 311/312: Yes

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

SARA 313: No
Immediate Health: Yes
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

United States inventory (TSCA 8b):	All components are listed or exempted.
TSCA 12(b) one time export:	3a,4,7,7a-tetrahydro-4,7-methanoindene
SARA 302/304/311/312 extremely hazardous substances:	No products were found.
SARA 302/304 emergency planning and notification:	No products were found.
SARA 302/304/311/312 hazardous chemicals:	No products were found.
SARA 313 Form R - Reporting requirements:	This product does not contain any hazardous ingredients at or above regulated thresholds.
SARA 313 Supplier notification:	This product does not contain any hazardous ingredients at or above regulated thresholds.
CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):	CERCLA: Hazardous substances.: No products were found.

STATE/LOCAL REGULATIONS

Comment:

Massachusetts Substances: Massachusetts RTK: None of the components are listed.
New Jersey Hazardous Substances: New Jersey Hazardous Substances: None of the components are listed.
Pennsylvania RTK Hazardous Substances: Pennsylvania RTK: None of the components are listed.
WARNING: This product contains a chemical known to the State of California to cause cancer.
Ethyl acrylate

16 OTHER INFORMATION

Comments:

Label requirements CAUTION !
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: Super Lube Synthetic-Based Lubricant with PTFE

External Keys:

10-4011	Distributable Material (Part #)
12346241	Distributable Material (Part #)
771302	Distributable Material (Part #)
88900397	Distributable Material (Part #)
SUPER LUBE - MULTI PURPOSE LUBRICANT	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: Henkel Corporation

Address:

One Henkel Way	USA	Connecticut	06067	Rocky Hill	Mailing
1001 Trout Brook Crossing	USA	Connecticut	06067	Rocky Hill	Mailing

Communication Lines:

Phone	860-571-5100	Information / Emergency
Phone	860-571-5465	
Phone	860-520-5000	
Phone	800-243-4874	
Phone	800-334-5124 J-.S.	
Internet	www.loctite.com	
Phone	860-571-5100	Info and Emergency
Internet	www.loctite.com	

Comment:

Process MSDS as OSHA Compliant.

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
1-Decene, homopolymer, hydrogenated	68037-01-4	Range	30 - 60	%Wt	No
MINERAL OIL, SLAB OIL	8042-47-5	Range	30 - 60	%Wt	No
SILICA, AMORPHOUS FUMED	112945-52-5	Range	5 - 10	%Wt	No
ETHYLENE, TETRAFLUORO-, POLYMER	9002-84-0	Range	1 - 5	%Wt	No
Sulfonic acids, petroleum, barium salts	61790-48-5	Range	1 - 5	%Wt	No
POLYPROPYLENE GLYCOL 4025	25322-69-4	Range	1 - 5	%Wt	No
MINERAL OIL, PETROLEUM DISTILLATES, SOLVENT-REFINED (severe) HEAVY PARAFFINIC	64741-88-4	Range	0.1 - 1	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

WARNING: CONTENTS UNDER PRESSURE. FLAMMABLE LIQUID AND VAPOR. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.

Specific Hazards:

3 HAZARDS IDENTIFICATION

Specific Hazards:

Relevant routes of exposure: Skin, Inhalation, Eyes.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Observation
Inhalation	May cause respiratory tract irritation. Excessive inhalation of this material causes headache, dizziness, nausea and incoordination.
Skin Contact	May cause skin irritation. Solvent action can dry and defat the skin, causing the skin to crack, leading to dermatitis.
Eye Contact	Vapors may irritate eyes. Contact with eyes will cause irritation.
Ingestion	Not a likely route of entry. May be harmful if swallowed.

Medical Conditions Aggravated By Exposure:

Eye, skin, and respiratory disorders.

Additional Health Hazard Data:

1-Decene, homopolymer, hydrogenated (68037-01-4): No Target Organs.
White mineral oil (petroleum), highly refined (8042-47-5): Irritant.
Silica, amorphous, fumed, crystal-free (119245-52-5): Nuisance dust.
Ethene, tetrafluoro-, homopolymer (9002-84-0): No Target Organs.
Barium sulfonate (61790-48-5): No Records.
Polypropyleneglycol (25322-69-4): Cardiac, Central nervous system, Irritant.
Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4): Irritant.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move to fresh air. If symptoms persist, seek medical advice.
Skin Contact	Wipe off with paper towel or cloth. Wash with soap and water. If adverse health effects develop seek medical attention.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion	Do not induce vomiting. Keep individual calm. Never give anything by mouth to an unconscious person. Get medical attention.

5 FIRE FIGHTING MEASURES

Product Flammability:

Flashback: This product exhibits flashback when tested for flame extension.
Flame projection: >18 inch (> 45.72 cm)

Flash Point:

>	93	°C	Tagliabue closed cup	>199.4ºF

Explosive Limits:

Upper Explosive Limit (UEL)	Not Available
Lower Explosive Limit (LEL)	Not Available

Autoignition Temperature:

Not Available

Extinguishing Media:

Water spray (fog), foam, dry chemical or carbon dioxide.

Fire and Explosion Hazards:

5 FIRE FIGHTING MEASURES

Fire and Explosion Hazards:

Unusual fire or explosion hazards: Closed containers may rupture (due to build up of pressure) when exposed to extreme heat. Vapor accumulation can flash or explode if ignited.

Comment:

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Hazardous combustion products: Oxides of carbon. Irritating organic fragments.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Environmental Precautions:

Do not allow product to enter sewer or waterways.

SPILL OR LEAK PROCEDURES

Recovery:

Clean-up methods: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable and closed containers for disposal.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists of this product. Do not taste or swallow.

STORAGE

Storage Conditions:

Keep in a cool, well ventilated area away from heat, sparks and open flame.
Keep container tightly closed until ready for use. Do not puncture, incinerate, or expose to temperatures above 48.9ºC (120ºF).

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Handle in accordance with good industrial hygiene and safety practice In case of insufficient ventilation, wear suitable respiratory equipment.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Safety goggles or safety glasses with side shields.
Respiratory Protection	Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
Hand Protection	Use impermeable chemically gloves necessary to prevent skin contact.
Skin Protection	Use impermeable protective clothing as necessary to prevent skin contact.

Special Precautions:

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Aerosol
Color: White
Odor: Aliphatic
Comment:

Physical state: Grease

PHYSICAL PROPERTIES

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

pH Value:

Not Available

Changes of State:

Boiling Point	Not Available	
Melting/Freezing Point	Not Available	Melting Point

Vapor Pressure:

Not Available

Vapor Density:

Not Available

Evaporation Rate:

Not Available

Solubility:

Water	Not Available

VOC:

Analytical VOC (by. vol.)	Not Available 66.56	'%'	EPA Method 24

Additional Chemical and Physical Data:

Partition coefficient (n-octanol /water)	Not Available
Odor threshold	Not Available

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Keep away from heat, ignition sources and incompatible materials.

Incompatible Materials:

Strong oxidizing agents. Acids and bases. Avoid contact with flammable materials.

Hazardous Polymerization:

Will not occur.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Hazardous decomposition products: Oxides of carbon. Irritating organic fragments.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

NTP Carcinogen
1-Decene, homopolymer, hydrogenated (68037-01-4): No.
White mineral oil (petroleum), highly refined (8042-47-5): No.
Silica, amorphous, fumed, crystal-free (119245-52-5): No.
Ethene, tetrafluoro-, homopolymer (9002-84-0): No.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

Barium sulfonate (61790-48-5): No.
Polypropyleneglycol (25322-69-4): No.
Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4): Known carcinogen.

IARC Carcinogen
1-Decene, homopolymer, hydrogenated (68037-01-4): No.
White mineral oil (petroleum), highly refined (8042-47-5): No.
Silica, amorphous, fumed, crystal-free (119245-52-5): No.
Ethene, tetrafluoro-, homopolymer (9002-84-0): No.
Barium sulfonate (61790-48-5): No.
Polypropyleneglycol (25322-69-4): No.
Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4): Group 1.

OSHA Carcinogen (Specifically Regulated)
1-Decene, homopolymer, hydrogenated (68037-01-4): No.
White mineral oil (petroleum), highly refined (8042-47-5): No.
Silica, amorphous, fumed, crystal-free (119245-52-5): No.
Ethene, tetrafluoro-, homopolymer (9002-84-0): No.
Barium sulfonate (61790-48-5): No.
Polypropyleneglycol (25322-69-4): No.
Petroleum distillates, solvent-refined heavy paraffinic (64741-88-4): No

Allergen Or Sensitivity:

Polypropyleneglycol (25322-69-4): Allergen.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Not available

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.
Hazardous waste number: Not available.

14 TRANSPORT INFORMATION

DOT Shipping Name:

Aerosols, flammable

DOT Hazard Class:

2.1

DOT UN Code:

1950

DOT Packing Group:

None

Comment:

International Air Transportation (ICAO/IATA)
Proper shipping name: Aerosols, flammable
Hazard class or division: 2.1
Identification number: UN1950
Packing group: None

14 TRANSPORT INFORMATION

Comment:

Water Transportation (IMO/IMDG)
Proper shipping name: AEROSOLS
Hazard class or division: 2.1
Identification number: UN1950
Packing group: None

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	1
HMIS Flammability	3
NFPA Flammability	3
NFPA Health	1
NFPA Reactivity	0

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: Yes
SARA 313: Yes
Immediate Health: Yes
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

OSHA	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
TSCA 8 (b) Inventory Status	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification	None above reporting de minimus
CERCLA/SARA Section 302 EHS	None above reporting de minimus
CERCLA/SARA 313	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 (40 CFR 372). Barium sulfonate (CAS# 61790-48-5).

STATE/LOCAL REGULATIONS

Comment:

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

16 OTHER INFORMATION

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BSL 712

PART NUMBER:

GENERAL USE: Fluorescent dye for refrigerant leak detection

PRODUCT DESCRIPTION: Dark amber liquid, mild characteristic odor

MANUFACTURER'S NAME Bright Solutions International, LLC	DATE PREPARED: February 3, 2012 SUPERSEDES: January 6, 2008	Page 1 of 4
ADDRESS (NUMBER, STREET, P.O. BOX) 1738 Maplelawn Dr.	TELEPHONE NUMBER FOR INFORMATION (248) 614-9063	
(CITY, STATE AND ZIP CODE) COUNTRY Troy, MI 48084 USA	EMERGENCY TELEPHONE NUMBER CHEM • TEL (800) 255-3924 Outside USA (813) 248-0585	
DISTRIBUTOR'S NAME Same		
ADDRESS (NUMBER, STREET, P.O. BOX)	TELEPHONE NUMBER FOR INFORMATION	
(CITY, STATE AND ZIP CODE) COUNTRY	EMERGENCY TELEPHONE NUMBER	

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	% (by weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES Full Text Section 16
1-Methyl-2-pyrrolidone (a,b)	30 - 60	872-50-4	212-828-1	Xi	R-36/38
Triethanolamine	1 - 5	102-71-6	203-049-8	Xi	R-36/37/38
Proprietary dye	1 - 5	Not specified	Not specified	NC	Not classified

(a) See Section 15

(b) California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986, chemicals known to the state to cause cancer or reproductive toxicity. A person in the course of doing business must warn others who may consume, come into contact with, or otherwise be exposed to this chemical.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Will support combustion. Contact with eyes will cause irritation. Contact with skin may cause irritation. Hazard symbols for this product: Xi. Risk Phrases - R36/38

POTENTIAL HEALTH EFFECTS

INHALATION: None expected, however, certain individuals may be sensitized and experience minor nausea or headaches. Inhalation of airborne mist could be damaging to the lungs.

SKIN: None expected, however, prolonged contact may cause irritation.

EYES: This product is an eye irritant. Contact with the eyes will cause irritation.

INGESTION: May cause gastric distress, vomiting and diarrhea. Any material aspirated during vomiting may cause lung injury.

CARCINOGENICITY NTP? No IARC MONOGRAPHS? No OSHA REGULATED? No

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: BSL 712
February 3, 2012

SECTION 4 - FIRST AID MEASURES

INHALATION: Remove affected person to fresh air; if symptoms persist seek medical attention.

SKIN: Remove contaminated clothing; wash affected area with soap and water; launder contaminated clothing before reuse; if irritation persists, seek medical attention.

EYES: Remove contact lenses. Flush eyes with clear running water for 15 minutes while holding eyelids open; if irritation persists, seek medical attention.

INGESTION: Give two glasses of water for dilution; DO NOT induce vomiting; seek medical attention; never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES

GENERAL HAZARDS: Product will support combustion. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide.

EXTINGUISHING MEDIA
Carbon dioxide, water fog, dry chemical, chemical foam

FIRE FIGHTING PROCEDURES
Self - contained respiratory equipment; cool containers to prevent pressure buildup and possible explosion when exposed to extreme heat. Caution - material will support combustion!

UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers can explode due to buildup of pressure when exposed to extreme heat.

HAZARDOUS COMBUSTION PRODUCTS
Smoke, fumes, oxides of carbon

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CAUTION - WILL SUPPORT COMBUSTION. Do not wash to sanitary sewer. All spills - confine spill, soak up with approved absorbent, shovel product into approved container for disposal. Flush area with water, recover flush for proper disposal.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep container closed when not in use; protect containers from abuse; protect from extreme temperatures, open flames. CAUTION - This material will support combustion. Keep this and other chemicals out of reach of children.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HAZARDOUS COMPONENTS	NIOSH				ACGIH			
	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3
1-Methyl-2-pyrrolidone (a,b)	* 100							
Triethanolamine	--	--	--	--	--	5	--	--
	not established				not established			

(*) The ACGIH Threshold Limit Value (TLV) has not been established nor has OSHA established the Permissible Exposure Limit (PEL) for this product, therefore the limits described have been established as guidelines by the manufacturer.

PERSONAL PROTECTION:

RESPIRATORY PROTECTION: None required; however, if misting occurs, NIOSH approved respirator capable of removing particulate from air must be worn. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.

PROTECTIVE GLOVES: Recommended for general protection

EYE PROTECTION: Safety goggles with side shields Refer to 29 CFR 1910.133 or European Standard EN166.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Safety eyebath nearby

WORK / HYGIENIC PRACTICES: Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: BSL 712
February 3, 2012

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR Dark amber liquid, mild characteristic odor	VAPOR PRESSURE 0.29 mm Hg @ 20° C
pH Not determined	SPECIFIC GRAVITY (WATER = 1) 1.054
BOILING POINT / BOILING RANGE 203° F (95° C)	SOLUBILITY IN WATER Miscible
FLASH POINT > 200° F (> 93.3° C)	VISCOSITY Similar to water
FLAMMABLE LIMITS LEL: Not applicable UEL: Not applicable	VAPOR DENSITY (AIR = 1) 3.04
AUTOIGNITION TEMPERATURE Not determined	EVAPORATION RATE (WATER = 1) < 1

SECTION 10 - STABILITY AND REACTIVITY

STABILITY UNSTABLE: STABLE: XXX	CONDITIONS TO AVOID: Extreme temperatures, open flames

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong acids

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes, and smoke may be produced.

HAZARDOUS POLYMERIZATION MAY OCCUR: WILL NOT OCCUR: XXX	CONDITIONS TO AVOID: None

SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
1-Methyl-2-pyrrolidone (a,b)	872-50-4 212-828-1	3600 mg / kg Oral - rat	> 5.1 mg / l / 4H Inhalation - rabbit
Triethanolamine	102-71-6 203-049-8	2200 mg / kg Oral - rabbit	Not determined
Proprietary dye	Not specified	> 5000 mg / kg Oral - rat	Not established
(a) See Section 15			

SECTION 12 - ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Based on the chemical composition of this product it is assumed that the mixture can be treated in an acclimatized biological waste treatment plant system in limited quantities. However, such treatment should be evaluated and approved for each specific biological system. None of the ingredients in this mixture are classified as a Marine Pollutant.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with Local, State, and Federal Regulations. This product may produce concentrated hazardous vapors or fumes in a disposal container creating a dangerous environment. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations for ignitable materials. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals. Do not flush to sanitary sewer or waterway. According to the European Waste Catalogue, waste codes are application specific and should be assigned by the user based on the application for which the product is used.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Non - Hazardous for Transport

DOT HAZARD CLASS / Packaging Group: Not regulated	IATA HAZARD CLASS / Packaging Group: Not regulated
REFERENCE: Not Applicable	IMDG HAZARD CLASS: Not regulated
UN / NA IDENTIFICATION NUMBER: None	RID / ADR Dangerous Goods Code: Not regulated
LABEL: None Required	UN TDG Class / Packaging Group: Not regulated
HAZARD SYMBOLS: None	Hazard Identification Number (HIN): None

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: BSL 712
February 3, 2012

SECTION 15 - REGULATORY INFORMATION

TSCA (USA - Toxic Substance Control Act)
All components of this product are listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory) or are exempted from listing because a Low Volume or Polymer Exemption has been granted in accordance with 40 CFR 723.50.

SARA TITLE III (USA - Superfund Amendments and Reauthorization Act)
311/312 Hazard Categories
Acute health, eye irritant, skin irritant

313 Reportable Ingredients:
(a) Indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CERCLA (USA - Comprehensive Response Compensation and Liability Act)
None

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986
There is a chemical present (1-Methyl-2-pyrrolidone) known to the state of California to cause cancer or reproductive toxicity.

CPR (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 the information required by the Controlled Products Regulations. WHMIS Classification: D2B

IDL (Canadian Ingredient Disclosure List)
Components of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List are shown in Section 2.

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List)
Components of this product identified by CAS number are listed on the DSL or NDSL, or are otherwise in compliance with the New Substances Notification (NSN) regulations. Only ingredients classified as "hazardous" are listed in Section 2 unless otherwise indicated.

EINECS (European Inventory of Existing Commercial Chemical Substances)
Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances.

WGK Water Quality Index: 1 **VbK Index: A III**

RISK PHRASES:	**SYMBOL(S) REQUIRED FOR LABEL**	**SAFETY PHRASES:**
R36/38 Irritating to eyes and skin.	Irritant	S23 Do not breathe vapour. S24/25 Avoid contact with skin and eyes S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 After contact with skin, wash immediately with plenty of soap and water.

SECTION 16 - OTHER INFORMATION

Notes & full R-Phrase text	R36/38 Irritating to eyes and skin.

HMIS HAZARD RATINGS				
HEALTH	2*	* = Chronic Health Hazard	2 = MODERATE
FLAMMABILITY	1	0 = INSIGNIFICANT	3 = HIGH
PHYSICAL HAZARD	0	1 = SLIGHT	4 = EXTREME
PERSONAL PROTECTIVE EQUIPMENT	B	Safety Glasses, Gloves	

REVISION SUMMARY:
This MSDS has been revised in the following sections: After general review, section 1, 2, 11 & 16

MSDS Prepared by: Keystone Aniline Corp.
2501 W. Fulton St
Chicago, IL 60612-2103
312-532-9532 dyes.com

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. 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, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

MATERIAL SAFETY DATA SHEET - GM COOLING COIL COATING P/N 12346390

SECTION 1 - PRODUCT IDENTIFICATION- O56U2

Company Name:.....AirSept®, Inc. 3073 McCall Dr. Suite 5, Atlanta, GA 30340
Telephone Number:.....678-987-0500
Product Name:.....GM Cooling Coil Coating P/N 12346390
Product Synonyms.....None
Intended Product Use.....Biological inhibiting cooling coil coating
24 Hour Emergency Telephone Number: ....North America-800-255-3924…International-813-977-3668 (collect)
Chemical Name:.....Trade Secret
Chemical Family:.....Latex Polymer
Date Prepared..... March 20, 2003
Date Updated.....January 18, 2012
Cas Number.....Proprietary mixture

SECTION 2 - HAZARDOUS INGREDIENTS

REPORTABLE COMPONENETS*	CAS NUMBER	PERCENT	TLV VALUE
NONE			

SECTION 3 - HEALTH HAZARDS.

Primary Routes Of Entry.....Skin, Inhalation
Threshold Limit Value:.....N/E
Sign & Symptoms of Exposure
1. Acute overexposure.....May irritate eyes and skin on contact
2. Chronic Overexposure.....N/E

Medical Conditions Aggravated by Exposure.....None Known

SECTION 4 - FIRST AID PROCEDURES

Emergency First Aid Procedures:
1. INHALATION:..... Move to fresh air immediately. If breathing is difficult, give oxygen; call a physician
2. EYE CONTACT:.....Flush with water for 15 minutes
3. SKIN CONTACT..... Wash skin with soap and water. Remove contaminated clothing
3. INGESTION:.....Do not induce vomiting; Call a physician immediately

First Aid Procedures After Overexposure.....None expected

SECTION 5 - FIRE & EXPLOSION DATA

Flash Point:.....Non-flammable in aqueous form
Method Used.....ASTM D-93
Flammable Limits in Air (% by volume):.....Upper: N/A
.....Lower: N/A
Extinguisher Media:.....N/A
Unusual Fire & Explosion Hazards:.....None Known
Auto-Ignition Temperature:.....N/E
NFPA Hazards:.....Health 1, Flammability 0, Reactivity 0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Dike and contain large spills for possible recovery. Cover small spills using inert absorbent, then sweep up and place in a waste disposal container.

N/E = Not Established N/A = Not Applicable

MATERIAL SAFETY DATA SHEET - GM COOLING COIL COATING P/N 12346390

SECTION 7 - LEAK PROTECTION & PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: Store at between 40 –110 degrees F, as recommendation. Provide adequate ventilation in the workplace.

PRECAUTIONS TO BE TAKEN IN OTHER ACTIVITIES: None Known.

SECTION 8 - EXPOSURE CONTROL

Respiratory Protection:.....None required with adequate ventilation
Ventilation:.....……General mechanical
Gloves:.....Neoprene rubber recommended
Eye Protection:.....Safety glasses or splash-proof goggles
Additional Personal Protective Equipment.....None Expected
Recommended Engineering Controls.....None Expected
Hygienic Practices.....…..Wash with soapy water if material gets on skin
Other…….Good housekeeping practices should include making sure all containers are kept closed and properly stored. Properly maintain an eyewash facility in the work area.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

Percent Volatile by Volume:..... 75 %
Vapor Density (Air =1): .....N/E
Evaporation Rate:.....Same as water
Solubility in Water:.....….Soluble
Reactivity in Water:.....None
Specific Gravity: 1.05
Boiling Point:.....212°F
Appearance & Odor:.....Thin latex emulsion, mild odor
Vapor Pressure:.....……Same as water
Physical State.....Liquid
Density.....N/E
Solid By Weight.....18 %
pH.....8.5±0.3
Molecular Weight.....N/A
Viscosity.....… N/E
Other Physical Properties.....N/A

SECTION 10 - STABILITY & REACTIVITY

Stability:.....Stable
Conditions to Avoid:.....N/A
Incompatible Materials:.....……..None known
Hazardous Decomposition Products:.....N/E
Hazardous Polymerization:.....Will not occur

SECTION 11 - TOXICOLOGICAL INFORMATION

Clinical Test Data.....See Attached
Listed as Carcinogen or Potential Carcinogen by:

1. National Toxicology Prog.:.....NO
2. I.A.R.C. Prog.:.....NO
3. OSHA:.....NO

N/E = Not Established N/A = Not Applicable

MATERIAL SAFETY DATA SHEET - GM COOLING COIL COATING P/N 12346390

SECTION 12 - ECOLOGICAL DATA

May be toxic to fish if released into waterways.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Dispose of in accordance with Federal RCRA and applicable State and Local regulations.

SECTION 14 - TRANSPORT INFORMATION

Department Of Transportation (DOT) hazardous material description.....…Non-hazardous, non-regulated
Additional Hazard Classes.....….....….....None
Transportation.....……DOT. EMERGENCY GUIDE: Not regulated
Canadian Transportation of Dangerous Goods (TDG).....….....….Non-hazardous, non-regulated

N/E = Not Established N/A = Not Applicable

GENERAL MOTORS CORPORATION
MATERIAL SAFETY DATA SHEET

SECTION I

PRODUCT NAME OR NUMBER (as it appears on label): NOX-RUST® X-121 Black		GM COMMON CODE
MANUFACTURER'S NAME: Daubert Chemical Company		EMERGENCY TELEPHONE NO. (708) 496-7350
ADDRESS (Number, Street, City, State and Zip Code) 4700 S. Central Ave., Chicago, IL 60638		MANUFACTURER'S D-U-N-S NO.
HAZARDOUS MAT'L DESCRIPTION,PROPER SHIPPING NAME,HAZARD CLASS,HAZARD ID NO.(49CFR 172.101) Petroleum Distillate DOT Rated Flammable Liquid		
ADDITIONAL HAZARD CLASSES (as applicable) As Applicable		
CHEMICAL FAMILY: Petroleum Solvent Blend	FORMULA: Mixture	

SECTION II - INGREDIENTS (List all ingredients)

CAS REGISTRY NO.	% W	% V	CHEMICAL NAME(S)	Listed as Carcinogen in NTP,IARC or OSHA 1910(z)specify
64742-47-8	35		Mineral Spirits	No
64742-61-6	6		Petroleum Wax	No
68783-96-0	38.4		Sulfonic acids, petroleum, calcium salts, overbased	No
8002-74-2	4		Polyethylene	No
68425-34-5	8		Oxidized Petrolatum, Ca Salt	No
1333-86-4	.6		Carbon Black	No
68553-15-1	4		Linseed Oil	No
Proprietary	2		Alkyd resin	No
64742-01-4	2		Oil	No

SECTION III - PHYSICAL DATA

Boiling Point >315 °F		Specific Gravity (H_2O=1):	1.02		
Vapor Pressure: 2 @ 68 °F °C X mmHg psi		Percent Volatile By Volume (%):	37-41	Percent Solid By Weight (%)	63
Vapor Density (Air=1)	>1	Evap. Rate (BuAc=1)	<1		
Solubility in Water	Neg.	pH =	Not Appl.		
Appearance and Odor: Black Viscous Liquid Petroleum Odor				Is material: [Liquid] Solid Gas Paste Powder	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point 106 °F	Method used: PMCC	Flammable Limits	LEL: 1.0	UEL: 6.0
Extinguishing Media: Water spray, CO2, foam.				
Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective gear.				
Unusual Fire and Explosion Hazards: None				

SECTION V - HEALTH HAZARD DATA

Effects of Overexposure - Conditions to Avoid: Can irritate eyes and skin.	Threshold Limit Value: 100 ppm for Solvent Permissible Exposure Limit: None Established Other Limit: Not Applicable
Primary Routes of Entry Inhalation[X] Skin Contact[X] Other (specify)	
Emergency and First Aid Procedures: For eye contact, flush with large quantities of water. Get medical attention. For skin contact, wash with soap and water. If irritation occurs, get medical attention.	

SECTION VI - REACTIVITY DATA

STABILITY :	Unstable		Conditions to Avoid:
	Stable	X	
INCOMPATIBILITY (materials to avoid) : Oxidizing Agents, Strong Acids.			
HAZARDOUS DECOMPOSITION PRODUCTS: Products of combustion: Oxides of nitrogen.			
HAZARDOUS POLYMERIZATION	May occur		Conditions to Avoid:
	Will not occur	X	

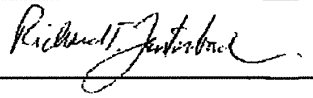
SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled: Contain spill, absorb into inert media, sweep up into proper container. Dispose of in accordance with Corporate and local regulations.
Waste Disposal Method: Dispose of in accordance with corporate and local regulations.
CERCLA (Superfund) Reportable Quantity (in lbs.) :
RCRA Hazardous Waste No. (40 CFR 261.33) : D001
Volatile Organic Compound (VOC) (as packaged, minus water) : [X] Theoretical 2.7 lbs/gal [ ] Analytical _____ lbs/gal

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection (specify type): MESA/NIOSH approved for organic vapors and mists.		
Ventilation	Local Exhaust (Specify Rate)	Special
	Mechanical (General) (Specify Rate): General is sufficient	Other
Protective Gloves: Chemical resistant rubber	Eye Protection: Safety Glasses/Chemical Goggles	
Other Protective Equipment: As needed to minimize contact.		

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage:	
Other Precautions: None	
Seller agrees not to assert any claim (other than a claim for a patent infringement) against General Motors Corporation for any use or disclosure of any technical data.	
Please complete questionnaire and return to: Chairman, AGT Hazardous Materials Review Committee Attn MEW Speed Code: S-44A P.O. Box 420 Indianapolis, IN 46206-0420	Name (Print) R. Lauterbach Signature:  Title V.P. Technology Date November 20, 2012

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: KLEA 134a

Recommended Use:

Refrigerant

External Keys:

9985751	Productive Materials
CN29421	GM of Canada Approval Number
12356150	Distributable Material (Part #)
REFRIGERANT 134A	Primary Tradename - Distributable Material
15-119	Distributable Material (Part #)
12345922	SPO Catalog Discontinued

MANUFACTURER INFORMATION

Manufacturer: Mexichem Fluor Inc.

Address:

4990B ICI Rd.	USA	Louisiana	70776	St. Gabriel	P.O. Box 30 MAILING

Communication Lines:

Phone	800-298-9164	Medical Emergency
Phone	800-424-9300	CHEMTREC - Transportation Emergency
Phone	703-527-3887	Transportation Emergency Outside of the U.S.
Phone	800-424-5532	Product Information

SUPPLIER INFORMATION

Supplier: Mexichem Fluor Inc.

Address:

4990B ICI Rd.	USA	Louisiana	70776	St. Gabriel	P.O. Box 30 MAILING

Communication Lines:

Phone	800-298-9164	Medical Emergency
Phone	800-424-9300	CHEMTREC - Transportation Emergency
Phone	703-527-3887	Transportation Emergency Outside of the U.S.
Phone	800-424-5532	Product Information

2 INGREDIENT INFORMATION

Synonyms:

Alternate Names: Fluorocarbon 134a, R-134a, HFC-134a, HFA-134a

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
Ethane, 1,1,1,2-tetrafluoro-	811-97-2	=	100	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

EMERGENCY OVERVIEW: CAUTION! This product is a clear, colorless, liquefied gas. Contents under pressure. Cylinders may rupture and rocket under fire conditions. Thermal decomposition can produce toxic and corrosive gases. Vapors are heavier than air. May cause asphyxia. Liquid splashes or spray may cause freeze burns (frostbite). High vapor concentrations may cause dizziness or more severe anesthetic effects. Very high exposures can cause potentially fatal abnormal heart rhythm. Read the entire MSDS for a more thorough evaluation of the hazards.

Specific Hazards:

Routes of exposure: Inhalation, ingestion, eye, and skin contact.

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Ingestion	General	Extremely unlikely to occur in use. Highly unlikely, but should this occur, freeze burns will result.
Eye contact	General	Liquid splashes or spray may cause freeze burns.
Skin Contact	General	Liquid splashes or spray may cause freeze burns. Skin absorption: This product will probably not be absorbed through human skin.
Inhalation	General	Exposure to high vapor concentrations can induce anesthetic effects progressing from dizziness, weakness, nausea, to unconsciousness. Very high exposures can cause abnormal heart rhythm, which is potentially fatal. It can act as an asphyxiant by limiting available oxygen. High atmospheric concentrations may lead to anesthetic effects, including loss of consciousness. Very high exposures may cause an abnormal heart rhythm and prove suddenly fatal. Higher concentrations may cause asphyxiation due to reduced oxygen content of the atmosphere.

Effects Of Overexposure:

Other effects of overexposure: None expected.

Medical Conditions Aggravated By Exposure:

NOT PROVIDED.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move victim to fresh air. Keep warm and at rest. If breathing is labored, give oxygen. If only breathing has stopped, give artificial respiration with a pocket mask equipped with a oneway valve to prevent exposure to product or body fluids. If breathing has stopped AND there is no pulse, give cardiopulmonary resuscitation (CPR). Get immediate medical attention.
Skin Contact	Immediately wash with plenty of warm water (do not rub). Thaw affected area with water. Remove contaminated clothing. Caution: clothing may adhere to the skin in case of freeze burns. If symptoms (irritation or blistering) develop, get medical attention.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Hold eyelids open during flushing. Have eyes examined and treated by medical personnel.
Ingestion	Highly unlikely, but should this occur, freeze burns will result. Do not induce vomiting unless instructed to do so by a physician.

Notes To Physician:

Symptomatic and supportive therapy, as indicated. Administration of epinephrine or similar sympathomimetic drugs should be with special caution and only in situations of emergency life support as cardiac arrhythmias may result.

5 FIRE FIGHTING MEASURES

Flash Point:

Does not flash.

Explosive Limits:

Upper Explosive Limit (UEL)	Not Applicable
Lower Explosive Limit (LEL)	Not Applicable

5 FIRE FIGHTING MEASURES

Autoignition Temperature:

> 743 °C >1369ºF

Extinguishing Media:

As appropriate for surrounding materials/equipment.

Fire and Explosion Hazards:

Compressed liquefied gas. Containers may burst under intense heat. Ruptured cylinders may rocket or fragment. Heavy vapor may suffocate. HFC-134a is not flammable in air under ambient conditions of temperature and pressure. Under conditions of high temperature and pressure, certain HFC-134a/air mixtures were
shown to be flammable. Certain mixtures of HFC-134a and chlorine may be flammable under some conditions.

Special Fire Fighting Procedures:

Water spray should be used to cool containers.

Comment:

Fire Fighting Protective Equipment: Use self-contained breathing apparatus with a fullface piece and special protective clothing.

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:

Contents under pressure. Ruptured cylinder may rocket or fragment. This product is a liquefied gas, which exits the container at temperatures capable of causing freeze burns (frostbite). Precautions should take into account the severity of the leak or spill. Move unprotected personnel upwind of leaking container. Ventilate the spill area. Use recommended personal protection and shut off the leak, if without risk. If possible, elevate leak position to highest point of container (should leak gas, not liquid). Water should never be put on leak nor should cylinder be immersed. If possible, dike and contain spillage. Prevent liquid from entering sewers, sumps, or pit areas since vapor is heavier than air and can create a suffocating atmosphere. Capture material for recycle or destruction if suitable equipment is available. Notify applicable government authority if release is reportable or could adversely affect the environment.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Wear appropriate personal protective equipment. A safety shower and eyewash station should be nearby and ready for use. This product is a liquefied gas, which exits the container at temperatures capable of causing freeze burns (frostbite). Ensure personnel are trained in handling and storing cylinders. Secure containers at all times. Keep containers closed when not in use. Ensure there is adequate ventilation or use proper respiratory protection in poorly ventilated or confined areas. Avoid causing and inhaling high concentrations of vapor. Atmospheric levels should be controlled to below the occupational exposure limit and kept as low as practicable. Prevent liquid or vapor from entering sumps or sewers since vapor is heavier than air and
may form suffocating atmospheres. Do not put mixtures of HFC-134a with air or oxygen under pressure; do not use such mixtures for leak or pressure testing. Do not heat containers. Liquid transfers between containers may generate static electricity. Ensure adequate grounding. Avoid trapping liquid between closed valves or overfilling containers as high pressures can develop with an increase in temperature. Avoid HFC-134a contact with flames or very hot surfaces.

STORAGE

Storage Conditions:

Keep containers tightly closed, in a cool, well-ventilated place. Keep containers dry. Keep away from incompatibles, open flames, hot surfaces, welding operations, and other heat sources. Storage Temperature: Store at temperature not exceeding 125°F. (52°C).

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Engineering Controls: Use ventilation to maintain safe levels. Where appropriate engineering controls are not in place or are inadequate, wear suitable respiratory equipment. Other Protection: Shower and eye wash station.

EXPOSURE LIMITS

Comment:

Minimize exposure in accordance with good hygiene practice.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Hand Protection	Take all precautions to prevent skin contact. Use chemically gloves made of material that has been found by user to be impervious under conditions of use to prevent the skin from becoming frozen from contact with liquid.
Eye Protection	Use chemical safety goggles or safety glasses and a face shield when there is potential for eye contact.
Skin Protection	Take all precautions to prevent skin contact. Use protective clothing made of material that has been found by user to be impervious under conditions of use to prevent the skin from becoming frozen from contact with liquid. User should verify impermeability under normal conditions of use prior to general use. Additional protection such as an apron, arm covers, or full body suit may be needed depending on conditions of use.
Respiratory Protection	Not normally needed if controls are adequate. If needed, use NIOSH/MSHA approved respirator for organic vapors. For high concentrations and oxygendeficient atmospheres, use positive pressure air-supplied respirator.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: Clear, colorless

PHYSICAL PROPERTIES

pH Value:

Concentrate	Not Applicable

Changes of State:

Boiling Point	=	-15.1	°F	-26.2°C

Vapor Pressure:

=	4270	mm Hg	=	20	°C

Vapor Density:

=	3.6	(AIR=1)

Specific Gravity:

=	1.22	=	20	°C

Solubility:

Water	Very low

Total Amount Of::

Percent Volatile by Volume	=	100

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable
Conditions to Avoid:
Keep away from heat, sparks, and flame. Avoid high temperatures.
Incompatible Materials:
Reacts with finely divided metals such as aluminum, zinc, magnesium, and alloys containing more than 2% magnesium. Can react violently if in contact with alkali metals and alkaline earth metals such as sodium, potassium, or barium.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Hazardous Polymerization:

Will not occur.

Comment:

Chemical Stability: Stable under normal conditions.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Thermal Decomposition	During a fire the product can form toxic and corrosive gases such as hydrogen fluoride.
Decomposition	Hazardous Decomposition Products: Hydrogen fluoride by thermal decomposition and hydrolysis. Oxides of carbon and fluoride may be produced by thermal decomposition.

Comment:

Hazardous Reactions: Reacts with finely divided metals such as aluminum, zinc, magnesium, and alloys containing more than 2% magnesium. Can react violently if in contact with alkali metals and alkaline earth metals such as sodium, potassium, or barium.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Product Data:

Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
Inhalation	LC50	>=	500,000	ppm	Rat	4hr

Additional Information:

Slight eye irritation resulted from a brief spray of vapor.

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

None of the ingredients are classified as carcinogenic by lARC, ACGIH, NTP, or OSHA.

Reproductive Effects:

No developmental effects were seen in the rabbit following inhalation exposure to 40,000 ppm during gestation despite slight maternal toxicity. In a range-finding study in the rabbit, possible minimal embryo lethality was seen at a dose level of 50,000 ppm. In the rat, slight fetotoxicity was present at an inhalation dose of 50,000 ppm administered during gestation and no effects were seen at 10,000 ppm. In another study in the rat, no developmental effects were seen at a dose of 100,000 ppm in the presence of slight maternal toxicity; clear maternal effects were followed by embryo toxicity and fetotoxicity at a dose level of 300,000 ppm. There were no increases in the incidence of fetal malformations in rats or rabbits at doses up to and including 300,000 ppm and 50,000 ppm, respectively.

Allergen Or Sensitivity:

The material was a slight skin irritant, but not a skin sensitizer. The threshold for cardiac sensitization (arrhythmias) in dogs pretreated with epinephrine was an atmosphere of 75,000 ppm. The no observed effect level (NOEL) was 50,000 ppm. No effect of any kind was seen in a 90-day inhalation study in the rat at dose levels up to, and including 50,000 ppm (6 hours per day, 5 days per week).

Comment:

HFC-134a showed no genetic toxicity in a range of in-vitro and in-vivo tests. No adverse effects were found in a study in which rats were followed to week 104 after receiving 300 mg/kg bodyweight/day of HFC-134a by gavage for 52 weeks. In a 2-year inhalation study in rats, no adverse effects of any kind were observed except increased incidences of non-life threatening, benign, microscopic testicular interstitial (Leydig) cell tumors and associated interstitial cell hyperplasia which were confined to the top dose of 50,000 ppm.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Persistence and Degradation: Decomposes comparatively rapidly in the lower atmosphere (troposphere). Atmospheric lifetime is 14 years. Products of decomposition will be highly dispersed and hence will have a very low concentration. It is not a significant contributor to photochemical smog and is not considered to be a VOC. Is not considered an ozone-depleting chemical.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Effect on Effluent Treatment: Discharges of the product will enter the atmosphere and will not result in long-term aqueous contamination.

ECOTOXICITY

Comment:

Ecotoxicological Information: Daphnia 48 hour EC50: 980 mg/l. Rainbow trout 96 hour LC50: 450 mg/l.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Disposal Method: Discarded product is not a hazardous waste under RCRA, 40 CFR 261. However, HFC-134a should be recycled, reclaimed, or destroyed whenever possible.
Container Disposal: For disposable (DOT 39) cylinders only. Do not distribute, make available, furnish, or reuse container when emptied of the original product. Open valve to remove pressure in the cylinder. Then puncture, drill, crush, or otherwise destroy empty cylinder and dispose of in a facility permitted for nonhazardous waste. Return all other containers to supplier.
Refrigeration Application: Subject to "no venting" regulations of Sections 608 and 609 of the Clean Air Act during the service or disposal of equipment.

14 TRANSPORT INFORMATION

DOT Information:

Hazardous Substance (RQ): None
Placard/Label: Non-Flammable gas

DOT Shipping Name:

1,1,1,2-tetrafluoroethane or Refrigerant gas R 134a

DOT Hazard Class:

2.2

DOT UN Code:

UN3159

DOT Packing Group:

None

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Flammability	0
NFPA Health	2
NFPA Reactivity	1

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: Yes
SARA 313: No
Immediate Health: Yes
Delayed Health: Yes
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

TSCA (Toxic Substances Control Act) Regulations, 40 CFR 710	All Ingredients are on the TSCA Chemical Substances Inventory.
SARA Regulations 40 CFR 372	This product does not contain any chemicals

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Other Regulation:

	subject to reporting requirements of SARA Section 313.
SARA Regulations 40 CFR 355	This product does not contain any "extremely hazardous chemical" subject to the requirements of SARA Section 312.
SARA Regulations 40 CFR 370	Hazardous properties as defined under the Hazard Communication Standard (29 CFR 1910.1200)

16 OTHER INFORMATION

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: UCON Refrigeration Lubricant 488

Recommended Use:

Recommended Uses and Restrictions: Selection of the appropriate polyglycol product for a specific application requires knowledge of the fluid requirements of the application, awareness of the most important of these requirements, and a match¬up with the properties of the various polyglycol materials. Polyglycol products can be formulated for use in numerous industry applications such as hydraulic fluids, quenchants, compressor and refrigeration lubricants, heat transfer fluids, machinery lubricants, solder assist fluids, metalworking lubricants, textile finishing, etc. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

External Keys:

12356151	Distributable Material (Part #)
15-118	Distributable Material (Part #)
AC DELCO REFRIGERANT OIL - R134A SYSTEMS	Distributable Material (Part #)
REFRIGERANT OIL R134A SYSTEMS	Primary Tradename - Distributable Material
12345923	SPO Catalog Discontinued

MANUFACTURER INFORMATION

Manufacturer: Dow Chemical Company

Address:

2030 Willard H. Dow Center	USA	MICHIGAN	48674	MIDLAND	MAILING
1881 West Oak Parkway	USA	Georgia	30062	Marietta	Mailing
100 Independence Mall West	USA	Pennsylvania	19106-2399	Philadelphia	Corporate

Communication Lines:

Phone	989-636-4400	EMERGENCY
Phone	989-636-6562	INFO
Phone	989-636-1940	INFO
Phone	800-258-2436	Customer Information Center
Phone	800-366-4740	Customer Service
E-Mail	SDSQuestion@dow.com	*(No Translation Available)
Phone	770-428-2684	Information
Phone	1-800-424-9300	CHEMTREC 24 -hr Emergency
Phone	215-592-3000	Information

Emergency Phone:

Emergency	Phone	001-989 636 4400
Emergency	Phone	0049(0)41 46 91 2333

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
POLYALKYLENE GLYCOL	989915-57-3	>	99	%Wt	No
ADDITIVES	989922-74-6	<	1	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

Hazards of product: No significant immediate hazards for emergency response are known.

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	Brief contact is essentially nonirritating to skin. Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Eye Contact	General	Essentially nonirritating to eyes. Corneal injury is unlikely.
Inhalation	General	At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous.
Ingestion	General	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. Aspiration hazard: Based on physical properties, not likely to be an aspiration hazard.

Effects Of Overexposure:

Effects of Repeated Exposure: Mist may cause irritation of upper respiratory tract (nose and throat) | and lungs.

Medical Conditions Aggravated By Exposure:

Repeated excessive exposure may aggravate preexisting lung disease.

Additional Health Hazard Data:

Eye damage/eye irritation: Essentially nonirritating to eyes. Corneal injury is unlikely.
Skin corrosion/irritation: Brief contact is essentially nonirritating to skin.

4 FIRST AID MEASURES

First Aid Procedures:

General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

First Aid By::

Inhalation	Move person to fresh air; if effects occur, consult a physician.
Skin Contact	Wash skin with plenty of water.
Eye Contact	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Ingestion	No emergency medical treatment necessary.

Notes To Physician:

Indication of immediate medical attention and special treatment needed May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Comment:

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

5 FIRE FIGHTING MEASURES

Product Flammability:

Flammability (solid, gas): No applicable to liquids

Flash Point:

=	204	°C	CC (ASTM D93)	399 ºF
=	257	°C	OC(ASTM D92)	495 ºF

Explosive Limits:

Lower Explosive Limit	Flammable Limits In Air: No test data available

5 FIRE FIGHTING MEASURES

Explosive Limits:

(LEL)

Upper Explosive Limit (UEL) Flammable Limits In Air: No test data available

Explosion Properties:

No data available

Autoignition Temperature:

No test data available

Extinguishing Media:

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Non Suitable Extinguishing Media:

Extinguishing Media to Avoid: Do not use direct water stream. May spread fire.

Fire and Explosion Hazards:

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Special Fire Fighting Procedures:

Advice for firefighters: Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Comment:

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Personal precautions, protective equipment and emergency procedures: Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment.

Environmental Precautions:

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

SPILL OR LEAK PROCEDURES

Recovery:

Methods and materials for containment and cleaning up: Contain spilled material if possible. Collect in suitable and properly labeled containers.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

General Handling: Avoid breathing mist. Use with adequate ventilation. Keep container closed. EXPOSURE CONTROLS AND PERSONAL PROTECTION. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

cancer-causing nitrosamines could be formed. Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

STORAGE

Storage Conditions:

Store in the following material(s): 316 stainless steel. Carbon steel. Glass-lined container. Polypropylene. Polyethylene-lined container. Stainless steel. Teflon. This material may soften and lift certain paint and surface coatings. Use product promptly after opening. Store in original unopened container. Unopened containers of material stored beyond the recommended shelf life should be retested against the sales specifications before use. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact. Shelf life: Use within 24 Months.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Ventilation: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

EXPOSURE LIMITS

Comment:

Exposure Limits: None established

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Use safety glasses. (with side shields).
Respiratory Protection	Under intended handling conditions, no respiratory protection should be needed.
Hand Protection	Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use gloves with insulation for thermal protection, when needed. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Skin Protection	Wear clean, body-covering clothing.

Hygiene Measures:

Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: BLUE
Odor: MILD
Comment:

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Comment:

Physical State: Liquid

PHYSICAL PROPERTIES

pH Value:

Solution	Range	5	8	=	10	'%' ASTM E70

Changes of State:

Boiling Point	>	392	°F	Calculated	> 200 ºC. 760 mmHg
Freezing point					See Pour Point
Melting Range	Not Applicable				Not applicable to liquids
Pourpoint	=	-47	°F		-44 ºC. ASTM D97

Vapor Pressure:

<	0.01	mm Hg	=	20 °C	ASTM E1719

Vapor Density:

=	51.83	AIR = 1. Calculated

Evaporation Rate:

No test data available

Specific Gravity:

=	1.051	=	20	°C	Calculated. water=1

Solubility:

Water	=	100	%Wt	=	20	°C	Visual

Viscosity:

Kinematic Viscosity	Range	124 - 139	=	40	°C	ASTM D445 (cSt)

VOC:

Analytical VOC (by. wt.)	=	0.02	lb/gal	Calculated from MSDS data by general Motors Technical review.	EPA METHOD NO. 24
Analytical VOC (by. vol.)	=	1.99	g/l		EPA METHOD NO. 24

Additional Chemical and Physical Data:

Odor threshold	No test data available
Partition coefficient, n-octanol/ water(log Pow)	No data available for this product
Decomposition Temperature	No test data available
Oxidizing properties	No data available

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials:

Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous Polymerization:

Possibility of hazardous reactions: Polymerization will not occur.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Comment:

Chemical stability: Thermally stable at typical use temperatures.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Thermal Decomposition	Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.
Decomposition	Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Hydrocarbons. Ketones. Organic acids. Polymer fragments.

Comment:

Reactivity: No dangerous reaction known under conditions of normal use.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Product Data:

Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
Ingestion	LD50	=	6,800	mg/kg	Rat	Acute Toxicity
dermal	LD50	>	16000	mg/kg	Rabbit	
Inhalation	LC50	>	5	mg/l	Rat	Acute Toxicity for the major component (s). 4h, Aerosol.

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

Similar material(s) did not cause cancer in laboratory animals.
California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): WARNING: This product contains a chemical(s) known to the State of California to cause cancer. Component 1,4-Dioxane CAS# 123-91-1: Amount: <=1.4PPM

Reproductive Effects:

Developmental Toxicity: No specific, relevant data available for assessment.
Reproductive Toxicity: No specific, relevant data available for assessment.
Genetic Toxicology: No specific, relevant data available for assessment.

Allergen Or Sensitivity:

Sensitization: Skin: For the major component(s): Did not cause allergic skin reactions when tested in humans.
Respiratory: No relevant data found.

Comment:

Repeated Dose Toxicity: Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Persistence and Degradability: I Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%).
BOD 5: 4%; BOD 10: 29%; BOD 20: 29%
Theoretical Oxygen Demand: 2.20 mg/mg

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Bioaccumulative potential: Bioaccumulation: For the major component(s): No bioconcentration is expected because of the I relatively high water solubility.
Mobility in soil: No data available.

ECOTOXICITY

Comment:

ECOTOXICITY
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).
Fish Acute & Prolonged Toxicity
LC50, fathead minnow (Pimephales promelas), static, 96 h: > 10,000 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, static, 48 h, immobilization: > 10,000 mg/l
Toxicity to Micro-organisms
IC50; bacteria, Growth inhibition, 16 h: > 5,000 mg/l

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14 TRANSPORT INFORMATION

DOT Information:

DOT Non-Bulk: NOT REGULATED
DOT Bulk: NOT REGULATED

Comment:

IMDG: NOT REGULATED
ICAO/IATA: NOT REGULATED
This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Flammability	1
NFPA Health	0
NFPA Reactivity	0

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313:	To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):	To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.
US. Toxic Substances Control Act:	All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

STATE/LOCAL REGULATIONS

Comment:

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous: Substances List and/or Pennsylvania Environmental Hazardous Substance List: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.
Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List: To the best of our knowledge, this product does not contain chemicals at levels which require reporting
under this statute.
California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
WARNING: This product contains a chemical(s) known to the State of California to cause cancer. Component 1,4-Dioxane CAS# 123-91-1: Amount: <=1.4PPM

16 OTHER INFORMATION

Comments:

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

Material Safety Data Sheet

Issue Date: October 27, 2008
Revised Date: May 18, 2012 Reason: Updated Item No's

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Super Lube® Grease

Item No's: 82340, 21006, 21010, 21030, 21036, 41150, 41160, 41050, 41030, 41120, 41140, 21013, 21014, 21015, 11520
/1, /0, /00, /000 identifies NLGI-1, 0, 00, or 000 consistency.

Product use: Lubricant

Company address:
Synco Chemical Corporation
24 DaVinci Dr., P.O. Box 405
Bohemia, NY 11716

Contact Information:
Telephone: 631-567-5300
Emergency telephone: 800-424-9300
Internet: www.super-lube.com
E-Mail: info@super-lube.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Semi-solid
Color: Translucent
Odor: Mild

WARNING:
MAY CAUSE SKIN OR EYE IRRITATION

WHMIS hazard class: Not Hazardous
HMIS codes: Health - 0
Fire - 1
Hazard - 0
Other - 0

Relevant routes of exposure: Skin, Eyes

Potential Health Effects

Inhalation: Not expected to cause respiratory tract irritation during normal conditions of use.

Skin contact: Repeated or prolonged contact may be irritating to skin.

Eye contact: Contact with eyes may cause irritation.

Ingestion: Not expected under normal conditions of use.

Existing conditions aggravated by exposure: None generally recognized.

See Section 11 for additional toxicological information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	%	ACGIH TLV	OSHA PEL	OTHER
Polyalphaolefin 68037-01-4	<85	5mg/m³ TWA (mist:) 10mg/m³ STEL (mist:)	5mg/m³ TWA (mist:)	None
White mineral oil (petroleum) 8042-47-5	<25	5mg/m³ TWA (mist:) 10mg/m³ STEL (mist:)	5mg/m³ TWA (mist:)	None
Fumed Silica 68611-44-9	<5	10mg/m³ TWA	6mg/m³ TWA	None
Polytetrafluoroethylene 9002-84-0	<4	Not established	Not established	None
Antioxidant 41484-35-9	<2	Not established	Not established	None
Polyglycol 025322-69-4	<1			AIHA WEEL is 50 ppm Total 10mg/m³ aerosol only
Polyisobutylene 9003-27-4	<0.5	Not established	Not established	None

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If discomfort persists seek medical attention.

Skin contact: After contact with skin, wash immediately with plenty of water. Immediately flush skin with plenty of water (using soap, if available). Get medical attention if symptoms develop and persist.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: Do not induce vomiting. Get medical attention.

5. FIRE-FIGHTING MEASURES

Flash point: >428° F (220° C) COC

Auto ignition temperature: Not available

Flammable/Explosive limits-lower %: N/A

Flammable/Explosive limits-upper %: N/A

Extinguishing media: Carbon dioxide (CO2). Dry chemical. Foam.

Special fire fighting procedures: None

Unusual fire or explosion hazards: None

Hazardous combustion products: Oxides of carbon.

Sensitivity to mechanical impact: Not available

Sensitivity to static discharge: Not available

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions: No special precautions required.

Clean-up methods: Scrape up and dispose of in accordance with local and national regulations.

7. HANDLING AND STORAGE

Handling: Good manufacturing procedures should be followed in handling and storage.

Storage: Keep in cool, dry area.

Incompatible products: Oxidizing agents.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.

Respiratory protection: If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH.

Skin protection: Chemical resistant, impermeable gloves.

Eye/face protection: Safety glasses with side-shields.

See Section 3 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Semi-solid
Color: Translucent
Odor: Mild
Odor Threshold: Not determined
Vapor pressure: Not determined
pH: Not determined
Boiling point/range: Not applicable
Melting point/range: None
Specific gravity: .89
Vapor density: Not available
Evaporation rate: Not available
Solubility in water: Not soluble
Partition coefficient (n-octano/water): Not determined
VOC content: Essentially zero

10. STABILITY AND REACTIVITY

Stability: Stable

Hazardous polymerization: Will not occur.

Hazardous decomposition products: None under normal use.

Incompatibility: Oxidizing agents.

Conditions to avoid: None known

11. TOXICOLOGICAL INFORMATION

Product toxicity data: Not Toxic

Toxicologically synergistic products: Not available

Refer to the following for irritancy of Product, Sensitization to Product, Carcinogenicity, Reproductive Toxicity, Teratogenicity, and Mutagenicity.

Ingredient Toxicity Data & Carcinogen Status

Components	LD50s & LC50s	Other LD50s and LC50s	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen	ACGIH-Carcinogen
Polyalphaolefin Proprietary	None	None	No	No	No	No
MineralOil(petroleum)	OralLD50(Rat)					

8042475	>5000mg/kg	None	No	No	No	No
Antioxidant 41484-35-6	Oral LD50 (Rat) >5000 mg/kg Dermal LD50(Rabbit) >3000 mg/kg Inhalation LC50 (Rat) >3.5 mg/m³	None	No	No	No	No
Fumed Silica 68611-44-9	Oral LD50 (Rat) >5000 mg/kg	None	No	No	No	No
Polytetra- fluoroethylene 9002-84-0	Not determined	None	No	No	No	No
Polyglycol 025322-69-4	Oral LD50 (Rats) >10,000 mg/kg Dermal LD50 (Rabbit) >10,000 mg/kg	None	No	No	No	No

Literature Referenced Target Organ & Other Health Effects

Components	Health Effects/Target Organs
Polyalphaolefin Proprietary	No target organs
White mineral oil (petroleum) 8042-47-5	Irritant
Antioxidant 41484-35-6	No target organs
Fumed Silica 68611-44-6	Nuisance dust, irritant to eyes and skin
Polytetrafluoroethylene 9002-84-0	Irritant
Polyglycol 025322-69-4	No target organs

12. ECOLOGICAL INFORMATION

Ecological information: General Notes: Water hazard class 1 (self assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground or sewage systems.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of in accordance with federal and local regulations.

14. TRANSPORT INFORMATION

Transportation of Dangerous Goods – Ground:

Proper shipping name:	Not regulated
Hazardous class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA):

Proper shipping name:	Not regulated
Hazardous class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG):

Proper shipping name:	Not regulated
Hazardous class or division:	None
Identification number:	None
Packing group:	None
Marine pollutant:	None

15. REGULATORY INFORMATION

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Domestic Substances List.

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

New Zealand Regulatory Information

New Zealand HSNO Status: All components are listed or are exempt from listing on the Hazardous Substances and New Organisms Act.

European Union Regulatory Information

Regulation No. 1907/2006 (REACH): Components are Pre-registered and in compliance.

SECTION 16: OTHER INFORMATION

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 Product Regulations.

Data prepared by Environment protection department.

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**NYOGEL 760G**
Version #	16
Revision date	August-07-2012
CAS #	Mixture
Product Code	NYOGEL 760G
Product use	Lubricating Grease
Manufacturer information	Nye Lubricants, Inc. 12 Howland Road Fairhaven, MA 02719 US 508-996-6721 CHEMTREC 1-800-424-9300

2. Hazards Identification

Emergency overview	Prolonged and/or repeated skin contact may result in mild irritation or redness. May be ignited by heat, sparks or flames. Contact with eyes may cause irritation. Health injuries are not known or expected under normal use.
OSHA regulatory status	This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Skin contact. Eye contact.
Eyes	Contact with eyes may cause irritation.
Skin	Prolonged and/or repeated skin contact may result in mild irritation or redness.
Inhalation	Health injuries are not known or expected under normal use.
Ingestion	Health injuries are not known or expected under normal use.
Target organs	Eyes. Skin.

3. Composition / Information on Ingredients

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

4. First Aid Measures

First aid procedures	
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.
Skin contact	Wash off with soap and water. Get medical attention if symptoms occur. Wash clothing separately before reuse.
Inhalation	If symptoms develop, remove affected person from source of exposure into fresh air. Get immediate medical attention.
Ingestion	If ingestion of a large amount does occur, seek medical attention. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions.
General advice	If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties	The product is not flammable. No unusual fire or explosion hazards noted.
Extinguishing media	
Suitable extinguishing media	Water Fog. Foam. Carbon dioxide (CO2). Dry chemical.
Unsuitable extinguishing media	Water. Do not use water jet as an extinguisher, as this will spread the fire.
Fire fighting equipment/instructions	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Move containers from fire area if you can do it without risk.

Hazardous combustion products Carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Observe precautions from other sections.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

Methods for containment Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Methods for cleaning up Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Soak up with inert absorbent material. Absorb in vermiculite, dry sand or earth and place into containers. Clean contaminated surface thoroughly. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS. Clean up spills immediately, observing precautions in Protective Equipment section. Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Handling Do NOT pressurize, cut, heat, or weld containers. Empty product containers may contain product residue. Avoid prolonged or repeated skin contact with this material. Avoid breathing gas/vapors/mist/fumes. Do not handle or store near an open flame, heat or other sources of ignition. Do not take internally. Do not taste or swallow. Avoid contact with eyes. Wash thoroughly after handling. Handle and open container with care.

Storage Keep away from heat and sources of ignition. Store in cool place. Store in a closed container away from incompatible materials. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Engineering controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment

- **Eye / face protection** Wear safety glasses; chemical goggles (if splashing is possible).
- **Skin protection** Wear suitable protective clothing. Wear nitrile, neoprene, PVC or viton gloves.
- **Respiratory protection** No personal respiratory protective equipment normally required. An air purifying respirator with an organic vapor cartridge may be used under certain circumstances where airborne concentrations are expected to exceed exposure limits, or if irritation or symptoms are experienced. Respiratory protection must be provided in accordance with 29 CFR 1910.134.
- **General hygiene considerations** When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly after handling. Launder contaminated clothing before reuse.

9. Physical & Chemical Properties

Appearance Not available.

Form Liquid. Semi-solid

Color Clear

Odor Slight

Flash point Not available.

Other data

- **Flash point class** Combustible IIIB
- **Shelf life** 4 years

10. Chemical Stability & Reactivity Information

Chemical stability Material is stable under normal conditions. Stable.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Strong acids, alkalies and oxidizing agents.

Hazardous decomposition products Carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological Information

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC and NTP.

Further information This product has no known adverse effect on human health.

12. Ecological Information

Ecotoxicity This material is not expected to be harmful to aquatic life.

Persistence and degradability Not available.

13. Disposal Considerations

Disposal instructions 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. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). 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. Dispose in accordance with all applicable regulations.

Waste from residues / unused products Not applicable.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2)

Not regulated

DEA Essential Chemical Code Number

Not regulated

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated

DEA Exempt Chemical Mixtures Code Number

Not regulated

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 0
Flammability: 0
Instability: 0

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication . The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release. Nye Lubricants, Inc. makes no warranty with respect thereto and disclaims all liability with respect thereon. The information in the sheet was written based on the best knowledge and experience currently available.

Issue date August-07-2012

This data sheet contains changes from the previous version in section(s): Product and Company Identification: Product and Company Identification

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product name	**HM7239**
Product name(s) covered	See Section 16 for Product Names Covered.
MSDS name	H/M 7239 LB
CAS number	Mixture
Generic description	Polyamide
Manufacturer	Bostik, Inc. 211 Boston Street Middleton, MA 01949 USA
24 hour emergency assistance	Telephone: 1-800-227-0332
General assistance	Telephone: 1-978-777-0100
MSDS assistance	Telephone: 1-978-750-7208

2. COMPOSITION / INFORMATION ON INGREDIENTS

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

Emergency overview	Extended contact with this material may cause irritation to the skin, eyes, and mucous membranes. Contact with molten material will cause thermal burns. Primary Routes of Exposure: eyes, skin, and inhalation.
Potential health effects	
Skin	Molten material will produce burns to skin areas.
Eyes	HOT MOLTEN material can cause irreversible eye injury and burns. Contact with SOLID material may cause irritation with temporary redness with stinging and tearing.
Inhalation	Inhalation of hot mist may cause respiratory irritation.
Ingestion	Exposure is unlikely. This product can cause gastrointestinal irritation, nausea, vomiting, and diarrhea. Molten material will produce burns to the gastrointestinal tract.
Target organs	None known for product as a whole.
Fire and explosion	This product will not ignite under normal situations but can be ignited in the extreme heat associated with a fire. Vapors are lighter than air and should rise, accumulating in overhangs and ceilings. In a fire situation, exposed containers may build up pressure and burst explosively spewing hot material. Irritating and potentially harmful vapors may be released in a fire or spill situation.

4. FIRST AID MEASURES

First aid	
Skin	For contact with molten product, do not remove any material or clothing adhering to the skin. Flush the burned area immediately with large amounts of cold water. If it is possible, submerge the area in cold water. Immediately seek medical attention or contact a physician.
Eye	If molten material contacts the eye, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately. See Notes to Physician.
Inhalation	Remove to fresh air. Get medical attention immediately for a large dose exposure or if cough or other symptoms develop.
Ingestion	If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Notes to physician	Burns should be treated as thermal burns. The material will come off as healing occurs, therefore, immediate removal from skin is not necessary, as it may cause additional harm to the skin.

5. FIRE FIGHTING MEASURES

Hazardous combustion products	Hazardous gases produced in a fire may include oxides of carbon and nitrogen and various hydrocarbons.
Extinguishing media	Use dry chemical, carbon dioxide, or foam. Do not use water on molten adhesive to avoid splattering and spreading of fire.
Dust explosion hazard	Static Discharge Hazard.
Sensitivity to mechanical impact	None Known
Sensitivity to static discharge	This product may retain a static electrical charge, which could produce a spark. Appropriate precautions should be taken prior to use.
Unusual fire & explosion hazards	Do not use water on molten adhesive to avoid splattering and spreading of fire. Should a spark occur near flammable vapors, or airborne dust mixtures, an explosion could occur resulting in injury or death. Appropriate precautions should be taken prior to use.
Fire fighting equipment/instructions	Firefighters should wear full protective clothing including self contained breathing apparatus.
Flash point	> 400 °F (> 204.4 °C)

6. ACCIDENTAL RELEASE MEASURES

Emergency action	Appropriate safety measures and protective equipment should be used. See Section 8. Dispose of as solid waste in compliance with local, state, and federal regulations.
Containment	Isolate spill area. Stop discharge if safe to do so. Pellet or chip spill: Collect and contain for salvage or disposal. Molten adhesive spill: Placard hot material, allow to cool and remove. Collect and contain for salvage or disposal. Stop material from contaminating soil or from entering sewers or water streams.
Reporting	See Federal reporting requirements listed in Section 15. We recommend you contact local authorities to determine if there may be other local reporting requirements.

7. HANDLING & STORAGE

For Commercial Use Only - Not Packaged or Labeled for Home Use!

Handling	Avoid contact with skin and eyes. Avoid contact with molten material. Wash hands thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities. Wash contaminated goggles, face shields, and gloves. Professionally launder contaminated clothing before re-use. Avoid breathing fumes if this product is used at high temperatures. Use this product with adequate ventilation.
Storage	Store in a clean, dry area. Keep containers closed.
Empty container precaution	Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty container without professional cleaning for food, clothing, or products for human or animal consumption, or where skin contact can occur.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls	Use local exhaust ventilation when vapors, mists, or dusts are being generated. Suitable respiratory equipment should be used when insufficient ventilation or operational procedures demand it.
Eye protection	Wear goggles or safety glasses with side shields. Contact lenses should not be worn.
Skin and body protection	Cover as much of exposed skin as possible. Wear protective clothing that provides protection against skin exposure and thermal burns, including longsleeved protective shirt, long pants, work shoes/boots, hard hat, face shield, and long-cuffed, rubber, thermal insulating gloves.
Respiratory protection	None required where adequate ventilation conditions exist. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
General	Eye wash fountain and emergency showers should be readily available.

9. PHYSICAL & CHEMICAL PROPERTIES

Target solids	100 %
pH	N/A
Density	0.96 g/cc
Physical state	Solid
Freeze protect	No

10. STABILITY & REACTIVITY

Hazardous reactions/decomposition products	If product is burned carbon monoxide, carbon dioxide, acetic acid, vinyl acetate, and other unknown products may be produced.
Hazardous polymerization	Will not occur.
Conditions to avoid	Do not add water or other volatile material to molten adhesive. Avoid excessive overheating. Avoid potential static charge.
Stability	Stable under normal conditions. Avoid water sensitive materials such as acids or alkalis or sodium and other metallic hydrides.

11. TOXICOLOGICAL INFORMATION

Toxicological data	If any toxicological data is available, it will be listed below:
Carcinogenicity	If this product contains any carcinogens, they will be noted below:

12. ECOLOGICAL INFORMATION

Bostik's hot melt adhesives are manufactured without the intentional use of volatile organic compounds and/or hazardous air pollutants regulated by the EPA in the Clean Air Act Amendment of 1990.

Ecotoxicological information	No data available for this product.

13. DISPOSAL CONSIDERATIONS

It is the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable local, state and federal regulations.

Waste disposal	This product as supplied is not considered a hazardous waste under RCRA. Dispose of in compliance with all local, state, and federal regulations. Recommended disposal method is incineration.

14. TRANSPORT INFORMATION

Department of Transportation (DOT) Requirements

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. REGULATORY INFORMATION

All components are on the U.S. EPA TSCA Inventory List.

This MSDS is prepared and distributed pursuant to the Federal Hazard Communication Standard, 29 CFR 1910.1200.

State regulations	If this product contains any ingredients listed under California Proposition 65, they will be noted below:
International regulations	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and contains all the information required by the Controlled Products Regulations.
HMIS Ratings	Health: 1 Flammability: 1 Physical hazard: 0 Personal protection: X
SARA 311/312 HAZARD CATEGORIES	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
WHMIS status	Non-controlled

16. OTHER INFORMATION

Product name(s) covered	HM7239 - H/M 7239	LB

Disclaimer	The data in this MSDS has been compiled from publicly available sources. This data relates only to the designated product and not to the use of said product in combination with other materials. 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 which exist. Responsibility for proper precautions and safe use of the product lies with the user. All data in this MSDS is typical of the product as a whole, and does not represent any individual lot or batch, therefore, Bostik, Inc. makes no warranty about the accuracy of the data herein and assumes no liability for the use of such data. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.
Issue date	20-AUG-07
Prepared by	Richard Sontag
Supercedes	17-APR-06
MSDS sections updated	First Aid Measures: Inhalation Other Information: Disclaimer

MATERIAL SAFETY DATA SHEET - COOLING COIL COATING (AEROSOL) P/N 12377952

SECTION 1 - PRODUCT IDENTIFICATION – O56U2

Company Name:.....AirSept®, Inc. 3073 McCall Dr. Suite 5, Atlanta, GA 30340
Telephone Number:.....678-987-0500
Product Name:..... Cooling Coil Coating (Aerosol) P/N 12377952
Product Synonyms:.....None
Intended Product Use:.....Biological inhibiting cooling coil coating
24 Hour Emergency Telephone Number:...North America-800-255-3924…..International-813-977-3668 (collect)
Chemical Name:.....Trade Secret
Chemical Family:.....Latex Polymer
Date Prepared:.....March 20, 2003
Date Updated:.....January 18, 2012
CAS Number.....Proprietary mixture

SECTION 2 - HAZARDOUS INGREDIENTS

REPORTABLE COMPONENTS *	CAS NUMBER	PERCENT	TLV VALUE
NONE			

SECTION 3 - HEALTH HAZARDS

Primary Routes Of Entry.....Skin, Inhalation
Threshold Limit Value:.....N/E
Sign & Symptoms of Exposure
1. Acute Overexposure.....May irritate eyes and skin on contact
2. Chronic Overexposure.....N/E

Medical Conditions Aggravated by Exposure.....None Known

SECTION 4 - FIRST AID PROCEDURES

Emergency First Aid Procedures:
1. INHALATION:.....Move to fresh air immediately. If breathing is difficult, give oxygen; call a physician
2. EYES:.....Flush with water for 15 minutes
3. SKIN.....Wash skin with soap and water. Remove contaminated clothing
4. INGESTION:.....Do not induce vomiting; call a physician, immediately

First Aid Procedures After Overexposure.....None expected

SECTION 5 - FIRE & EXPLOSION DATA

Flash Point:.....Non-flammable in aqueous form
Flammable Limits in Air (% by volume):.....Upper: N/A…….. Lower: N/A
Method Used.....ASTM D-93
Extinguisher Media:.....None Known
Unusual Fire & Explosion Hazards:.....N/E
Auto-Ignition Temperature:.....N/E
NFPA Hazards:.....Health 1, Flammability 0, Reactivity 0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Dike and contain large spills for possible recovery. Cover small spills using inert absorbent, then sweep up and place in a waste disposal container.

N/E = Not Established N/A = Not Available

MATERIAL SAFETY DATA SHEET - COOLING COIL COATING (AEROSOL) P/N 12377952

SECTION 7 – LEAK PROTECTION & PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store at between 40 – 110 degrees F, as recommended. Provide adequate ventilation in the workplace.
PRECAUTIONS TO BE TAKEN IN OTHER ACTIVITIES: None Known

SECTION 8 – EXPOSURE CONTROL

Respiratory:.....None required with adequate ventilation
Ventilation:.....General Mechanical
Gloves:.....Neoprene Rubber recommended
Eye Protection:.....Safety glasses or splash-proof goggles
Additional Personal Protective Equipment.....None Expected
Recommended Engineering Controls.....None Expected
Hygienic Practices.....Wash with soapy water if material gets on skin.
Other……..Good housekeeping practices should include making sure all containers are kept closed and properly stored. Properly maintain an eyewash facility in the work area.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

Percent Volatile by Volume:..... 75%
Vapor Density (Air =1): .....N/E
Evaporation Rate:.....Same as water
Solubility in Water:.....Soluble
Reactivity in Water:.....None
Specific Gravity: 1.05
Boiling Point:.....212°F
Appearance & Odor:.....Thin latex emulsion, mild odor
Vapor Pressure:.....Same as water
Physical State.....Liquid
Density.....N/E
Solid By Weight.....18%
pH.....8.5±0.3
Molecular Weight.....N/A
Viscosity.....N/E
Propellant……Nitrogen - 110 lbs
Other Physical Properties.....N/A

SECTION 10 - STABILITY & REACTIVITY

Stability:.....Stable
Conditions to Avoid:.....N/A
Incompatible Materials:.....None Known
Hazardous Decomposition Products:.....N/E
Hazardous Polymerization:.....Will not occur

SECTION 11 - TOXICOLOGICAL INFORMATION

Clinical Test Data.....See Attached
Listed as Carcinogen or Potential Carcinogen by:

1. National Toxicology Prog.:.....NO
2. I.A.R.C. Prog.:.....NO
3. OSHA:.....NO

N/E = Not Established N/A = Not Available

MATERIAL SAFETY DATA SHEET - COOLING COIL COATING (AEROSOL) P/N 12377952

SECTION 12 - ECOLOGICAL DATA

May be toxic to fish if released into waterways.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Treatment & disposal according to Federal, state & local regulations.

SECTION 14 - TRANSPORT INFORMATION

Department Of Transportation (DOT) hazardous material description-Regulated Consumer Commodity, ORM-D
Additional Hazard Classes.....Class 2, Division 2.2, Non-flammable, non-toxic compressed gases
Packing Group:…III UN Number:…….UN1950
Canadian Transportation of Dangerous Goods (TDG)….UN1950, Non-flammable, non-toxic compressed gases

N/E = Not Established N/A = Not Available

MATERIAL SAFETY DATA SHEET - COOLING COIL COATING (AEROSOL) P/N 12377952

SECTION 1 - PRODUCT IDENTIFICATION – O56U2

Company Name:.....AirSept®, Inc. 3073 McCall Dr. Suite 5, Atlanta, GA 30340
Telephone Number:.....678-987-0500
Product Name:..... Cooling Coil Coating (Aerosol) P/N 12377952
Product Synonyms:.....None
Intended Product Use:.....Biological inhibiting cooling coil coating
24 Hour Emergency Telephone Number:...North America-800-255-3924…..International-813-977-3668 (collect)
Chemical Name:.....Trade Secret
Chemical Family:.....Latex Polymer
Date Prepared:.....March 20, 2003
Date Updated:.....January 18, 2012
CAS Number.....Proprietary mixture

SECTION 2 - HAZARDOUS INGREDIENTS

REPORTABLE COMPONENTS *	CAS NUMBER	PERCENT	TLV VALUE
NONE			

SECTION 3 - HEALTH HAZARDS

Primary Routes Of Entry.....Skin, Inhalation
Threshold Limit Value:.....N/E
Sign & Symptoms of Exposure
1. Acute Overexposure.....May irritate eyes and skin on contact
2. Chronic Overexposure.....N/E

Medical Conditions Aggravated by Exposure.....None Known

SECTION 4 - FIRST AID PROCEDURES

Emergency First Aid Procedures:
1. INHALATION:.....Move to fresh air immediately. If breathing is difficult, give oxygen; call a physician
2. EYES:.....Flush with water for 15 minutes
3. SKIN.....Wash skin with soap and water. Remove contaminated clothing
4. INGESTION:.....Do not induce vomiting; call a physician, immediately

First Aid Procedures After Overexposure.....None expected

SECTION 5 - FIRE & EXPLOSION DATA

Flash Point:.....Non-flammable in aqueous form
Flammable Limits in Air (% by volume):.....Upper: N/A…….. Lower: N/A
Method Used.....ASTM D-93
Extinguisher Media:.....None Known
Unusual Fire & Explosion Hazards:.....N/E
Auto-Ignition Temperature:.....N/E
NFPA Hazards:.....Health 1, Flammability 0, Reactivity 0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Dike and contain large spills for possible recovery. Cover small spills using inert absorbent, then sweep up and place in a waste disposal container.

N/E = Not Established N/A = Not Available

MATERIAL SAFETY DATA SHEET - COOLING COIL COATING (AEROSOL) P/N 12377952

SECTION 7 – LEAK PROTECTION & PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store at between 40 – 110 degrees F, as recommended. Provide adequate ventilation in the workplace.
PRECAUTIONS TO BE TAKEN IN OTHER ACTIVITIES: None Known

SECTION 8 – EXPOSURE CONTROL

Respiratory:.....None required with adequate ventilation
Ventilation:.....General Mechanical
Gloves:.....Neoprene Rubber recommended
Eye Protection:.....Safety glasses or splash-proof goggles
Additional Personal Protective Equipment.....None Expected
Recommended Engineering Controls.....None Expected
Hygienic Practices.....Wash with soapy water if material gets on skin.
Other……..Good housekeeping practices should include making sure all containers are kept closed and properly stored. Properly maintain an eyewash facility in the work area.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

Percent Volatile by Volume:..... 75%
Vapor Density (Air =1): .....N/E
Evaporation Rate:.....Same as water
Solubility in Water:.....Soluble
Reactivity in Water:.....None
Specific Gravity: 1.05
Boiling Point:.....212°F
Appearance & Odor:.....Thin latex emulsion, mild odor
Vapor Pressure:.....Same as water
Physical State.....Liquid
Density.....N/E
Solid By Weight.....18%
pH.....8.5±0.3
Molecular Weight.....N/A
Viscosity.....N/E
Propellant……Nitrogen - 110 lbs
Other Physical Properties.....N/A

SECTION 10 - STABILITY & REACTIVITY

Stability:.....Stable
Conditions to Avoid:.....N/A
Incompatible Materials:.....None Known
Hazardous Decomposition Products:.....N/E
Hazardous Polymerization:.....Will not occur

SECTION 11 - TOXICOLOGICAL INFORMATION

Clinical Test Data.....See Attached
Listed as Carcinogen or Potential Carcinogen by:

1. National Toxicology Prog.:.....NO
2. I.A.R.C. Prog.:.....NO
3. OSHA:.....NO

N/E = Not Established N/A = Not Available

MATERIAL SAFETY DATA SHEET - COOLING COIL COATING (AEROSOL) P/N 12377952

SECTION 12 - ECOLOGICAL DATA

May be toxic to fish if released into waterways.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Treatment & disposal according to Federal, state & local regulations.

SECTION 14 - TRANSPORT INFORMATION

Department Of Transportation (DOT) hazardous material description-Regulated Consumer Commodity, ORM-D
Additional Hazard Classes.....Class 2, Division 2.2, Non-flammable, non-toxic compressed gases
Packing Group:…III UN Number:…….UN1950
Canadian Transportation of Dangerous Goods (TDG)….UN1950, Non-flammable, non-toxic compressed gases

N/E = Not Established N/A = Not Available

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: AEROSHELL GREASE 5

External Keys:

9985921	Productive Materials
12377969	Distributable Material (Part #)
ACDELCO BRAKE CALIPER LUBRICANT	Primary Tradename - Distributable Material
10-4077	Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: EQUILON ENTERPRISES LLC

Address:

(SHELL AND TEXACO MERGER)	USA	TEXAS	HOUSTON	P.O. Box 4453	77210-4453	MAILING

Communication Lines:

Phone	877-276-7283	Chemtel
Phone	800-424-9300	Chemtrec
Phone	877-276-7285	General assistance

Comment:

AS OF 12/22/03, THE MSDS DATED 1/4/99 IS THE MOST RECENT PER THE MANUFACTURER.ACCESS TO FULL CHEMICAL AND EXACT PERCENTAGE COMPOSITION IS LIMITED TO EMPLOYEES OR CONTRACTORS WITH APPROPRIATE PROFESSIONAL TRAINING (E.G., TOXICOLOGISTS, MEDICAL STAFF, ENVIRONMENTAL ENGINEERS AND HYGIENISTS), ON A NEED-TO-KNOW BASIS, WHO ARE BOUND BY INDIVIDUAL CONFIDENTIALITY AGREEMENTS. ABSENT SPECIAL EXEMPTIONS, SUCH INFORMATION, INCLUDING CAS NUMBERS, MAY ALSO BE DISCLOSED TO REGULATORY AUTHORITIES, AS PART OF A SHELL MSDS OR PRODUCT LABEL, AS REQUIRED BY LAW, AND TO THIRD PARTIES SUCH AS TREATING PHYSICIANS IN CASES OF EMERGENCY.

2 INGREDIENT INFORMATION

Chemical Family: LUBRICATING GREASE

Synonyms:

MIXTURE

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
BENTONITE	1302-78-9	Range	3 - 9	%Wt	No
PHOSPHORIC ACID	7664-38-2	Range	0.1 - 0.9	%Wt	Yes
SEBACIC ACID, DISODIUM SALT	17265-14-4	Range	1 - 3	%Wt	No
Residual oils, petroleum, hydrotreated	64742-57-0	Range	80 - 90	%Wt	No
Benzenamine, 2-ethyl-N-(2-ethylphenyl)-, (tripropenyl) derivs.	68608-77-5	Range	1 - 3	%Wt	No
Fatty acids, tall-oil, reaction products with polyethylenepolyamines	68910-93-0	Range	1 - 5	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

Skin Primary Entry: Yes. Eye Primary Entry: Yes. Inhalation Primary Entry: Yes. Ingestion Primary Entry: Yes.

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	CONTACT: PROLONGED OR REPEATED CONTACT MAY CAUSE VARIOUS SKIN DISORDERS SUCH AS DERMATITIS, FOLLICULITIS OR OIL ACNE. RELEASE DURING HIGH PRESSURE USAGE MAY RESULT IN INJECTION OF GREASE INTO THE SKIN CAUSING LOCAL NECROSIS.
Eye Contact	General	MAY BE MILDLY IRRITATING TO THE EYES.
Inhalation	General	NOT EXPECTED TO BE A RELEVANT ROUTE OF EXPOSURE, HOWEVER, UNDER HIGH TEMPERATURE CONDITIONS, VAPORS IRRITATING TO THE NOSE, THROAT AND UPPER RESPIRATORY TRACT MAY BE PRODUCED.
Ingestion	General	GREASES ARE GENERALLY CONSIDERED TO HAVE A LOW ORDER OF ACUTE ORAL TOXICITY.

Medical Conditions Aggravated By Exposure:

PRE-EXISTING SKIN DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

Comment:

Additional Health Hazard Data: THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).SIGNS AND SYMPTOMS: IRRITATION AS NOTED. LOCAL NECROSIS IS EVIDENCED BY DELAYED ONSET OF PAIN AND TISSUE DAMAGE A FEW HOURS FOLLOWING INJECTION.OTHER HEALTH EFFECTS:THIS SPECIFIC PRODUCT HAS NOT BEEN TESTED IN LONG-TERM, CHRONIC EXPOSURE TESTS. LUBRICATING GREASES ARE GENERALLY CONSIDERED TO BE OF A LOW ORDER OF ACUTE TOXICITY TO HUMANS. HOWEVER, THE HANDLING PROCEDURES AND SAFETY PRECAUTIONS IN THIS MSDS SHOULD BE FOLLOWED TO MINIMIZE EMPLOYEE'S EXPOSURE.SUPPLEMENTAL HEALTH INFORMATION:NONE IDENTIFIED.

4 FIRST AID MEASURES

First Aid By::

Inhalation	REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.
Skin Contact	CONTACT: REMOVE CONTAMINATED CLOTHING AND WIPE EXCESS OFF. WASH WITH SOAP AND WATER OR A WATERLESS HAND CLEANER FOLLOWED BY SOAP AND WATER. DO NOT REUSE CLOTHING UNTIL THOROUGHLY CLEANED. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION. IF MATERIAL IS INJECTED UNDER THE SKIN, GET MEDICAL ATTENTION PROMPTLY TO PREVENT SERIOUS DAMAGE; DO NOT WAIT FOR SYMPTOMS TO DEVELOP.
Eye Contact	CONTACT: FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.
Ingestion	DO NOT INDUCE VOMITING. IN GENERAL, NO TREATMENT IS NECESSARY UNLESS LARGE QUANTITIES OF PRODUCT ARE INGESTED. HOWEVER, GET MEDICAL ADVICE.

Notes To Physician:

IN GENERAL, EMESIS INDUCTION IS UNNECESSARY IN HIGH VISCOSITY, LOW VOLATILITY PRODUCTS, I.E., MOST OILS AND GREASES.

5 FIRE FIGHTING MEASURES

Flash Point:

=	550	F	PMCC.	Flash Point Text:(BASE OIL).

Extinguishing Media:

5 FIRE FIGHTING MEASURES

Extinguishing Media:

USE WATER FOG, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE RE-IGNITED ON SURFACE OF WATER.

Fire and Explosion Hazards:

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE IDENTIFIED.

Special Fire Fighting Procedures:

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS: DO NOT ENTER CONFINED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT INCLUDING A NIOSH APPROVED SELF CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS SURROUNDING EQUIPMENT AND STRUCTURES WITH WATER.

Comment:

FLAMMABLE LIMITS/PERCENT VOLUME IN AIR: LOWER/UPPER: N/AV.THERMAL DECOMPOSITION PRODUCTS ARE HIGHLY DEPENDENT ON THE COMBUSTION CONDITIONS. A COMPLEX MIXTURE OF AIRBORNE SOLID, LIQUID PARTICULATES AND GASES WILL EVOLVE WHEN THIS MATERIAL UNDERGOES PYROLYSIS OR COMBUSTION. CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED UPON COMBUSTION.

6 ACCIDENTAL RELEASE MEASURES

Comment:

Spill or Leak Procedures: SCOOP UP EXCESS GREASE. CLEAN AREA WITH APPROPRIATE CLEANER.

7 HANDLING AND STORAGE

STORAGE

Additional Information on Storage Conditions:

Precautions to be Taken in Handling and Storage: SPECIAL PRECAUTIONS: STORE IN A COOL, DRY PLACE WITH ADEQUATE VENTILATION. KEEP AWAY FROM OPEN FLAMES AND HIGH TEMPERATURES.MINIMIZE SKIN CONTACT. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. PROPERLY DISPOSE OF CONTAMINATED LEATHER ARTICLES, INCLUDING SHOES, THAT CANNOT BE DECONTAMINATED.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
PHOSPHORIC ACID	7664-38-2	PEL-TWA	1mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
PHOSPHORIC ACID	7664-38-2	GM OEG -TWA	1mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
PHOSPHORIC ACID	7664-38-2	GM OEG -STEL	3mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
PHOSPHORIC ACID	7664-38-2	TLV-TWA	1mg/m3	-	GM Occupational Exposure Guidelines (OEG)
PHOSPHORIC ACID	7664-38-2	TLV-STEL	3mg/m3	-	GM Occupational Exposure Guidelines (OEG)
PHOSPHORIC ACID	7664-38-2	State-TWA	1mg/m3	-	MICHIGAN

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
PHOSPHORIC ACID	7664-38-2	State-STEL	3mg/m3	-	MICHIGAN
PHOSPHORIC ACID	7664-38-2	State-TWA	1mg/m3	-	NEW YORK
PHOSPHORIC ACID	7664-38-2	State-STEL	3mg/m3	-	NEW YORK
PHOSPHORIC ACID	7664-38-2	State-TWA	1mg/m3	-	TENNESSEE
PHOSPHORIC ACID	7664-38-2	State-STEL	3mg/m3	-	TENNESSEE

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Skin Protection	USE OIL RESISTANT CLOTHING AS NEEDED TO MINIMIZE SKIN CONTACT.
Respiratory Protection	NOT ORDINARILY REQUIRED.
General Protection	ADDITIONAL PROTECTIVE MEASURES: NONE IDENTIFIED.
Hand Protection	USE OIL RESISTANT GLOVES AS NEEDED TO MINIMIZE SKIN CONTACT.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Solid
Color: DARK AMBER, SMOOTH
Odor: SLIGHT ODOR.

PHYSICAL PROPERTIES

Changes of State:

Boiling Point	NOT AVAILABLE
Melting/Freezing Point	MELTING POINT (DEG F): 500 (DROP POINT).

Vapor Pressure:

(MM HG): NOT AVAILABLE

Vapor Density:

(AIR=1): NOT AVAILABLE

Evaporation Rate:

(NORMAL BUTYL ACETATE=1): NOT AVAILABLE

Specific Gravity:

(H20=1): NOT AVAILABLE

Solubility:

Water	Solubility in Water Text:INSOLUBLE.

Viscosity:

Viscosity	30-34 (CS AT 100 DEG C).

Comment:

MELTING POINT (DEG F): 500 (DROP POINT).

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

CONDITIONS AND MATERIALS TO AVOID: AVOID HEAT, OPEN FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS.

Hazardous Polymerization:

Hazardous Polymerization: None. Hazardous Polymerization Text: WILL NOT OCCUR.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	THERMAL DECOMPOSITION PRODUCTS ARE HIGHLY DEPENDENT ON THE COMBUSTION CONDITIONS. A COMPLEX MIXTURE OF AIRBORNE SOLID, LIQUID PARTICULATES AND GASES WILL EVOLVE WHEN THIS MATERIAL UNDERGOES PYROLYSIS OR COMBUSTION. CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED UPON COMBUSTION.

Comment:

Stability Text: STABLE.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

OTHER HEALTH EFFECTS:THIS PRODUCT AND ITS COMPONENTS ARE NOT CLASSIFIED AS CARCINOGENS BY INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), NATIONAL TOXICOLOGY PROGRAM (NTP) OR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

Comment:

Toxicological Data Unlimited Text: OTHER HEALTH EFFECTS:THIS SPECIFIC PRODUCT HAS NOT BEEN TESTED IN LONG-TERM, CHRONIC EXPOSURE TESTS. LUBRICATING GREASES ARE GENERALLY CONSIDERED TO BE OF A LOW ORDER OF ACUTE TOXICITY TO EXPERIMENTAL ANIMALS. HOWEVER, THE HANDLING PROCEDURES AND SAFETY PRECAUTIONS IN THIS MSDS SHOULD BE FOLLOWED TO MINIMIZE EMPLOYEE'S EXPOSURE.

12 ECOLOGICAL INFORMATION

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

RCRA INFORMATION: IF THIS PRODUCT BECOMES A WASTE, IT WOULD NOT BE A HAZARDOUS WASTE BY RCRA CRITERIA (40 CFR 261). PLACE IN AN APPROPRIATE DISPOSAL FACILITY IN COMPLIANCE WITH LOCAL REGULATIONS.

14 TRANSPORT INFORMATION

DOT Information:

DEPARTMENT OF TRANSPORTATION CLASSIFICATION:NOT HAZARDOUS BY D.O.T. REGULATIONS.DOT PROPER SHIPPING NAME: NOT APPLICABLE.OTHER REQUIREMENTS: NOT APPLICABLE.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	1
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	0
NFPA Reactivity	0

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Immediate Health: Yes
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Comment:

RCRA Hazardous Waste Number Text: RCRA INFORMATION: IF THIS PRODUCT BECOMES A WASTE, IT WOULD NOT BE A HAZARDOUS WASTE BY RCRA CRITERIA (40 CFR 261). PLACE IN AN APPROPRIATE DISPOSAL FACILITY IN COMPLIANCE WITH LOCAL REGULATIONS.

Comment:

SARA 311/312 ASSIGNED BY GENERAL MOTORS TECHNICAL REVIEW.BASED UPON DATA AVAILABLE, THIS PRODUCT IS NOT HAZARDOUS UNDER OSHA HAZARD COMMUNICATION (29 CFR 1910.1200).THE HEALTH EFFECTS NOTED IN SECTION 3 ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).REGULATORY CONTROLS:THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY OF CHEMICAL SUBSTANCES.PROTECTION OF STRATOSPHERIC OZONE (PURSUANT TO SECTION 611 OF THE CLEAN AIR ACT AMENDMENTS OF 1990): PER 40 CFR PART 82, THIS PRODUCT DOES NOT CONTAIN NOR WAS IT DIRECTLY MANUFACTURED WITH ANY CLASS I OR CLASS II OZONE DEPLETING SUBSTANCES.IN ACCORDANCE WITH SARA TITLE III SECTION 313, THE ENVIRONMENTAL DATA SHEET (EDS) SHOULD ALWAYS BE COPIED AND SENT WITH THE MSDS.STATE REGULATORY INFORMATION:BASED ON INFORMATION AVAILABLE, THIS PRODUCT DOES NOT CONTAIN ANY CHEMICAL SUBSTANCE LISTED ON A CHEMICAL SPECIFIC STATE LIST. SARA TITLE III INFORMATION:REPORTABLE QUANTITY OF EXTREMELY HAZARDOUS SUBSTANCE, SEC 302, THRESHOLD PLANNING QUANTITY, EXTREMELY HAZARDOUS SUBSTANCE, SEC 302,TOXIC CHEMICAL, SEC 313. CATEGORY AS REQUIRED BY SEC 313 (40 CFR 372.65 C), MUST BE USED ON TOXIC RELEASE INVENTORY FORM: NO INFORMATION PROVIDED.ENVIRONMENTAL RELEASE INFORMATION:THIS PRODUCT IS COVERED BY EPA'S COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA) PETROLEUM EXCLUSION. THEREFORE RELEASES TO AIR, LAND, OR WATER ARE NOT REPORTABLE UNDER CERCLA (SUPERFUND). HOWEVER UNDER SECTION 311 OF EPA'S CLEAN WATER ACT (CWA), THIS PRODUCT IS CONSIDERED AN OIL. AS SUCH, SPILLS INTO OR LEADING TO SURFACE WATERS THAT CAUSE A SHEEN MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER, 800-424-8802.THIS PRODUCT IS AN OIL UNDER 49 CFR (DOT) PART 130. IF SHIPPED BY RAIL OR HIGHWAY IN A TANK WITH A CAPACITY OF 3,500 GALLONS OR MORE, IT IS SUBJECT TO THE REQUIREMENTS OF PART 130. MIXTURE SOLUTIONS IN WHICH THIS PRODUCT IS PRESENT AT 10% OR MORE MAY ALSO BE SUBJECT TO THIS RULE.

16 OTHER INFORMATION

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BSL 795 DYE CLEANER

PART NUMBER:

GENERAL USE: Cleaner

PRODUCT DESCRIPTION: Clear colorless liquid with mild odor

MANUFACTURER'S NAME Bright Solutions International, LLC	DATE PREPARED: February 3, 2012 SUPERSEDES: January 6, 2008	Page 1 of 4
ADDRESS (NUMBER, STREET, P.O. BOX) 1738 Maplelawn Dr.	TELEPHONE NUMBER FOR INFORMATION (248) 614-9063	
(CITY, STATE AND ZIP CODE) COUNTRY Troy, MI 48084 USA	EMERGENCY TELEPHONE NUMBER ChemTel Inc. 1- (800) 255-3924 Intl. + 01 (813) 248-0585	
DISTRIBUTOR'S NAME Same		
ADDRESS (NUMBER, STREET, P.O. BOX)	TELEPHONE NUMBER FOR INFORMATION	
(CITY, STATE AND ZIP CODE) COUNTRY	EMERGENCY TELEPHONE NUMBER	

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	% (by weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES Full Text Section 16
Trade Secret		Not specified	Not specified	Xn	R-65, 66, 67

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Colorless liquid, potentially hazardous vapors. Flammable as defined by DOT and TDG for Air / Ocean transport. Classified by DOT as Combustible for ground transport in containers less than 120 gallons. Classified as Combustible by OSHA. Can cause serious or fatal complications if swallowed. Can cause eye and skin irritation upon contact. Inhalation of vapors can cause anesthetic effect leading to death in poorly ventilated areas. Hazard Symbols for this product - Xn Risk Phrases - R65, 66, 67

POTENTIAL HEALTH EFFECTS

INHALATION: High concentrations are irritating to the respiratory tract; may cause headache, dizziness, nausea, vomiting and malaise.

SKIN: Brief contact may cause slight irritation; prolonged contact may cause moderate reddening, swelling and possible necrosis.

EYES: Contact causes severe irritation and pain associated with redness and swelling of the conjunctiva.

INGESTION: May result in vomiting; aspiration of vomitus into the lungs must be avoided; DO NOT induce vomiting. Minute amounts aspirated into the lungs can produce severe lung injury, chemical pneumonitis, pulmonary edema or death.

CARCINOGENICITY NTP? No IARC MONOGRAPHS? No OSHA REGULATED? No

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: BSL 795 DYE CLEANER
February 3, 2012

SECTION 4 - FIRST AID MEASURES

INHALATION: Remove affected person to fresh air; provide oxygen if breathing is difficult; if affected person is not breathing, administer CPR and seek emergency medical attention.

SKIN: Remove contaminated clothing; wash affected area with soap and water; launder contaminated clothing before reuse; if irritation persists, seek medical attention.

EYES: Check for and remove contact lenses. Flush eyes with clear running water for 15 minutes while holding eyelids open; if irritation persists, seek medical attention.

INGESTION: DO NOT induce vomiting; if vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs; seek immediate medical attention. Vomiting may be induced only under the supervision of a physician.

SECTION 5 - FIRE FIGHTING MEASURES

GENERAL HAZARDS: Product is considered combustible. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide.

EXTINGUISHING MEDIA
Carbon dioxide, water fog, dry chemical, chemical foam.

FIRE FIGHTING PROCEDURES
Firefighters must wear full facepiece self - contained breathing apparatus in positive pressure mode. Do not use solid stream of water since stream will scatter and spread fire. Fine water spray can be used to keep fire - exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers can explode due to buildup of pressure when exposed to extreme heat. Do not use direct stream of water on pool fires as product may reignite on water surface. Caution - Material is combustible!

HAZARDOUS COMBUSTION PRODUCTS
Smoke, fumes or vapors, oxides of carbon.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: COMBUSTIBLE - Evacuate and ventilate area; remove all sources of sparks, ignition and open flames; confine and absorb into approved absorbent; place material into approved containers for disposal; do not wash to sewer or waterway.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: This material is combustible. It should be stored in tightly closed containers in a cool, well ventilated area. Vapor may form explosive mixtures in air. All sources of ignition should be controlled. This material may be classified as Flammable liquids, n.o.s. UN 1993 if transported by vessel or aircraft. Refer to 49 CFR 173.120. Keep this and other chemicals out of reach of children. Avoid inhaling concentrated fumes or vapors.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

HAZARDOUS COMPONENTS	NIOSH				ACGIH			
	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3
Trade Secret	100	500			100	500		

PERSONAL PROTECTION:

RESPIRATORY PROTECTION: None required while threshold limits are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.

PROTECTIVE GLOVES: Neoprene, butyl or nitrile rubber gloves with cuffs.

EYE PROTECTION: Chemical safety goggles. Refer to 29 CFR 1910.133 or European Standard EN166.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Coveralls, apron, or other equipment should be worn to minimize skin contact, safety eyewash station nearby.

WORK / HYGIENIC PRACTICES: Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: BSL 795 DYE CLEANER
February 3, 2012

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR Clear colorless liquid with mild odor	VAPOR PRESSURE < 5mm Hg @ 20° C
pH Not applicable	SPECIFIC GRAVITY (WATER = 1) 0.777
BOILING POINT / BOILING RANGE 315° F (157.2° C)	SOLUBILITY IN WATER Slight
FLASH POINT 104° F (40° C) TCC	VISCOSITY Like that of water
FLAMMABLE LIMITS LEL: 0.7% UEL: 6.0%	VAPOR DENSITY (AIR = 1) 4.8 - 5.3
AUTOIGNITION TEMPERATURE Not determined	EVAPORATION RATE (WATER = 1) < 1

SECTION 10 - STABILITY AND REACTIVITY

STABILITY UNSTABLE: STABLE: X	CONDITIONS TO AVOID: Extreme temperatures, open flames.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong acids.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes or vapors, and smoke may be produced.

HAZARDOUS POLYMERIZATION MAY OCCUR: WILL NOT OCCUR: X	CONDITIONS TO AVOID: None

SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Trade Secret	Not specified Not specified	4700 mg / kg Oral - rat	4100 ppm / 4H Inhalation - rat

SECTION 12 - ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Based on the chemical composition of this product it is assumed that the mixture can be treated in an acclimatized biological waste treatment plant system in limited quantities. However, such treatment should be evaluated and approved for each specific biological system. None of the ingredients in this mixture are classified as a Marine Pollutant.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with Local, State, and Federal Regulations. This product may produce hazardous vapors in a closed disposal container creating a dangerous environment. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals. Do not flush to sanitary sewer or waterway. According to the European Waste Catalogue, waste codes are application specific and should be assigned by the user based on the application for which the product is used.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Flammable liquid, n.o.s. (petroleum distillates). Note: Not regulated for ground transport in containers < 120 gallons. Flammable liquids, n.o.s. for air / ocean transport.

DOT HAZARD CLASS / Pack Group: 3 / III	IATA HAZARD CLASS / Pack Group: 3 / III
REFERENCE: 49 CFR 173.150, .203, .242	IMDG HAZARD CLASS: 3 / III
UN / NA IDENTIFICATION NUMBER: UN 1993	RID/ADR Dangerous Goods Code: 3
LABEL: FLAMMABLE LIQUID	UN TDG Class / Pack Group: 3 / III
HAZARD SYMBOLS: F	Hazard Identification Number (HIN): 30

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: BSL 795 DYE CLEANER
February 3, 2012

SECTION 15 - REGULATORY INFORMATION

TSCA (USA - Toxic Substance Control Act)
All components of this product are listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory) or are exempted from listing because a Low Volume Exemption has been granted in accordance with 40 CFR 723.50.

SARA TITLE III (USA - Superfund Amendments and Reauthorization Act)
311/312 Hazard Categories
Immediate health

313 Reportable Ingredients:
None

CERCLA (USA - Comprehensive Response Compensation and Liability Act)
None

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986
There are no reportable chemicals present known to the state of California to cause cancer or reproductive toxicity.

CPR (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 the information required by the Controlled Products Regulations. WHMIS Classification: B3, D2B

IDL (Canadian Ingredient Disclosure List)
Components of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List are shown in Section 2.

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List)
Components of this product identified by CAS number are listed on the DSL or NDSL, or are otherwise in compliance with the New Substances Notification (NSN) regulations. Only ingredients classified as "hazardous" are listed in Section 2 unless otherwise indicated.

EINECS (European Inventory of Existing Commercial Chemical Substances)
Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances.

WGK Water Quality Index: 1 **VbK Index: All**

RISK PHRASES:	SYMBOL(S) REQUIRED FOR LABEL	SAFETY PHRASES:
R65 Damaging to lungs when swallowed. R66 Repeated exposure may cause skin dryness or cracking. R67 Vapours may cause drowsiness and dizziness.	Harmful	S23 Do not breathe vapor. S24 Avoid contact with skin. S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this label.

SECTION 16 - OTHER INFORMATION

Notes & full R-Phrase text

R65 Damaging to lungs when swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

HMIS HAZARD RATINGS				
	HEALTH	1	* = Chronic Health Hazard	2 = MODERATE
	FLAMMABILITY	2	0 = INSIGNIFICANT	3 = HIGH
	PHYSICAL HAZARD	0	1 = SLIGHT	4 = EXTREME
	PERSONAL PROTECTIVE EQUIPMENT	D	Face Shield, Gloves, Apron	

REVISION SUMMARY:
This MSDS has been revised in the following sections: After a general review, sections 1 and 16

MSDS Prepared by: Keystone Aniline Corp.
2501 W. Fulton St.
Chicago, IL 60612-2103
312-532-9542 dyes.com

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. 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, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: Fluorescent Dye for Moblie AC&R Systems, R-12 Mineral Oil

External Keys:

10-5047, 12378509	Distributable Material (Part #)
ACDelco R12 A/C Fluorescent Tracer Dye	Primary Tradename - Distributable Material
R12 TRACER DYE	SPO Catalog Discontinued
12378510	SPO Catalog Discontinued

MANUFACTURER INFORMATION

Manufacturer: SPECTRONICS CORP

Address:

956 BRUSH HOLLOW RD	USA	NEW YORK	11590	WESTBURY	MAILING

Communication Lines:

Phone	800-424-9300	CHEMTREC
Phone	516-333-4840	Information for calls originating outside continental US
Phone	703-527-3887	Chemtrec (call collect outside continental US)
Phone	800-274-8888	Information

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
LUBRICANT OIL	989927-14-9	Range	75-95	%Wt	No
FLUORESCENT DYE	989922-02-5	Range	5-25	%Wt	No

Comment:

Lubricant Oil: The specific identity has been withheld as a trade secret. New Jersey Trade Secret Registry Number NJ EEN 80100312-5001P.

Fluorescent Dye: The specific identity has been withheld as a trade secret. New Jersey Trade Secret Registry Number NJ EEN 80100312-5000P.

3 HAZARDS IDENTIFICATION

Hazards Overview:

Hazards Identification: EMERGENCY OVERVIEW: Combustible liquid and vapor. May cause eye, skin and respiratory system irritation.

Specific Hazards:

Primary Routes of Exposure: Eye, Skin, Inhalation (breathing).

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	Irritation can occur following prolonged or repeated contact.
Eye Contact	General	Can cause mild irritation.
Inhalation	General	Can cause irritation to eyes, nose, and respiratory tract following prolonged exposure.
Ingestion	General	Can cause digestive tract irritation, nausea, vomiting, diarrhea.

Medical Conditions Aggravated By Exposure:

3 HAZARDS IDENTIFICATION

Medical Conditions Aggravated By Exposure:

Exposure to this product is not expected to contribute to, worsen or aggravate any existing medical conditions.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Remove to fresh air. If symptoms develop, seek immediate medical attention. If not breathing, give artificial respiration.
Skin Contact	Wash affected area with soap and water. If irritation develops, consult a physician.
Eye Contact	Flush eyes with water for 15 minutes. If irritation develops, consult a physician.
Ingestion	Call a physician immediately. Induce vomiting only as directed by medical personnel.

5 FIRE FIGHTING MEASURES

Flash Point:

>	200	°F	SETA CC	93.3°C

Explosive Limits:

Lower Explosive Limit (LEL)	Not Determined
Upper Explosive Limit (UEL)	Not Determined

Autoignition Temperature:

Not Determined

Extinguishing Media:

Small Fires: Use dry chemical, carbon dioxide, baton, water, spray, or foam. Large Fires: Water spray, fog, or alcohol foam.

Fire and Explosion Hazards:

May liberate irritating or toxic vapors during combustion or decomposition.

Special Fire Fighting Procedures:

: Fire fighters and others who may be exposed to the products of combustion should be equipped with NIOSH-approved, positive-pressure, self-contained breathing apparatus (SCBA) and full protective clothing.

Comment:

Hazardous Combustion and Decomposition Products: Smoke, soot, and toxic/irritating fumes (i.e., carbon dioxide, carbon monoxide, etc.). Oxides of nitrogen.

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:

Spill Containment and Recovery: Stop ignition sources. Cover spills with absorbent clay or sawdust and place in closed chemical waste containers. Stop material from contaminating soil, or from entering sewers or bodies of water. Disposal: Dispose of according to applicable local, state and federal regulations.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Special Warning: Hot organic chemical vapors or mists can suddenly and without warning combust when mixed with air. Ignition can occur at typical elevated temperature process conditions.
Personal Hygiene: Wash thoroughly after handling, especially before eating, drinking, smoking, or using restroom facilities.

STORAGE

Storage Conditions:

Store in a cool, dry, well-ventilated area away from heat, ignition sources, and direct sunlight. Always keep containers tightly closed.

7 HANDLING AND STORAGE

STORAGE

Additional Information on Storage Conditions:

Empty Container Precautions: Do not reuse empty container for any purpose.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Engineering Controls/Ventilation: Maintain airborne concentrations below the established exposure limits by providing adequate ventilation. General (dilution) ventilation should be acceptable.

EXPOSURE LIMITS

Comment:

Airborne Oil Mist Exposure Limits: Lubricant Oil:
ACGIH:TLV5mg/m3,8hr
ACGIHSTEL: 10mg/m3
OSHA-PEL: 5 mg/m3,8 hr

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Wear safety goggles. An eye wash facility should be readily available.
Skin Protection	Wear protective clothing.
Respiratory Protection	Avoid breathing vapor and/or mist. If occupational exposure limits are exceeded wear NIOSH/OSHA approved equipment. High airborne concentrations may necessitate the use of self-contained breathing apparatus (SCBA) or a supplied air respirator. Respiratory protection programs must be in compliance with 29 CFR 1910.134.
Hand Protection	Wear appropriate impervious chemically gloves.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: Dark Red
Odor: Light blend petroleum.
Comment:

Physical State: Liquid.

PHYSICAL PROPERTIES

pH Value:

Concentrate	Not Applicable

Changes of State:

Boiling range	>	300	°F	150°C

Vapor Pressure:

=	0.01	mm Hg	68F (20C)

Vapor Density:

>	5	AIR = 1.

Evaporation Rate:

<	0.01	BUTYL ACETATE = 1.

Specific Gravity:

=	0.88	WATER = 1.

Solubility:

Not Available

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solubility:

Water

Total Amount Of::

Percent Volatile by Volume = 0

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

High temperatures, Source of ignition.

Incompatible Materials:

Oxidizers and reducers.

Hazardous Polymerization:

Will not occur

Comment:

Stable under normal conditions of storage and use.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Hazardous Decomposition Products: Combustion may produce carbon monoxide and other asphyxiants.

11 TOXICOLOGICAL INFORMATION

OCCUPATIONAL EXPERIENCES

Additional Observations:

Eye Effects: FLUORESCENT DYE: RABBIT: SLIGHT TO MILD IRRITATION. Skin Efects: DERMAL: LD50: RABBIT: FLUORESCENT DYE: >2000 MG/KG. SKIN IRRITATION: RABBIT: FLUORESCENT DYE: MILD IRRITATION. Acute Oral Effects: LD50: RAT: LUBRICANT OIL: 5000 MG/KG. FLUORESCENT DYE: >5000 MG/KG.

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Data By Chemical:

Chemical Name	CAS Number	Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
FLUORESCENT DYE	989922-02-5	oral	LD50	>	5000	mg/kg	rat	
FLUORESCENT DYE	989922-02-5	dermal	LD50	>	2000	mg/kg	rabbit	
FLUORESCENT DYE	989922-02-5	Inhalation	LC50	Not Available			rat	
FLUORESCENT DYE	989922-02-5	Eye contact		Not Available			rabbit	Slight irritation
FLUORESCENT DYE	989922-02-5	Skin Contact		Not Available			rabbit	Mild irritation
LUBRICANT OIL	989927-14-9	oral	LD50	>	5000	mg/kg	rat	
LUBRICANT OIL	989927-14-9	dermal	LD50	>	2000	mg/kg	rabbit	
LUBRICANT OIL	989927-14-9	Inhalation	LC50	Not Available			rat	
LUBRICANT OIL	989927-14-9	Eye contact		Not				Slight

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Data By Chemical:

Chemical Name	CAS Number	Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
				Available			rabbit	irritation
LUBRICANT OIL	989927-14-9	Skin Contact		Not Available			rabbit	Slight irritation

Additional Information:

Fluorescent Dye: Negative results were obtained in the Ames test. Negative results were obtained in the micronucleus assay.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

No data are available on this product.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Disposal: Dispose of in accordance with all local, state, and federal regulations. General Statements: Federal regulations may apply to empty container. State and/or local regulations may be different. Special Instructions: Be sure to contact the appropriate government environmental agencies if further guidance is required.

14 TRANSPORT INFORMATION

DOT Information:

DOT Identification No.: Not Applicable; Non-regulated shipments by air under 49 CFR, IATA/ICAO AND IMO.

DOT Shipping Name:

Not Regulated.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Flammability	1
NFPA Health	1
NFPA Reactivity	0

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: Yes
SARA 313: No
Immediate Health: Yes
Delayed Health: No
Fire: Yes
Sudden Pressure Release: No
Reactive: No
Other Regulation:

OSHA:	This product is not considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910,1200).
Section 302:	Extremely Hazardous Substances: No regulated ingredients.
TSCA:	The chemical components of this product are

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Other Regulation:

contained on the Section 8(B) Chemical Substance Inventory List (40 CFR 710).

CERCLA: No regulated ingredients.

STATE/LOCAL REGULATIONS

Comment:

State right to know: Pennsylvania- New Jersey R-T-K:
Fluoroscent Dye: EIN 80100312-5001P 5-25 %w
Lubricant Oil: EIN 80100312-5001P 75-95 %w

California prop. 65: No regulated infredients.

16 OTHER INFORMATION

Material Safety Data Sheet

1. Product and company identification

Product name GM VERSATRAK Fluid #12378514

MSDS # 467853

Code 467853-US89

Product use Gear lubricant
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer BP Lubricants USA Inc.
1500 Valley Road
Wayne, NJ 07470
Telephone: (973) 633-2200
Telecopier: (973) 633-7475

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)

OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

2. Hazards identification

Physical state Liquid.

Color Yellow.

Emergency overview WARNING !

CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential health effects

Eyes Causes eye irritation.

Skin May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Inhalation May cause respiratory tract irritation.

Ingestion Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Ingredient name	CAS #	%
Dimethyl octadecylphosphonate	25371-54-4	1 - 5
Olefin sulfide	68937-96-2	1 - 5
Base oil - highly refined	Varies	1 - 5
amines, C12-14-alkyl, reaction products with hexanol phosphorus oxide (p2o5), phosphorus sulfide (p2s5) and propylene oxide	91745-46-9	1 - 5

4. First aid measures

Eye contact
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact
Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation
If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion
Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

5. Fire-fighting measures

Flash point
Open cup: 204°C (399.2°F) [Cleveland.]

Fire/explosion hazards
In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable
Use an extinguishing agent suitable for the surrounding fire.

Not suitable
Do not use water jet.

Fire-fighting procedures
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 combustion products
Combustion products may include the following:
phosphorus oxides
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
sulfur oxides (SO_2, SO_3 etc.)

Protective clothing (fire)
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. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. 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

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

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.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). 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.

Not suitable

Prolonged exposure to elevated temperature.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**ACGIH (United States).** TWA: 5 mg/m³ 8 hours. Form: Mineral oil, mist **OSHA (United States).** TWA: 5 mg/m³ 8 hours. Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control Measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

Personal protection

Eyes

Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body

Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory

Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state

Liquid.

Color

Yellow.

Odor

Oily

Flash point

Open cup: 204°C (399.2°F) [Cleveland.]

Density

880.4 kg/m³ (0.88 g/cm³) at 15°C

Viscosity

Kinematic: 58.6 mm^2/s (58.6 cSt) at 40°C
Kinematic: 11.5 mm^2/s (11.5 cSt) at 100°C

Solubility

insoluble in water.

$LogK_{ow}$

>3

10. Stability and reactivity

Stability and reactivity The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid Avoid all possible sources of ignition (spark or flame).

Incompatibility with various substances Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Other information Contains low concentration of Olefinsulfide and phosphoric acid ester amine salt. Based on animal studies at high concentration may cause allergic skin reactions with repeated exposure.

Potential chronic health effects

Carcinogenicity No known significant effects or critical hazards.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability Not expected to be rapidly degradable.

Mobility Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential This product is not expected to bioaccumulate through food chains in the environment.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information 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.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal Regulations

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: BOT 190 M 1-(Neuhof) - Parent: Immediate (acute) health hazard

SARA 313

Form R - Reporting requirements: This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification: This product does not contain any hazardous ingredients at or above regulated thresholds.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: CERCLA: Hazardous substances.: Benzene: 10 lbs. (4.54 kg); Ethyl acrylate: 1000 lbs. (454 kg); Cadmium (Non-pyrophoric): 10 lbs. (4.54 kg); lead: 10 lbs. (4.54 kg); Arsenic: 1 lb. (0.454 kg); Ethylbenzene: 1000 lbs. (454 kg);

State regulations

Massachusetts Substances: None of the components are listed.

New Jersey Hazardous Substances: None of the components are listed.

Pennsylvania RTK Hazardous Substances: None of the components are listed.

California Prop. 65: **WARNING:** This product contains a chemical known to the State of California to cause cancer.
Ethylbenzene; Ethyl acrylate; Arsenic

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.
Benzene; Cadmium (Non-pyrophoric); lead

Other regulations

Canada inventory: All components are listed or exempted.

REACH Status: The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): Not determined.

Japan inventory (ENCS): All components are listed or exempted.

Korea inventory (KECI): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

16. Other information

Label requirements

WARNING !

CAUSES EYE AND SKIN IRRITATION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

HMIS® Rating :

Health	**1**
Flammability	**1**
Physical Hazard	**0**
Personal protection	**X**

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

Health
Fire hazard
Instability
Specific hazard

History

Date of issue 06/05/2012.

Date of previous issue 05/24/2012.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Material Safety Data Sheet

1. Product and company identification

Product name Castrol TranSynd

MSDS # 455936

Historic MSDS #: 0000001591, 455936-US10

Code 455936-US03 US65

Product use Automatic transmission fluid.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Manufacturer BP Lubricants USA Inc.
1500 Valley Road
Wayne, NJ 07470
Telephone: (973) 633-2200
Telecopier: (973) 633-7475

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735

Outside the US: +1 703-527-3887 (CHEMTREC)

EMERGENCY SPILL INFORMATION: 1 (800) 424-9300 CHEMTREC (USA)

OTHER PRODUCT INFORMATION 1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
email: bpcares@bp.com

2. Hazards identification

Physical state Liquid.

Color Red.

Emergency overview CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Eye contact. Inhalation.

Potential health effects

Eyes May cause eye irritation.

Skin May cause skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Inhalation May cause respiratory tract irritation.

Ingestion Ingestion may cause gastrointestinal irritation and diarrhea.

See toxicological information (Section 11)

3. Composition/information on ingredients

Synthetic base stock. Proprietary performance additives.

Ingredient name	CAS #	%
Base oil - highly refined	Varies	5 - 10

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately. Get medical attention if symptoms occur.

5. Fire-fighting measures

Flash point Open cup: 235°C (455°F) [Cleveland.]

Fire/explosion hazards In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable Do not use water jet.

Fire-fighting procedures 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 combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Protective clothing (fire) 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. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. 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

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

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.

7. Handling and storage

Handling Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Storage Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10). 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.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Base oil - highly refined	**ACGIH (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist **OSHA (United States).** TWA: 5 mg/m³ 8 hour(s). Form: Mineral oil, mist

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control Measures Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

Personal protection

Eyes Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory Use adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state Liquid.

Color Red.

Odor Mild.

Flash point Open cup: 235°C (455°F) [Cleveland.]

Density 850 kg/m^3 (0.85 g/cm^3) at 15°C

Viscosity Kinematic: 38 mm^2/s (38 cSt) at 40°C
Kinematic: 7.4 mm^2/s (7.4 cSt) at 100°C

Solubility Insoluble in water.

10. Stability and reactivity

Stability and reactivity The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid Avoid all possible sources of ignition (spark or flame).

Incompatibility with various substances Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Potential chronic health effects

Carcinogenicity No known significant effects or critical hazards.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

Not classified as hazardous for transport (DOT, TDG, IMO/IMDG, IATA/ICAO)

15. Regulatory information

U.S. Federal Regulations

United States inventory (TSCA 8b) All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Castrol TranSynd: Immediate (acute) health hazard

SARA 313

Form R - Reporting requirements This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification This product does not contain any hazardous ingredients at or above regulated thresholds.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4): CERCLA: Hazardous substances.: Ethyl acrylate: 1000 lbs. (454 kg); Phenol: 1000 lbs. (454 kg);

State regulations

Massachusetts Substances None of the components are listed.

New Jersey Hazardous Substances The following components are listed: MINERAL OIL (UNTREATED and MILDLY TREATED); MINERAL OIL (UNTREATED and MILDLY TREATED)

Pennsylvania RTK Hazardous Substances None of the components are listed.

California Prop. 65 **WARNING:** This product contains a chemical known to the State of California to cause cancer. Ethyl acrylate

Other regulations

Canada inventory	All components are listed or exempted.
REACH Status	For the REACH status of this product please consult your company contact, as identified in Section 1.
Australia inventory (AICS)	All components are listed or exempted.
China inventory (IECSC)	At least one component is not listed.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	All components are listed or exempted.
Philippines inventory (PICCS)	Not determined.

16. Other information

Label requirements

CAUTION !

MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

HMIS® Rating :

Health	**1**
Flammability	**1**
Physical Hazard	**0**
Personal protection	**X**

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

History

Date of issue 02/14/2012.

Date of previous issue 05/05/2009.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Product Description:
GM VEHICLE CARE
GLASS ADHESION PROMOTER
1#12378555
USE BY MM/DD/YY

MATERIAL SAFETY DATA SHEET

SECTION 1: MANUFACTURER IDENTIFICATION

MANUFACTURED BY:
Custom-Pak Products Inc.
N118 W18981 Bunsen Drive
Germantown, WI 53022

FORMULA # 30N024N11B
Chemtrec 24-hour Emergency Phone: (800) 424-9300
Chemtrec Foreign Emergency Phone: (703) 527-3887
Product Information Phone Number: (262) 251-6180

DATE MSDS PRINTED & REVIEWED: 06/26/12
LAST FORMULA REVISION DATE: 08/22/01

(G2160)

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

#	COMPONENT	CAS#	% by WT.	SARA 313 LISTED	LISTED CARCINOGEN BY: NTP	IARC	OSHA
1	ISOPROPYL ALCOHOL	67-63-0	70-81	N	N	N	N
2	PROPANE	74-98-6	15-21	N	N	N	N
3	N-BUTANE	106-97-8	5-8	N	N	N	N

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview: DANGER! Extremely Flammable. Contents Under Pressure.

APPEARANCE/ODOR: CLEAR ATOMIZED MIST / SOLVENT ODOR

POTENTIAL HEALTH EFFECTS: See Section 11 for more information.

LIKELY ROUTES OF EXPOSURE: Eye contact, skin contact, ingestion, and inhalation
EYE: Contact may cause redness, irritation, tearing, and blurred vision
SKIN: Contact may dry skin causing cracks and irritation
INGESTION: May be harmful if swallowed
INHALATION: Exposure to high concentrations of vapors may cause drowsiness, breathing difficulty, respiratory irritation, or headaches. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Product Description: MATERIAL SAFETY DATA SHEET
GM VEHICLE CARE
GLASS ADHESION PROMOTER
1#12378555
USE BY MM/DD/YY

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Asthma and other respiratory ailments.
TARGET ORGANS: Kidney Liver Lung Brain

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 4: FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with water for at least 15 minutes. If irritation develops get medical attention.
SKIN CONTACT: Remove contaminated clothing and wash before reuse. Wash skin with soap and water. Get medical attention if irritation develops.
INHALATION: Move to fresh air. Contact emergency medical support if breathing stops or is irregular.
INGESTION: Do NOT induce vomiting. Get medical attention immediately.

SECTION 5: FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: CO2 (Carbon Dioxide), dry chemical, or water fog.
UNSUITABLE EXTINGUISHING MEDIA: Water spray may be unsuitable. However, if water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible explosion when exposed to extreme heat.
PRODUCTS OF COMBUSTION: These products are carbon oxides (CO,CO2).
PROTECTION OF FIREFIGHTERS: Full protective equipment including self-contained breathing apparatus should be used.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Use personal protection recommended in Section 8.
ENVIRONMENTAL PRECAUTIONS: None known.

METHODS OF CONTAINMENT: Absorb spilled liquid in suitable material.
METHODS OF CLEAN-UP: Use spark-proof tools to sweep or scrape up and containerize.
OTHER INFORMATION: Ventilate the area.

SECTION 7: HANDLING AND STORAGE

HANDLING:
Vapors may ignite explosively. Prevent buildup of vapors; use with adequate ventilation. Keep from sparks, heat, flame or other heat sources. Do not smoke. Turn off pilot lights, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Do not puncture or incinerate (burn) container.

STORAGE:
Store in dry, well-ventilated area and in accordance with federal, state, and local regulations. Do not expose to heat or store at temperatures above 120 F (48 C).
Storage conditions should comply with NFPA 30B and OSHA 1910.106.
If storing in cold temperatures, allow product to warm to room temperature before use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES

#	COMPONENT	ACGIH TLV-STEL	ACGIH TLV-TWA	OSHA PEL-TWA
1	ISOPROPYL ALCOHOL	400 ppm	200 ppm	400 ppm
2	PROPANE	1800 ppm	2500 ppm	1000 ppm
3	N-BUTANE	N/E	800 ppm	800 ppm

ENGINEERING CONTROLS: Provide adequate ventilation to keep air contamination below OSHA permissible exposure limits and ACGIH TLV exposure levels.

EYE/FACE PROTECTION: Wear safety glasses with side shields. Have eye wash facilities immediately available.

SKIN PROTECTION: Chemical resistant gloves if contact is likely.

RESPIRATORY PROTECTION: Use NIOSH-approved air-purifying respirator with organic cartridge or canister if exposure cannot be controlled within applicable limits with ventilation.

GENERAL HYGIENE CONSIDERATIONS: Wash thoroughly after handling.

Product Description: MATERIAL SAFETY DATA SHEET
GM VEHICLE CARE
GLASS ADHESION PROMOTER
1#12378555
USE BY MM/DD/YY

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Color: see product description
Odor: SOLVENT ODOR
Physical State: Aerosol - Pressurized Liquid
Freezing Point: Not Established (mixture)
Boiling Range: N.A. (Pressurized Mixture)
Flash Point: <-18C (-0.4F) c.c.
Evaporation Rate: Faster than ether
Upper Flammability Limit: Not Established (mixture)
Lower Flammability Limit: Not Established (mixture)
Vapor Pressure: Approximately 50 psig @ 10 C (70 F)
Specific Gravity: 0.708 @15 C (60 F)
Solubility (water): Negligible
Percent Volatile, wt. %: 99.6
VOC Percent (CA): 99.6
Coating Category (CA): NA

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Keep away from heat, sparks, and flames.

INCOMPATIBLE MATERIALS: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: by fire - Carbon Dioxide and Carbon Monoxide

POSSIBILITY OF HAZARDOUS REACTIONS: Will not occur.

Product Description: MATERIAL SAFETY DATA SHEET
GM VEHICLE CARE
GLASS ADHESION PROMOTER
1#12378555
USE BY MM/DD/YY

SECTION 11: TOXICOLOGICAL INFORMATION

#	COMPONENT	LD50 Oral	LD50 Dermal
1	ISOPROPYL ALCOHOL	4700 mg/kg	13000 mg/kg
2	PROPANE	1000 mg/kg	1800 mg/kg
3	N-BUTANE	N/E	N/E

See section 3 for other acute effect information.

CHRONIC EFFECTS: Prolonged over-exposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary, cardiovascular and reproductive systems. Reports have associated the repeated and prolonged occupational OVER-EXPOSURE to solvents with brain and nervous system damage. The deliberate misuse by concentrating and inhaling the vapors may be harmful or fatal.
CARCINOGENICITY: See Section 2 for additional information.

SECTION 12: ECOLOGICAL INFORMATION

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Do not puncture, incinerate or place container in trash compactor. Dispose of product in accordance with Federal, State, and Local regulations. Empty containers are 95% steel; recycle where allowed.

Product Description: MATERIAL SAFETY DATA SHEET
GM VEHICLE CARE
GLASS ADHESION PROMOTER
1#12378555
USE BY MM/DD/YY

SECTION 14: TRANSPORTATION INFORMATION

GROUND (D.O.T./49 CFR):

I.D. Number:	UN1950
Proper Shipping Name:	AEROSOLS, FLAMMABLE
Hazard Class:	2.1
Packing Group:	- (not applicable)
Hazard Label:	Limited Quantity (LTD QTY) label -- see 49 CFR 172.315
Shipping Papers format:	UN1950, AEROSOLS, FLAMMABLE, 2.1, LTD QTY

AIR (IATA)

I.D. Number:	UN1950
Proper Shipping Name:	AEROSOLS, FLAMMABLE
Hazard Class:	2.1
Packing Group:	- (not applicable)
Hazard Labels:	LTD QTY label with "Y" in it, and Flammable Gas label
Packing Instruction (P.I.):	Y203 if not shipping in UN-certified box**

**NOTE: If shipping in UN-certified box, use P.I. 203 and no LTD QTY label is needed

Shipping Papers format:	UN1950, AEROSOLS, FLAMMABLE, 2.1

WATER (IMDG)

I.D. Number:	UN1950
Proper Shipping Name:	AEROSOLS
Hazard Class:	2.1
Hazard Label:	LTD QTY label (see IMDG 3.4.5.1)
Packing Instruction:	P003
EmS:	F-D, S-U
Stowage and Segregation:	Category A
Shipping Papers format:	UN1950, AEROSOLS, 2.1, (-18 C c.c.), LTD QTY

No component of this product is a listed Marine Pollutant (49 CFR 172,101,Appendix B).

SECTION 15: REGULATORY INFORMATION

International Chemical Inventory
All components of this product are listed on or exempt from the following inventories:
TSCA (United States), DSL (Canada), AICS (Australia), IECSC (China)

Section 313 Toxic Chemicals; See Section 2. Chemicals marked with a "Y" are subject to the SARA reporting requirements under 40 cfr 372.45(c)(5).

SECTION 16: OTHER INFORMATION
Hazard Scale: 0=minimal, 1=slight, 2=moderate, 3-serious, 4=severe
HMIS(American Coatings Association's Hazardous Material Identification System):
Health = 2 Flammability = 4 Physical Hazard = 1
NFPA 704(National Fire Protection Association's Hazard Identification ratings system):
Health = 2 Flammability = 4 Instability = 1

This MSDS is based on information believed to be reliable and accurate. Because of changing reporting requirements and other variables it is impossible to guarantee the accuracy of the information contained in this document. It is the responsibility of the user to determine proper personal protection based on the actual condition of use and to comply with all Federal, State and Local laws and regulations.

Safety Data Sheet

HiTEC 020 Performance Additive

MSDS no. H020

HiTEC is a trademark owned by Afton Chemical Corporation or one of its subsidiaries.

1. Product and company identification

Product use Petrochemical industry: Antifoam agent.

Date of issue/Revisions **18 October 2011**

In case of emergency - Chemical

+1-800-424-9300 (US & Canada)
+1-703-527-3887 (International)
+32-2-507-20-64 (Europe)
+81 345 789 341 (Japan)
+65 3158-1074 (Asia Pacific)
+86 10 5100 3039 (China)
+61 2801 44558 (Australia)

Manufacturer / Supplier

Afton Chemical Corporation
500 Spring St.
Richmond, VA 23219
Telephone number: +1-804-788-5800

Afton Chemical Limited
Euro-Tech Centre
London Road, Bracknell, Berkshire
RG12 2UW, England
Telephone Number: +44 1344 304141
msds@aftonchemical.com

In Singapore:
Afton Chemical Asia Pte. Ltd.
111 Somerset Road
#09-05
TripleOne Somerset
Singapore 238164
Telephone number: +65 3732 0822
Fax: +65 3737 4123

Afton Chemical Trading (Beijing) Co., Ltd.
Rm 707 China World Office 1, No.1 Jian Guo
Men Wai Avenue
Beijing, 100004, China
Tel: (8610)6535 0000
Fax: (8610)65055939

2. HAZARDS IDENTIFICATION

Notice to reader

Afton operates a world-wide system for hazard communication. Some hazards shown in Section 2 may apply to non-EU countries and may not result in classification and labeling in the EU. Please see Sections 3 and 15 for country specific classification information, and Section 11 for additional details.

Europe: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Australia: NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

Primary hazards and critical effects : NOTICE!

Environmental hazards : Not classified as dangerous for the environment according to EC criteria.

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

Health	0
Reactivity	0

3. Composition/information on ingredients

Note: see section 8 for occupational exposure limits and section 11 for LC50/LD50 information

Substance/Preparation : Preparation

Ingredient name	CAS no.	Conc. (% w/w)	EU Classification	WHMIS Regulated?

No component is present at sufficient concentration to require a hazard classification for health in accordance with EC Directives.

4. First aid measures

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Ingestion : If affected person is fully conscious, give one glass of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

Skin contact : Wash with soap and water. Get medical attention if irritation develops.

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

5. Fire-fighting measures

Extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO_2.

Fire-fighting procedures : Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Hazardous decomposition products : No specific data.

Flash point : Closed cup: 100°C (212°F) [Pensky-Martens. Minimum]

6. Accidental release measures

Personal precautions : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Follow all fire-fighting procedures (section 5).

Environmental precautions and clean-up methods : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways.

Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Wash thoroughly after handling.

Storage : Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls/personal protection

Engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal protective equipment

Respiratory system : Use appropriate respiratory protection if there is the potential to exceed the exposure limit(s).

Skin and body : Disposable outer garments when there is a risk of contact with the material.

Hands : Use chemical-resistant, impervious gloves.

Eyes : Safety glasses with side shields. Goggles with a face shield may be necessary depending on quantity of material and conditions of use.

Occupational exposure limits

Ingredient name	OEL United States	OEL Canada	OEL Europe	OEL Australia

Exposure limit not established.

9. Physical and chemical properties

Physical state and Appearance : Liquid. [Inhomogeneous mixture: partial emulsion with 2 phases, white suspension layer on bottom of hazy upper layer]

Color : White. Emulsion.

Density : 0.956 g/cm^3 at 15.6°C

Viscosity : >100 cSt @ 100°C

Auto-ignition temperature : Not determined.

Flash point : Closed cup: 100°C (212°F) [Pensky-Martens. Minimum]

10. Stability and reactivity

Stability : The product is stable.

Materials to avoid : Strong oxidizing and reducing agents.

Conditions to avoid : High temperatures, sparks, and open flames.

11. Toxicological information

Routes of entry : Skin, Eyes, Ingestion, and Inhalation.

Target organs : None known.

Acute effects

Inhalation : Not determined.

Ingestion : Not determined.

Skin contact : Non-irritating to the skin.

Eye contact : Non-irritating to the eyes.

Adverse effects : Not determined.

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA	EU

Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Toxicity data

Product/ingredient name	Result	Species	Dose	Exposure

Not determined.

Other information : Not available.

12. Ecological information

Environmental hazards : Not classified as dangerous for the environment according to EC criteria. Based on calculation.

Environmental fate : This product contains components which may be persistent in the environment.

13. Disposal considerations

Waste handling and disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-
ADG Class	Not regulated.	-	-	-		-

Notice to reader

The above transport information is provided to assist in the proper classification of this product and may not be suitable for all shipping conditions.

15. Regulatory information

EU regulations

Risk phrases : This product is not classified according to EU legislation.

Safety phrases : No known significant effects or critical hazards.

US regulations

SARA 313 toxic chemical notification and release reporting (w/w%) : No SARA 313 chemicals are present above the reporting threshold.

SARA 311/312 Hazardous Categorization : **SARA 311/312 MSDS distribution - chemical inventory - hazard identification** No products were found.

RQ (Reportable quantity) : CERCLA: Hazardous substances.: No products were found.

State - California Prop. 65 : No products were found.

Canadian regulations

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

International Inventory Status

United States inventory (TSCA 8b)	: All components are listed or exempted.
Canada inventory	: All components are listed or exempted.
Europe inventory	: All components are listed or exempted.
Japan inventory (ENCS)	: All components are listed or exempted.
Australia inventory (AICS)	: All components are listed or exempted.
Korea inventory (KECI)	: All components are listed or exempted.
China inventory (IECSC)	: All components are listed or exempted.
Philippines inventory (PICCS)	: All components are listed or exempted.

16. Other information

PREPARATION INFORMATION

Validated by HS&E Department (Tel: +1 804 788 5800) on 10/18/2011.

Date of printing : **10/18/2011.**

Indicates information that has changed from previously issued version.

Notice to reader

This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. Afton makes no representation as to completeness or accuracy. In no event will Afton be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

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Richmond, VA 23219
Telephone number: +1-804-788-5800

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Euro-Tech Centre
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RG12 2UW, England
Telephone Number: +44 1344 304141
msds@aftonchemical.com

In Singapore:
Afton Chemical Asia Pte. Ltd.
111 Somerset Road
#09-05
TripleOne Somerset
Singapore 238164
Telephone number: +65 3732 0822
Fax: +65 3737 4123

In Australia:
Afton Chemical Asia Pacific Company
Level 9, 20 Berry Street
North Sydney, NSW 2060
Australia
Telephone number: +61 2801 44558
Business Hours: 9:00am - 5:00pm

In Japan:
Afton Chemical Japan Corporation,
Tsukuba Technical Center
5-9-4, Tokodai, Tsukuba-shi,
Ibaraki-ken 300-2635, Japan
Telephone number: +81 29 847 1061

In China:
Afton Chemical Trading (Beijing) Co., Ltd.
Room 808 China World Office 2
No. 1 Jian Guo Men Wai Avenue
Beijing 100004 China
Telephone number: +86 10 6535 0000

*** END OF MSDS ***

HMCS ID: 358540 **SUC:** 04-Metal Working Fluids and Lubricants **External Key:** 10-3006, 15231847	**MATERIAL SAFETY DATA SHEET**	**Print Date:** 06.May.2013 **Corporate Synonyms:** ACDelco Dex-CVT Additive

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron 40217 GM CVT Fluid - ETL 9588

Product Use: Transmission Fluid
Product Number(s): CPS229925
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
Highly refined mineral oil (C15 - C50)	Mixture	70 - 90 %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: (Closed Cup) 211 °C (412 °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. 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.
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: Green
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 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Density: 0.8534 kg/l @ 15°C (59°F) (Typical)
Viscosity: 6 cSt @ 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

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

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), 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 (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 revision updates the following sections of this Material Safety Data Sheet: 1,14,15,16.
Revision Date: SEPTEMBER 28, 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 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.

Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **ACDelco 15W-40**
Uses : Engine oil.

Manufacturer/Supplier : **SPECIALTY OIL COMPANY**
700 Milam
Houston TX 77002-2806
USA
MSDS Request :

Emergency Telephone Number
Spill Information : 877-242-7400
Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Highly refined mineral oils and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odour : Amber. Liquid at room temperature. Slight hydrocarbon.

Health Hazards : Not classified as dangerous for supply or conveyance.
Safety Hazards : Not classified as flammable but will burn.
Environmental Hazards : Not classified as dangerous for the environment.

Health Hazards : Not expected to be a health hazard when used under normal conditions.

Health Hazards
Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.
Skin Contact : Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Contact : May cause slight irritation to eyes.
Ingestion : Low toxicity if swallowed.
Other Information : Used oil may contain harmful impurities.
Signs and Symptoms : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.
Aggravated Medical Condition : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.
Environmental Hazards : Not classified as dangerous for the environment.
Additional Information : 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.

4. FIRST AID MEASURES

General Information	:	Not expected to be a health hazard when used under normal conditions.
Inhalation	:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
Skin Contact	:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
Eye Contact	:	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Advice to Physician	:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point	:	> 230 °C / 446 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V)(based on mineral oil)
Auto ignition temperature	:	> 320 °C / 608 °F
Specific Hazards	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water in a jet.
Protective Equipment for Firefighters	:	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

Protective measures	:	Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Clean Up Methods	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an

absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

Additional Advice : Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage : Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F

Recommended Materials : For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials : PVC.

Additional Information : Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	ACGIH	TWA(Mist.)		5 mg/m3	
Oil mist, mineral	ACGIH	STEL(Mist.)		10 mg/m3	

Exposure Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene

		practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].
Hand Protection	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
Eye Protection	:	Wear safety glasses or full face shield if splashes are likely to occur.
Protective Clothing	:	Skin protection not ordinarily required beyond standard issue work clothes.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Environmental Exposure Controls	:	Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Amber. Liquid at room temperature.
Odour	:	Slight hydrocarbon.
pH	:	Not applicable.
Initial Boiling Point and Boiling Range	:	> 280 °C / 536 °F estimated value(s)
Pour point	:	Typical -20 °C / -4 °F
Flash point	:	> 230 °C / 446 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V) (based on mineral oil)
Auto-ignition temperature	:	> 320 °C / 608 °F
Vapour pressure	:	< 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Specific gravity	:	Typical 0.89
Density	:	Typical 0.895 kg/m3
Water solubility	:	Negligible.
n-octanol/water partition	:	> 6 (based on information on similar products)

coefficient (log Pow)
Vapour density (air=1) : > 1 (estimated value(s))
Evaporation rate (nBuAc=1) : Data not available

10. STABILITY AND REACTIVITY

Stability : Stable.
Conditions to Avoid : Extremes of temperature and direct sunlight.
Materials to Avoid : Strong oxidising agents.
Hazardous Decomposition Products : Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment : Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity : Expected to be of low toxicity: LD50 > 5000 mg/kg
Acute Dermal Toxicity : Expected to be of low toxicity: LD50 > 5000 mg/kg
Acute Inhalation Toxicity : Not considered to be an inhalation hazard under normal conditions of use.
Skin Irritation : Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation : Expected to be slightly irritating.
Respiratory Irritation : Inhalation of vapours or mists may cause irritation.
Sensitisation : Not expected to be a skin sensitiser.
Repeated Dose Toxicity : Not expected to be a hazard.
Mutagenicity : Not considered a mutagenic hazard.
Carcinogenicity : Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.

Reproductive and Developmental Toxicity : Not expected to be a hazard.
Additional Information : Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible. Continuous contact with used engine oils has caused skin cancer in animal tests.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity : Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 >

100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

Mobility	:	Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
Persistence/degradability	:	Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
Bioaccumulation	:	Contains components with the potential to bioaccumulate.
Other Adverse Effects	:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	:	Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)
This material is not classified as dangerous under IATA regulations.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

EINECS	All components listed or polymer exempt.
TSCA	All components listed.
DSL	All components listed.

SARA Hazard Categories (311/312)
No SARA 311/312 Hazards.

SARA Toxic Release Inventory (TRI) (313)

Zinc alkyl dithiophosphate (68649-42-3)

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

New Jersey Right-To-Know Chemical List

Zinc alkyl dithiophosphate	(68649-42-3)	Listed.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	:	0, 1, 0
MSDS Version Number	:	1.1
MSDS Effective Date	:	07/06/2009
MSDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product.
Disclaimer	:	The information contained herein is based on our current

knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

Material Safety Data Sheet

NFPA	WHMIS	PPE	Transport Symbol
	Non-controlled		Not regulated

Revision Date: 24-May-2012 **Revision Number:** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CVT I-NS3
Product Code: 1609025
Recommended use Automotive Lubricant

Contact Manufacturer
Idemitsu Lubricants America,
701 Port Rd.
Jeffersonville, IN. 47130
Telephone: 812-285-8234
Fax: 812-285-8243
Contact Name: Robin Hutchens
Email: rhutchens@ilacorp.com

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

CAUTION!
Emergency Overview
Vapors may be irritating to eyes, nose, throat, and lungs

Appearance Dark Green Blue Opaque **Physical State:** Liquid **Odor:** Characteristic

Mexico - Grade Slight risk, Grade 1

Potential Health Effects

Principle Routes of Exposure Skin, Eye

Acute Effects

Eyes May cause slight irritation

Skin May cause skin irritation and/or dermatitis

Inhalation 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

Ingestion May be harmful if swallowed

Chronic Effects This product contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects

See Section 11 for additional Toxicological information.

Potential Environmental Effects See Section 12 for additional Ecological information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Non-Hazardous Components

Chemical Name	CAS-No	Weight %
Lubricating Base Stocks	Mixture	60-70
Synthetic Lubricant	Mixture	20-30

4. FIRST AID MEASURES

General Advice If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Inhalation Move to fresh air in case of accidental inhalation of vapors. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician immediately.

Ingestion Do not induce vomiting without medical advice. If vomiting occurs naturally, have casualty lean forward to reduce the risk of aspiration. Swallowing small quantities of diluted product may cause nausea, diarrhea or abdominal distress. Consult a physician.

Protection of First-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

5. FIRE-FIGHTING MEASURES

Flammable Properties NFPA: Class IIIB Combustible Liquid

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

Hazardous combustion products During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and / or irritating. Combustion products may include and are not limited to, Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, smoke, fumes.

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA **Health:** 1 **Flammability:** 1 **Instability:** 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Avoid contact with the skin and the eyes. Use personal protective equipment. Remove all sources of ignition. Avoid breathing vapors or mists. Ensure adequate ventilation.

Environmental Precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods for Clean-up Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceus earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Pick up and transfer to properly labeled containers.

Spill Management

LARGE SPILLS Eliminate sources of ignition. Prevent additional discharge of material if possible to do so without hazard. For small spills implement cleanup procedures; for large spills implement cleanup procedures and, if in public area, keep public away and advise authorities. Also, if this product is subject to CERCLA reporting (see Section 15 Regulatory Information) notify the National Response Center.

WATER SPILLS Prevent liquid entering sewers, watercourses, or low areas. Contain spilled liquid with sand or earth. Recover by pumping or with suitable absorbent. If liquid is too viscous for pumping, scrape up. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations

7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Do not breathe vapors or spray mist. Remove and wash contaminated clothing before re-use. Keep away from open flames, hot surfaces and sources of ignition. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Storage Keep in properly labeled containers. Keep container tightly closed in a dry and well-ventilated place.

Safe Handling Advice Handle in accordance with good industrial hygiene and safety practices.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Other Exposure Guidelines (If Generated)

Chemical Name	OSHA PEL	ACGIH TLV	ACGIH OEL (STEL)	NIOSHT REL TWA	ILA IHG	ILA ROEG

Oil mist, mineral	TWA: 5 mg/m^3	TWA: 5 mg/m^3		TWA 5 mg/m^3 ST 10 mg/m^3		

Engineering measures

Ensure adequate ventilation, especially in confined areas. 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.

Personal Protective Equipment

Eye/face Protection

Safety glasses equipped with side shields are recommended as minimum protection in industrial settings.

Skin Protection

Wear protective gloves/clothing. Use clean protective clothing if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat. **Glove Type:** Neoprene. nitrile rubber. Nitriles. butyl-rubber.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

When using, do not eat, drink or smoke. Clean equipment, work area and clothing regularly.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Dark Green Blue Opaque
Odor: Characteristic
Physical State: Liquid
Flash Point 180°C / 356°F
Method COC ASTM D92
Density 0.85 g/cm^3@15°C
Viscosity @40C=30.9 cSt; @100C= 7.07 cSt

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under recommended storage conditions. Hazardous polymerization does not occur.

Conditions to Avoid

Heat, flames and sparks

Incompatible Materials

Strong oxidizing agents.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information (Estimated):

LD50 Oral: 28532.87 mg/kg

LD50 Dermal: 38446.93 mg/kg
LC50 Inhalation: 26910 mg/m^3 (dust)

Chronic Toxicity

Carcinogenicity:
The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and therefore none are listed as a carcinogen by NTP, IARC, or OSHA

12. ECOLOGICAL INFORMATION

Ecotoxicity

Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause fish kill or create an anaerobic environment
Lubricant oil basestocks are complex mixtures of hydrocarbons (primarily branched chain alkanes and cycloalkanes) ranging in carbon number from C15 to C50. The aromatic hydrocarbon content of these mixtures varies with the severity of the refining process. White oils have negligible levels of aromatic hydrocarbons, whereas significant proportions are found in unrefined basestocks. Olefins are found only at very low concentrations. Volatilization is not significant after release of lubricating oil basestocks to the environment due to the very low vapor pressure of the hydrocarbon constituents. In water, lubricating oil basestocks will float and will spread at a rate that is viscosity dependent. Water solubilities are very low and dispersion occurs mainly from water movement with adsorption by sediment being the major fate process. In soil, lubricating oil basestocks show little mobility and adsorption is the predominant physical process.

Both acute and chronic ecotoxicity studies have been conducted on lubricant base oils. Results indicate that the acute aquatic toxicities to fish, Daphnia, Ceriodaphnia and algal species are above 1000 mg/l using either water accommodated fractions or oil in water dispersions. Since lubricant base oils mainly contain hydrocarbons having carbon numbers in the range C15 to C50, it is predicted that acute toxicity would not be observed with these substances due to low water solubility. Results from chronic toxicity tests show that the no observed effect level (NOEL) usually exceeds 1000 mg/l for lubricant base oils with the overall weight of experimental evidence leading to the conclusion that lubricant base oils do not cause chronic toxicity to fish and invertebrates.

Large volumes spills of lubricant base oils into water will produce a layer of undissolved oil on the water surface that will cause direct physical fouling of organisms and may interfere with surface air exchange resulting in lower levels of dissolved oxygen. Petroleum products have also been associated with causing taint in fish even when the latter are caught in lightly contaminated environments. Highly refined base oils sprayed onto the surface of eggs will result in a failure to hatch

13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method

Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a "hazardous waste" at the time of disposal. Transportation, treatment, storage, and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact your regional US EPA office for guidance concerning case specific disposal issues. Empty drums and pails retain residue. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose this product's empty container to heat, flame, or other ignition sources. DO NOT attempt to clean it. Empty drums and pails should be drained completely, properly bunged or sealed, and promptly sent to a reconditioner.

Contaminated Packaging

Clean container with water. Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

All components in the product are on the following Inventory Lists: U.S.A. (TSCA), Canada (DSL/NDSL), Australia (AICS), China (IECSC).

Hazardous Components

USA

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CERCLA/SARA 302 & 304

Section 302 & 304 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 355.

Chemical Name	CAS-No	Weight %	RQ	TPQ

Ethylene glycol	107-21-1	<0.01	5000 lb final RQ 2270 kg final RQ	

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product contains the following HAPs:

Chemical Name	CAS-No	Weight %
Ethylene glycol	107-21-1	<0.01

State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Petroleum distillates, hydrotreated light paraffinic	X				

Predominant Ingredients - NJRTK

Chemical Name	CAS-No
Petroleum distillates, hydrotreated light paraffinic	64742-55-8
Petroleum distillates, hydrotreated heavy paraffinic	64742-54-7
Polyacrylate	391232-73-8
1-dodecene, polymer with 1-octene, hydrogenated	163149-29-9
1-Decene, homopolymer, hydrogenated	68037-01-4

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 CPR.

WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

Revision Date: 24-May-2012

Revision Summary:

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

End of Safety Data Sheet

Material Safety Data Sheet

40002194 K) ND-OIL12

Section 1. Chemical Product and Company Identification

Common Name : **40002194 K) ND-OIL12**

Supplier :

Material Uses : Not available.

Manufacturer : IDEMITSUKOSAN CO., LTD.
3-1-1 MARUNOUCHI CHIYODA-KU
TOKYO JAPAN
PHONE : +81-3-3213-3143

Validation Date : **2009/05/25.**

Print Date : 2009/05/25.

Responsible Name : **Lubricants Safety & Q.A. Section**

In Case of Emergency : +81-3-3213-3143

Section 2. Composition, Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits

No hazardous ingredient.

Section 3. Hazards Identification

Physical State and Appearance : Liquid.

Emergency Overview : No specific hazard.

Routes of Entry : Not available.

Potential Acute Health Effects

Eyes : Not available.

Skin : Irritation of the product in case of skin contact: Not available. Sensitization of the product: Not available.

Inhalation : Not available.

Ingestion : Not available.

Potential Chronic Health Effects : **CARCINOGENIC EFFECTS**: Classified None. by NIOSH [TRICRESYLPHOSPHATE]. Classified None. by NIOSH [2,6-DITERT-BUTYL-P-CRESOL]. Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [2,6-DITERT-BUTYL-P-CRESOL].
MUTAGENIC EFFECTS Not available.
TERATOGENIC EFFECTS Not available.

Medical Conditions Aggravated by Overexposure: : Repeated or prolonged exposure is not known to aggravate medical condition.

Overexposure /Signs/Symptoms : Not available.

See Toxicological Information (section 11)

Section 4. First Aid Measures

Eye Contact : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Notes to Physician : Not available.

Continued on Next Page

Section 5. Fire Fighting Measures

Flammability of the Product : May be combustible at high temperature.

Autoignition Temperature : Not available.

Flash Points : Open cup: 180°C (356°F) (Cleveland.).

Flammable Limits : Not available.

Products of Combustion : These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances : Not available.

Explosion Hazards in Presence of Various Substances : Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions : SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Protective Clothing (Fire) : Be sure to use an approved/certified respirator or equivalent.

Special Remarks on Fire Hazards : Not available.

Special Remarks on Explosion Hazards : Not available.

Section 6. Accidental Release Measures

Small Spill and Leak : Absorb with an inert material and put the spilled material in an appropriate waste disposal

Large Spill and Leak : Absorb with an inert material and put the spilled material in an appropriate waste disposal

Section 7. Handling and Storage

Handling : Avoid breathing vapors or spray mists.

Storage : Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls, Personal Protection

Engineering Controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

Eyes : Safety glasses.

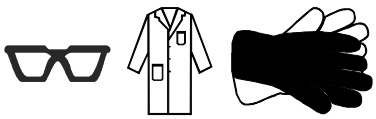
Body : Lab coat.

Respiratory : Not applicable.

Hands : Impervious gloves.

Feet : Not applicable.

Protective Clothing (Pictograms) :



Personal Protection in Case of a Large Spill : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

No hazardous ingredients.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance : Liquid.

Color : Yellow. (Light.)

Odor : Characteristic.

pH (1% Soln/Water) : Not applicable.

Boiling/Condensation Point : Not available.

Melting/Freezing Point :

Specific Gravity : Not available.

Continued on Next Page

Vapor Pressure : Not available.
Vapor Density : Not available.
Volatility : Not available.
Evaporation Rate : Not available.
VOC : Not available.
Viscosity : Kinetic: 9.17 cSt (@100°C)
Kinetic (40C): 40 cSt
Ionicity (in Water) : Not available.
Solubility : Insoluble in cold water.
Physical Chemical Comments : Not available.

Section 10. Stability and Reactivity

Stability and Reactivity : The product is stable.
Conditions of Instability : Not available.
Incompatibility with Various Substances : Not available.
Hazardous Decomposition Products : Not available.
Hazardous Polymerization : Will not occur.

Section 11. Toxicological Information

Chronic Effects on Humans : **CARCINOGENIC EFFECTS**: Classified None. by NIOSH [TRICRESYLPHOSPHATE]. Classified None. by NIOSH [2,6-DITERT-BUTYL-P-CRESOL]. Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [2,6-DITERT-BUTYL-P-CRESOL].
Other Toxic Effects on Humans : No specific information is available in our database regarding the other toxic effects of this material for humans.
Special Remarks on Toxicity to Animals : Not available.
Special Remarks on Chronic Effects on Humans : Not available.
Special Remarks on Other Toxic Effects on Humans : Not available.

Section 12. Ecological Information

BOD and COD : Not available.
Biodegradable/OECD : Not available.
Mobility : Not available.
Products of Degradation : These products are carbon oxides (CO, CO2) and water.
Toxicity of the Products of Biodegradation : The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation : Not available.

Section 13. Disposal Considerations

Waste Information : Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Stream : Not available.

Consult your local or regional authorities.

Section 14. Transport Information

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional information
DOT Classification	Not regulated.	Not available.	Not available.			-
TDG Classification	Not regulated.	Not available.	Not available.			
ADR/RID Class	Not regulated.	Not available.	Not available.			-

Continued on Next Page

IMDG Class	Not regulated.	Not available.	Not available.			-
IATA-DGR Class	Not regulated.	Not available.	Not available.			-

Section 15. Regulatory Information

HCS Classification : Not controlled under the HCS (United States).

U.S. Federal Regulations : TSCA 8(b) inventory

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: TRICRESYLPHOSPHATE; 2,6-DITERT-BUTYL-P-CRESOL
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: TRICRESYLPHOSPHATE: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; 2,6-DITERT-BUTYL-P-CRESOL: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313 toxic chemical notification and release reporting: No products were found.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean air act (CAA) 112 accidental release prevention: No products were found.

Clean air act (CAA) 112 regulated flammable substances: No products were found.

Clean air act (CAA) 112 regulated toxic substances: No products were found.

State Regulations : Pennsylvania RTK: 2,6-DITERT-BUTYL-P-CRESOL: (generic environmental hazard)
Massachusetts RTK: 2,6-DITERT-BUTYL-P-CRESOL
New Jersey: TRICRESYLPHOSPHATE; 2,6-DITERT-BUTYL-P-CRESOL

California prop. 65: No products were found.

International Regulations

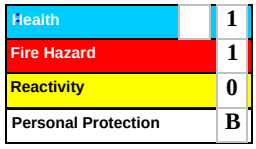
EINECS :

DSCL (EEC) : This product is not classified according to the EU regulations.

International Lists :

Section 16. Other Information

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



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

References : Not available.

Other Special Considerations : Not available.

Date of printing : **2009/05/25.**

Date of issue : **2009/05/25.**

Date of Previous Issue : **No Previous Validation.**

Version : **2**

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.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: OS265819F
Product Code: 11292304-5412031-317161-102103
External Keys:

ACDelco Rear Axle Lubricant High Efficiency	Primary Tradename - Distributable Material
10-4091, 19300457	Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: LUBRIZOL CORP
Address:

29400 LAKELAND BLVD.	USA	OHIO	44092	WICKLIFFE	MAILING

Communication Lines:

Phone	800-424-9300	CHEMTREC
Phone	440-943-4200	INFO
Phone	703-527-3887	Chemtrec (outside the U.S.)

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
MINERAL OIL	989915-78-8	<	100	%Wt	Yes
ALKENYLAMINE	989938-63-3	<	100	%Wt	No

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Eye contact	General	May cause eye irritation. Does not meet Canadian D2B or EU R36 criteria. Based on data from components or similar materials.
Skin Contact	General	Not expected to be a primary skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.
Inhalation	General	If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components or similar materials.

Medical Conditions Aggravated By Exposure:
not provided

4 FIRST AID MEASURES

First Aid By::

Inhalation	Remove exposed person to fresh air if adverse effects are observed.
Skin Contact	Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue

4 FIRST AID MEASURES

First Aid By::

	rinsing. If eye irritation persists, get medical attention.
Ingestion	DO NOT INDUCE VOMITING. Get immediate medical attention.

Notes To Physician:

Treat symptomatically.

5 FIRE FIGHTING MEASURES

Flash Point:

=	138	°C	PMCC	280.4°F Typical

Explosive Limits:

Upper Explosive Limit (UEL)	Not Determined
Lower Explosive Limit (LEL)	Not Determined

Autoignition Temperature:

Not Determined

Extinguishing Media:

C0O2, dry chemical, or foam. Water can be used to cool and protect exposed material.

Special Fire Fighting Procedures:

Water may cause splattering.

Comment:

Recommend wearing self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations.

Environmental Precautions:

Take precautions to avoid release to the environment.

SPILL OR LEAK PROCEDURES

Recovery:

Ventilate area if spilled in confined space or other poorly ventilated areas. Prevent entry into sewers and waterways, dispose of in accordance with all federal, state and local environmental regulation. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Keep containers closed when not in use. Do not discharge into drains or the environment, dispose to an authorized waste collection point. Use appropriate containment to avoid environmental contamination. Vapors are heavier than air and will tend to accumulate in low areas. Avoid use in confined areas without adequate ventilation. Areas of inadequate ventilation could contain concentrations high enough to cause eye irritation, headaches, respiratory discomfort or nausea. Wash thoroughly after handling. Launder contaminated clothing before reuse. Empty container contains product residue which may exhibit hazards of product. Dispose of packaging or containers in accordance with local, regional, national and intemational regulations.

STORAGE

Storage Conditions:

Maximum Storage Temperature: Not detennined.

7 HANDLING AND STORAGE

STORAGE

Storage Conditions:

Maximum Loading Temperature: Not detennined.

Take precautions to avoid release to the environment. See section 10 for incompatible materials.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Vapors are heavier than air and will tend to accumulate in low areas. Avoid use in confined areas without adequate ventilation.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
MINERAL OIL	989915-78-8	TLV-STEL	10mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
MINERAL OIL	989915-78-8	State-TWA	5mg/m3	-	MICHIGAN
MINERAL OIL	989915-78-8	State-TWA	5mg/m3	-	NEW YORK
MINERAL OIL	989915-78-8	State-TWA	5mg/m3	-	TENNESSEE
MINERAL OIL	989915-78-8	GM OEG-STEL	10mg/m3	-	GM Occupational Exposure Guidelines (OEG)
MINERAL OIL	989915-78-8	PEL-TWA	5mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
MINERAL OIL	989915-78-8	GM OEG-TWA	5mg/m3	-	GM Occupational Exposure Guidelines (OEG)
MINERAL OIL	989915-78-8	TLV-TWA	5mg/m3	-	Threshold Limit Values (TLVs) - ACGIH

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Hand Protection	Gloves Procedures Nitrile.
Eye Protection	Safety Glasses.
Respiratory Protection	Use NIOSH/MSHA approved respirator with a combination organic vapor and high efficiency filter cartridge if recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.
Skin Protection	Long sleeve shirt is recommended. Launder contaminated clothing before reuse.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: Light colored
Odor: Mild

PHYSICAL PROPERTIES

pH Value:

Not Determined

Changes of State:

Boiling Point	Not Determined
Pourpoint	Not Determined
Melting/Freezing Point	Not Determined

Vapor Pressure:

Not Determined

Vapor Density:

Not Determined

Evaporation Rate:

Not Determined

Density:

Bulk Density	Not Determined

Specific Gravity:

=	0.96	=	15.6	°C

Solubility:

Water	Insoluble.

Viscosity:

Viscosity	=	70.8	=	40	°C	Centistokes
Viscosity	=	12	=	100	°C	Centistokes

VOC:

Not Determined

Total Amount Of::

Percent Solid	Not Determined
Percent Volatile	Not Determined

Additional Chemical and Physical Data:

Odor Threshold	Not Determined

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable
Conditions to Avoid:

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Conditions to Avoid:

Not determined.

Incompatible Materials:

Oxidizing agents.

Hazardous Polymerization:

Will not occur.

Comment:

Material is normally stable at moderately elevated temperatures and pressures.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Decomposition Temperature: Not determined.
Thermal Decomposition	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be released. Under combustion conditions, oxides of the following elements will be formed: sulfur.

11 TOXICOLOGICAL INFORMATION

OCCUPATIONAL EXPERIENCES

Health Effects:

No data available to indicate product or components present at greater than 1% are chronic health hazards.

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Product Data:

Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
dermal	LD50	>	2000	mg/kg	rabbits	Based on data from components or similar materials.
oral	LD50	>	10,000	mg/kg	rat	Based on data from components or similar materials.

Additional Information:

Inhalation Toxicity: No data available to indicate product or components may be a toxic inhalation hazard.

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Cal. Prop. 65: This product contains the following chemical(s) known to the state of California to cause cancer: < 0.05 ppm cadmium < 0.1 ppm lead < 0.5 ppm arsenic < 1 ppm Ethyl acrylate, CAS no. 140-88-5.

Mutagenicity:

No data available to indicate product or any components present at greater than 0.1 % are mutagenic or genotoxic.

Reproductive Effects:

No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.
Teratogenicity: No data available to indicate product or any components contained at greater than 0.1 % may cause birth defects.

Cal. Prop. 65: This product contains the following chemical(s) known to the state of California to cause birth defects on maximum impurity levels of components: < 0.05 ppm cadmium < 0.1 ppm lead < 0.5 ppm arsenic < 1 ppm Ethyl acrylate, CAS no. 140-88-5.

Allergen Or Sensitivity:

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Allergen Or Sensitivity:

Dermal Sensitization: No data available to indicate product or components may be a skin sensitizer.
Inhalation Sensitization: No data available to indicate product or components may be respiratory sensitizers.

Comment:

No other health hazards known.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Biodegradation: At least 25% of the components in this product show moderate biodegradation based on OECD 301-type test data. At least 25% of the components in this product show moderate biodegradation based on OECD 302-type test data.
Bioaccumulation: 1 - 10% of the components potentially bioconcentrate, based on octanol/water coefficients.
Soil Mobility: Not determined.

ECOTOXICITY

Comment:

Freshwater Fish Toxicity: The acute LC50 is 10 - 100 mg/L based on component data. The Alkenyl amine contained in this product has an LC50 between 0.1 and 1.0 mg/L.
Freshwater Invertebrates Toxicity: The acute EC50 is 10 - 100 mg/L based on component data. Chronic effects expected at 10 - 100 mg/L based on component data.
Algal Inhibition: The acute EC50 is 10 - 100 mg/L based on component data.
Saltwater Fish Toxicity: The acute LC50 is 10 - 100 mg/L based on component data
Saltwater Invertebrates Toxicity: The acute LC50 is 10 - 100 mg/L based on component data
Bacteria Toxicity: The acute EC50 is 10 - 1000 ppm based on component data.
Miscellaneous Toxicity: Not determined.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

14 TRANSPORT INFORMATION

DOT Information:

Not regulated

Comment:

Not applicable.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	1
NFPA Flammability	1
NFPA Reactivity	0
HMIS Health	0
HMIS Flammability	1
HMIS Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No
Delayed Health: No

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

TSCA	All components of this material are on the US TSCA Inventory or are exempt.
SARA Ext. Haz. Subst.	This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list
SARA Section 313	This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.

STATE/LOCAL REGULATIONS

Comment:

Cal. Prop. 65: This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects on maximum impurity levels of components: < 0.05 ppm cadmium < 0.1 ppm lead < 0.5 ppm arsenic < 1 ppm Ethyl acrylate, CAS no. 140-88-5.

16 OTHER INFORMATION

Safety Data Sheet

ATF-212-B

MSDS no. ATF-212-B

1. Product and company identification

Product use Petrochemical industry: Automatic Transmission Fluid

Date of issue/Revisions **27 June 2011**

In case of emergency - Chemical

+1-800-403-0044 (US & Canada)
+1-804-648-7727 (International)
+32-2-507-20-64 (Europe)
+81 345 789 341 (Japan)
+65 3158-1074 (Asia Pacific)
+86 10 5100 3039 (China)
+61 2801 44558 (Australia)

Manufacturer / Supplier

Afton Chemical Corporation
500 Spring St.
Richmond, VA 23219
Telephone number: +1-804-788-5800

Afton Chemical Limited
Euro-Tech Centre
London Road, Bracknell, Berkshire
RG12 2UW, England
Telephone Number: +44 1344 304141
msds@aftonchemical.com

In Singapore:
Afton Chemical Asia Pte. Ltd.
111 Somerset Road
#09-05
TripleOne Somerset
Singapore 238164
Telephone number: +65 3732 0822
Fax: +65 3737 4123

2. HAZARDS IDENTIFICATION

Notice to reader

Afton operates a world-wide system for hazard communication. Some hazards shown in Section 2 may apply to non-EU countries and may not result in classification and labeling in the EU. Please see Sections 3 and 15 for country specific classification information, and Section 11 for additional details.

Europe: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Australia: NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

Primary hazards and critical effects : NOTICE!

Environmental hazards : Not classified as dangerous for the environment according to EC criteria.

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

Health	**0**
Fire hazard	**1**
Reactivity	**0**

GHS Classification

Hazard classification : Not classified.

Symbol :

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

3. Composition/information on ingredients

Note: see section 8 for occupational exposure limits and section 11 for LC50/LD50 information

Substance/Preparation : Preparation

Ingredient name	CAS no.	Conc. (% w/w)	EU Classification	WHMIS Regulated?
Polyalkene	Proprietary	70 - 80	Not classified.	No.
Polyolefin	Proprietary	10 - 19.9	Xn; R65	No.
Mineral oil	Mixture	1 - 4.9	Not classified.	No.
Methacrylate copolymer	Proprietary	1 - 4.9	Xi; R36	Yes.

4. First aid measures

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Ingestion : If affected person is fully conscious, give one glass of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

Skin contact : Wash with soap and water. Get medical attention if irritation develops.

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

5. Fire-fighting measures

Extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO_2.

Fire-fighting procedures : Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Hazardous decomposition products : No specific data.

Flash point : Closed cup: 180°C (356°F) [MinimumPensky-Martens.]
Closed cup: 200°C (392°F) [Typical Pensky-Martens.]

6. Accidental release measures

Personal precautions : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Follow all fire-fighting procedures (section 5).

Environmental precautions and clean-up methods : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways.

Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Wash thoroughly after handling.

Storage : Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls/personal protection

Engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal protective equipment

Respiratory system : Use appropriate respiratory protection if there is the potential to exceed the exposure limit(s).

Skin and body : Disposable outer garments when there is a risk of contact with the material.

Hands : Use chemical-resistant, impervious gloves.

Eyes : Safety glasses with side shields. Goggles with a face shield may be necessary depending on quantity of material and conditions of use.

Occupational exposure limits

Ingredient name	OEL United States	OEL Canada	OEL Europe	OEL Australia

1) Mineral oil	**ACGIH (United States).** TWA: 5 mg/m³ **OSHA (United States).** TWA: 5 mg/m³	(Canada). TWA: 5 mg/m³ STEL: 10 mg/m³	**EH40-MEL (Europe, 2002).** TWA: 5 mg/m³ 8 hour(s).	**NOHSC (Australia, 2003).** TWA: 5 mg/m³ 8 hour(s).

9. Physical and chemical properties

Physical state and Appearance : Liquid.

Density : 0.86 g/cm³

Specific gravity : 0.855 @ 15.6°C

Viscosity :
5.95 cSt @ 100°C

Auto-ignition temperature : Not determined.

Flash point : Closed cup: 180°C (356°F) [MinimumPensky-Martens.]
Closed cup: 200°C (392°F) [Typical Pensky-Martens.]

10. Stability and reactivity

Stability : The product is stable.

Materials to avoid : Strong oxidizing and reducing agents.

Conditions to avoid : High temperatures, sparks, and open flames.

11. Toxicological information

Routes of entry : Skin, Eyes, Ingestion, and Inhalation.

Target organs : None known.

Acute effects

Inhalation : Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

Ingestion : Not determined.

Skin contact :
Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

Eye contact : Non-irritating to the eyes.

Adverse effects : Not determined.

Carcinogenic effects :

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA	EU

Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Toxicity data

Product/ingredient name	Result	Species	Dose	Exposure
Polyolefin	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Vapor	Rat	5 mg/m³	4 hours
Mineral oil	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Other information : Not available.

12. Ecological information

Environmental hazards : Not classified as dangerous for the environment according to EC criteria. Based on calculation.

Environmental fate : This product contains components which may be persistent in the environment.

13. Disposal considerations

Waste handling and disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-
ADG Class	Not regulated.	-	-	-		-

Notice to reader

The above transport information is provided to assist in the proper classification of this product and may not be suitable for all shipping conditions.

15. Regulatory information

EU regulations

Risk phrases : This product is not classified according to EU legislation.

Safety phrases : No known significant effects or critical hazards.

US regulations

SARA 313 toxic chemical notification and release reporting (w/w%) : No SARA 313 chemicals are present above the reporting threshold.

SARA 311/312 Hazardous Categorization : **SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: HiTEC 5738 Performance Additive: Immediate (acute) health hazard

RQ (Reportable quantity) : CERCLA: Hazardous substances.: Ethylene glycol: 5000 lbs. (2270 kg); Phenol: 1000 lbs. (454 kg); Arsenic: 1 lb. (0.454 kg); Ethylene oxide: 10 lbs. (4.54 kg); Ethyl acrylate: 1000 lbs. (454 kg);

State - California Prop. 65 : This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute:
2-Propenoic Acid, Ethyl Ester
Arsenic
Ethylene oxide

Canadian regulations

WHMIS (Classification) : Not determined.

International Inventory Status

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada inventory : All components are listed or exempted.

Europe inventory : All components are listed or exempted.

Japan inventory (ENCS) : At least one component is not listed.

Australia inventory (AICS) : At least one component is not listed.

Korea inventory (KECI) : All components are listed or exempted.

China inventory (IECSC) : All components are listed or exempted.

Philippines inventory (PICCS) : All components are listed or exempted.

16. Other information

PREPARATION INFORMATION

Validated by HS&E Department (Tel: +1 804 788 5800) on 6/27/2011.

Date of printing : **6/27/2011.**

Indicates information that has changed from previously issued version.

Notice to reader

This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. Afton makes no representation as to completeness or accuracy. In no event will Afton be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

ADDRESS CONTACT INFORMATION

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London Road, Bracknell, Berkshire
RG12 2UW, England
Telephone Number: +44 1344 304141
msds@aftonchemical.com

In Singapore:
Afton Chemical Asia Pte. Ltd.
111 Somerset Road
#09-05
TripleOne Somerset
Singapore 238164
Telephone number: +65 3732 0822
Fax: +65 3737 4123

In Japan:
Afton Chemical Japan Corporation,
Tsukuba Technical Center
5-9-4, Tokodai, Tsukuba-shi,
Ibaraki-ken 300-2635, Japan
Telephone number: +81 29 847 1061

In Australia:
Afton Chemical Asia Pacific Company
Level 9, 20 Berry Street
North Sydney, NSW 2060
Australia
Telephone number: +61 2801 44558
Business Hours: 9:00am - 5:00pm

In China:
Afton Chemical Trading (Beijing) Co., Ltd.
Room 808 China World Office 2
No. 1 Jian Guo Men Wai Avenue
Beijing 100004 China
Telephone number: +86 10 6535 0000

Full text of R-phrases appearing in section 3: : R65- Harmful: may cause lung damage if swallowed.
R36- Irritating to eyes.

*** * * END OF MSDS * * ***

Material Safety Data Sheet

Print Date: 03/04/2011 Revision Date : 03/04/2011 Version : 2.3

Trade name: **ATE Plastilube**

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	ATE Plastilube
MSDS Number	:	888100003552
Product Use Description	:	Polishing agent and lubricant
Company	:	**Continental Aftermarket GmbH** **Guerickestr. 7** **60488 Frankfurt a. M.** **Germany**
Telephone	:	+ 49 69 76 03 1
Telefax	:	+ 49 69 76 10 61
Contact person	:	Central Environment & Safety , Central Laboratory
Emergency telephone number	:	+ 49 61 32 84 46 3

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Regulatory status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Signal Word	:	DANGER
Form	:	paste
Odour	:	characteristic
Odour - Control parameters	:	no data available
Hazard Summary	:	Highly Toxic

Potential Health Effects

Eyes	:	May cause eye irritation.
Skin	:	May cause skin irritation.
Inhalation	:	May be fatal if inhaled.
Target Organs	:	Eyes Respiratory system Skin

Carcinogenicity:

ACGIH	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC	:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
CA Prop 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight percent
baseoil - unspecified	64742-01-4	>= 90 - < 95

SECTION 4. FIRST AID MEASURES

General advice	:	If you feel unwell, seek medical advice (show the label where possible). Remove from exposure, lie down. Never give anything by mouth to an unconscious person. Take off all contaminated clothing immediately. Wash contaminated clothing before re-use.
Inhalation	:	Move to fresh air in case of accidental inhalation of vapours or decomposition products. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.
Skin contact	:	Wash off with warm water and soap.
Eye contact	:	Remove contact lenses. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Ingestion	:	If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

SECTION 5. FIRE-FIGHTING MEASURES

Form	:	paste
Flash point	:	> 100 °C (> 212 °F) Method: DIN 53213
Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media which shall not be used for safety reasons	:	High volume water jet
Special protective equipment for fire-fighters	:	Complete suit protecting against chemicals
Further information	:	Standard procedure for chemical fires. In the event of fire and/or explosion do not breathe fumes. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Try to prevent the material from entering drains or water courses. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up	:	Use mechanical handling equipment.
Additional advice	:	Contaminated surfaces will be extremely slippery.

SECTION 7. HANDLING AND STORAGE

Handling

Handling	:	For personal protection see section 8.

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Dust explosion class	:	not applicable

Storage

Requirements for storage areas and containers	:	Keep container tightly closed in a dry and well-ventilated place.
Advice on common storage	:	Keep away from food, drink and animal feedingstuffs.
Other data	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Contains no substances with occupational exposure limit values.

Eye protection	:	In case of splash hazard, please wear protective goggles.
Hand protection	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.
Skin and body protection	:	Long sleeved clothing
Respiratory protection	:	In the case of vapour formation use a respirator with an approved filter.
Hygiene measures	:	Avoid contact with the skin and the eyes. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	paste

Odour	:	characteristic
Flash point	:	> 100 °C (> 212 °F) Method: DIN 53213
Density	:	0.9 g/cm3 at 20 °C (68 °F)
Volatile organic compounds (VOC) content	:	0 %

SECTION 10. STABILITY AND REACTIVITY

Materials to avoid	:	Strong oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO2) Carbon monoxide nitrogen oxides (NOx)
Hazardous reactions	:	Note: No decomposition if used as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Carcinogenicity	:	No data is available on the product itself.
Reproductive toxicity	:	No data is available on the product itself.
Teratogenicity	:	No data is available on the product itself.
Further information	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Component:

baseoil - unspecified	64742-01-4	Acute oral toxicity: LD50 rat Dose: > 5,000 mg/kg Acute dermal toxicity: LD50 rabbit Dose: > 5,000 mg/kg Skin irritation: Classification: Irritating to skin. Result: Mild skin irritation Eye irritation: Classification: Irritating to eyes. Result: Mild eye irritation

SECTION 12. ECOLOGICAL INFORMATION

Adsorbed organic bound halogens (AOX)	:	not included
Volatile organic compounds (VOC) content	:	0 %
Additional ecological information	:	The product should not be allowed to enter drains, water courses or the soil.

SECTION 13. DISPOSAL CONSIDERATIONS

Adequate disposal	:	In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

DOT 49 CFR

Not dangerous goods

TDGR

Not dangerous goods

ICAO / IATA-DGR

Not dangerous goods

IMDG-Code

Not dangerous goods

SECTION 15. REGULATORY INFORMATION

OSHA Hazards	:	Highly toxic by inhalation Moderate skin irritant Moderate eye irritant
TSCA Status	:	On TSCA Inventory

DSL Status : All components of this product are on the Canadian DSL list.

SARA 311/312 Hazards : Acute Health Hazard

PENN RTK US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Components	CAS-No.
baseoil - unspecified	64742-01-4
modified silicate	

NJ RTK US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Components	CAS-No.
baseoil - unspecified	64742-01-4
modified silicate	

California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16. OTHER INFORMATION

Further information

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.

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Germany
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Revision Date : 03/04/2011

Material Safety Data Sheet

MSDS

Section 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION		
Product Brand: Bar's Leaks®	**Product Part #:**	4 Gram Cooling System Sealant Part# 12378254
Bar's Products 10386 North Holly road P.O. Box 187 Holly, Michigan 48442	**Product Name:**	Concentrated Tablets
	24-Hour Emergency CHEMTEL INC.	U.S. & Canada 1-800-255-3924 International 813-248-0585
	Information:	1-810-603-1321/ www.barsleaks.com
	Date Prepared:	01-15-12

Section 2—COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components (Specific Chemical Identity, Common Name(s))	CAS NUMBER	OSHA PEL	ACGIH TLV	Other Limits	% (optional)
Turmeric	458-37-7				13-15
Soda Ash	497-19-8				5-7
Polyethylene Glycol Powder	25322-68-3				.5-1
Almond Nut Shell					8-10
Ginger Rhizomes			10 mg/m3		69-72
Hazardous Components					
Particulates not otherwise regulated		15mg/m3 (Total dust) 5 g/m3 (respirable dust)			
Additional information will be released to medical professionals, and others, upon request as specified in the Federal Hazard Communication Standard.					

All other components are considered to be non-hazardous as per OSHA 29 CFR 1910.1200.

Section 3—HAZARDS IDENTIFICATION

Potential Health Effects:	**EYE -**	Irritation, redness, pain and swelling..
	SKIN -	Irritation, redness, itching, and swelling of affected skin.
	INHALATION -	May cause irritation and pain of the throat and upper respiratory tract, coughing, difficulty breathing, and flu-like symptoms.
	INGESTION -	Gastrointestinal distress and nausea.
Acute Health Hazards:	Irritation and minor gastrointestinal irritation.	
Chronic Health Hazards:	May cause severe eye irritation or burns. Prolonged skin contact may cause more serious skin disorders. May cause respiratory tract irritation and chemical pneumonia. Preexisting respiratory problems such as asthma and emphysema should avoid the inhalation of irritation dusts.	
Medical Conditions Aggravated by Exposure:	None.	
Target Organ Effects:	No data available.	
Carcinogenicity:	**OSHA** No	**IARC** No **NTP** No

Section 4—FIRST AID MEASURES

Eye:	Flush for 15 minutes. Get medical attention.
Skin Contact:	Wash with soap and water.
Inhalation:	Remove to fresh air immediately. Get medical attention if symptoms persist.
Ingestion:	Do not induce vomiting. Aspiration of material into the lungs during vomiting may cause chemical pneumonia. If conscious, give large quantities of water. Consult a doctor immediately.
Note To Physician:	Treat for clinical symptoms.

Section 5—FIRE FIGHTING MEASURES									
Flash Point (Method Used):		No Flash; ASTM D-56 Tag closed cup							
Flammable Limits	**LEL** (lower explosion limit):	N/A							
	UEL (upper explosion limit):	N/A							
Extinguishing Media:		Use water, foam, or multipurpose dry chemical.							
Special Fire Fighting Procedures:		Wear self contained breathing apparatus to protect against oxygen deficiency and toxic gases that may form as the material burns. Impervious clothing should be worn by firefighters.							
Unusual Fire and Explosion Hazards:		The residue from any fire involving the material will be strongly alkaline.							
NFPA National Fire Protection Agency:		Health	1	Flammability	0	Reactivity	0		
HMIS Hazardous Material Identification:		Health	1	Flammability	0	Physical Hazard	0	PPE	E

Section 6—ACCIDENTAL RELEASE MEASURES	
Spill or Leak Procedures:	Minimize dust, then sweep up spilled material.

Section 7—HANDLING AND STORAGE			
Storage Temperature (MIN/MAX):	N/E	**Shelf Life:**	N/E
Handling/Storage Precautions:	Do not store near incompatible materials or sources of heat.		

Section 8—EXPOSURE CONTROLS/PERSONAL PROTECTION	
Engineering Controls:	
Respiratory Protection:	Not required under normal conditions of use. Use NIOSH approved respirator if the airborne concentration exceeds the OSHA PEL.
Skin Protection:	Use impervious rubber gloves to prevent skin contact.
Eye Protection:	Use safety goggles to prevent eye contact.

Section 9—PHYSICAL / CHEMICAL PROPERTIES			
Physical State:	Tablets	**Freezing Point:**	N/D
Appearance:	Large tan colored tablets	**Melting Point:**	N/A
Odor:	None	**Boiling Point °F (°C):**	N/A
Solubility in Water:	A portion of the material dissolves in water. The insoluble material remains as suspended solids.	**Evaporation Rate:**	N/a
Specific Gravity ($H^2$0 = 1):	N/E	**Vapor Density** (AIR = 1):	N/A
pH:		**Vapor Pressure** (mm Hg):	N/A
Percent Volatiles (VOC):	0%		

Section 10—STABILITY AND REACTIVITY	
Chemical Stability:	Stable
Incompatibility:	N/D
Hazardous Decomposition Products:	Carbon monoxide and Carbon Dioxide will be produced if the material burns.
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	Strong acids and oxidizers

Section 11—TOXICOLOGICAL INFORMATION
Long-term toxicological studies have not been conducted fro this product.

Section 12—ECOLOGICAL INFORMATION	
Ecotoxicological Information:	No data available
Environmental Fate:	No data available

Section 13—DISPOSAL CONSIDERATIONS
With other normal solid waster in accordance with local, state and federal laws.

Section 14—TRANSPORTATION INFORMATION

U.S. Proper Shipping Name:	N/A
DOT (Domestic Surface) Hazard Class or Division:	N/A
IMO / IMDG (Ocean) Hazard Class Division Number:	N/A
ICAO / IATA (Air) Hazard Class Division Number:	N/A

Section 15—REGULATORY INFORMATION	
SARA Title III Section 302 Extremely Hazardous Substances:	None
SARA Title III Section 311/312 Hazard Categories:	N/A
SARA Title III Section 313 Toxic Chemicals:	None
OSHA Status:	Not regulated
TSCA Status:	Chemical components listed on TSCA inventory
CERCLA Reportable Quantity:	N/A

Section 16—OTHER INFORMATION			
N/A	Not Applicable	N/E	Not Established
N/D	Not Determined		

Last Page

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: GM Upper Engine and Fuel Injector Cleaner
Product Code: 16224
External Keys:

88861802	Distributable Material (Part #)
ACDelco Upper Engine and Fuel Injector Cleaner	Primary Tradename - Distributable Material
X66P, 88861803	Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: Chevron Products Company Global Lubricants
Address:

6001 Bollinger Canyon Road	USA	California	94583	San Ramon	MAILING

Communication Lines:

Phone	800-424-9300 or 703-527-3887	EMERGENCY - CHEMTREC
Phone	800-231-0623 or 510-231-0623	HEALTH EMERGENCY
Phone	510-424-5357	PRODUCT INFO
Phone	800-414-6737	MSDS
Phone	800-LUBE-TEK	Product Information
Internet	www.chevron.com	Website (with MSDS)
E-Mail	lubemsds@chevrontexaco.com	Email
Internet	www.chevron-lubricants.com	Website (with MSDS)

SUPPLIER INFORMATION

Supplier: GM of Canada - Oshawa
Address:

1908 Colonel Sam Drive	CAN	ON	L1H8P7	Oshawa	Mailing

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
GLYCOL ETHER	989922-20-7	Range	30 - 60	%Wt	No
GLYCOL ETHERS	989986-85-7	Range	10 - 30	%Wt	No
AEROSOL	989901-14-1	<	20	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

COMBUSTIBLE LIQUID AND VAPOR
MAY BE HARMFUL IF SWALLOWED
MAY CAUSE RESPIRATORY TRACT IRRITATION IF INHALED
MAY CAUSE DIZZINESS, DROWSINESS AND REDUCED ALERTNESS
CAUSES SEVERE EYE IRRITATION
CAUSES SKIN IRRITATION
MAY CAUSE DAMAGE TO: KIDNEY, BLOOD/BLOOD FORMING ORGANS, HARMFUL TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
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.

Specific Hazards (Routes Of Exposure):

	Observation

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	
Eye Contact	General	Contact with the eyes causes severe irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision.
Skin Contact	General	Contact with the skin causes irritation. Skin contact may cause drying or defatting of the skin. Contact with the skin is not expected to cause an allergic skin response. Symptoms may include pain, itching, discoloration, swelling, and blistering. 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	General	May be harmful if swallowed. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.
Inhalation	General	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.

Effects Of Overexposure:

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.

Medical Conditions Aggravated By Exposure:

Not provided

Additional Health Hazard Data:

Target Organs: Contains material that may cause damage to the following organ(s) following repeated skin contact based on animal data: Kidney Blood/Blood Forming Organs Contains material that may cause damage to the following organ(s) following repeated ingestion based on animal data: See Section 11 for additional information. Risk depends on duration and level of exposure.

4 FIRST AID MEASURES

First Aid By::

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.
Skin Contact	Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. 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

4 FIRST AID MEASURES

First Aid By::

	reuse.
Eye Contact	Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get immediate medical attention.
Ingestion	If swallowed, get medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes To Physician:

Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis. 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.

5 FIRE FIGHTING MEASURES

Product Flammability:

FIRE CLASSIFICATION: OSHA Classification (29 CFR 1910.1200): Combustible liquid.

Flash Point:

= 142 °F (61 C., Min.)

Explosive Limits:

Upper Explosive Limit (UEL)	=	12.6	Flammability (Explosive) Limits (% by volume in air)
Lower Explosive Limit (LEL)	=	1.9	Flammability (Explosive) Limits (% by volume in air)

Autoignition Temperature:

No Data Available

Extinguishing Media:

Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Fire and Explosion Hazards:

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). See Section 7 for proper handling and storage.
Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Nitrogen .

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.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator.

SPILL OR LEAK PROCEDURES

Recovery:

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. All equipment used when handling the product must be grounded. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:

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

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

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. Do not taste or swallow. Wash thoroughly after handling.
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'.

Prevention of Fire and Explosion:

Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive force. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 29C (85F).

STORAGE

Storage Conditions:

DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces . USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.
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.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Consider the potential hazards of this material, 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. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.
Skin Protection	Wear protective clothing to prevent skin contact. Selection of protective clothing may include apron, boots, and complete facial protection depending on operations conducted.
Hand Protection	Wear protective gloves. Suggested materials for protective gloves include: Silver Shield, Viton.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

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

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: Green
Odor: Amine
Comment:
Liquid

PHYSICAL PROPERTIES

pH Value:

(No data available.)

Changes of State:

Boiling Point	>	315	°C	599°F
Freezing point				No data available

Vapor Pressure:

(No data available.)

Vapor Density:

(Air = 1) (No data available.)

Density:

Density	=	8.37	lb/gal	=	15.6	°C	60.1°F Typical

Specific Gravity:

=	1.0054	=	15	°C	59°F

Solubility:

(No data available.)

Viscosity:

Viscosity	=	5.2	=	40	°C	(cSt) 104°F

Additional Chemical and Physical Data:

Coefficient of Therm. Expansion / °F:	=	0.00045

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable
Conditions to Avoid:
Open flames, sparks, temperatures above the material flash point.
Incompatible Materials:

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Incompatible Materials:

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

Hazardous Polymerization:

Will not occur.

Comment:

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

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Hazardous Decomposition Products: None known (None expected).

11 TOXICOLOGICAL INFORMATION

OCCUPATIONAL EXPERIENCES

Health Effects:

This product contains 2-butoxyethanol (2-BE, CAS# 111 -76-2). 2-BE is not considered a significant acute or chronic toxicity hazard in humans. A validated physiologically based pharmacokinetic model indicates that humans receiving extensive dermal or inhalation exposure to 2-BE would not receive a toxic dose of 2-butoxyacetic acid (Appl. Occup. Environ. Hyg. 8:580-586, 1993), the metabolite principally responsible for the observed toxicity of 2-BE in laboratory animals.

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

None of the components in this material are listed as carcinogens by IARC, NTP, ACGIH or OSHA.

Allergen Or Sensitivity:

The skin sensitization hazard is based on evaluation of data for similar materials or product components.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

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.

ECOTOXICITY

Comment:

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 o a similar material.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

14 TRANSPORT INFORMATION

DOT 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:

COMBUSTIBLE LIQUID, N.O.S. (GLYCOL ETHERS)

DOT UN Code:

14 TRANSPORT INFORMATION

DOT UN Code:

1993

DOT Packing Group:

III

Comment:

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMO/ IMDG CODE
ICAO/IATA Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER ICAO Tl / IATA DGR

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	2
NFPA Flammability	2
NFPA Reactivity	0
HMIS Health	2
HMIS Flammability	2
HMIS Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: Yes
SARA 313: Yes
Immediate Health: Yes
Delayed Health: Yes
Fire: Yes
Sudden Pressure Release: No
Reactive: No
Other Regulation:

EPCRA 313	Glycol ethers.
TSCA	All components comply with the chemical inventory requirements.

STATE/LOCAL REGULATIONS

Comment:

MA RTK: Aryl alcohol, Glycol ethers. PA RTK: Aryl alcohol, Glycol ethers. NJ RTK: Glycol ethers. NEW JERSEY RTK CLASSIFICATION: Refer to components listed in Section 2.

16 OTHER INFORMATION

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: 88900415/1052627 RUST PENETRANT

Product Synonyms:
Rust Penetrant and Inhibitor

Recommended Use:
PENETRANT

External Keys:

88862628	Distributable Material (Part #)
10-4020	Distributable Material (Part #)
88862627	Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: VALSPAR CORP

Address:

1101 Third Street South	USA	Minnesota	55415	Minneapolis	MAILING

Communication Lines:

Phone	888-345-5732	Medical emergency
Phone	612-332-7371	Information

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
WATER	7732-18-5	Range	20 - 30	%Wt	No
OIL	989903-10-7	Range	1 - 6	%Wt	No
MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (severe)	64742-52-5	<	41	%Wt	Yes
HEAVY NAPHTHENIC SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC	64742-95-6	Range	15 - 20	%Wt	No
SOLVENT NAPHTHA	64742-94-5	Range	10 - 15	%Wt	No
ETHANOL, 2-BUTOXY-	111-76-2	Range	5 - 10	%Wt	Yes
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	Range	5 - 10	%Wt	Yes
PROPANE	74-98-6	Range	1 - 5	%Wt	Yes
BUTANE	106-97-8	Range	1 - 5	%Wt	Yes
2-PENTANOL, 4-METHYL-	108-11-2	Range	1 - 5	%Wt	Yes
NAPHTHALENE	91-20-3	Range	1 - 5	%Wt	Yes

3 HAZARDS IDENTIFICATION

Hazards Overview:
Emergency Overview: This section not in use.

Specific Hazards:
Primary Routes of Exposure: Inhalation, Ingestion, Skin absorption.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Inhalation	Acute	May cause irritation of the respiratory tract and systemic toxicity.
Eye Contact	Acute	May cause moderate eye irritation.
Skin Contact	Acute	Harmful if absorbed through the skin.
Ingestion	Acute	Irritation of gastrointestinal tract.

Medical Conditions Aggravated By Exposure:
Any respiratory or skin condition.

Additional Health Hazard Data:
May cause kidney damage. May cause liver damage.
This product contains ingredients that may contribute to the following potential chronic health effects:
Notice: 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. May cause eye damage and

pain. May cause dermatitis. May cause kidney damage. May cause liver damage.

Comment:

See Section 11 for toxicological information about Mutagens, Teratogens and Carcinogens. If this section is blank, no information is available.

4 FIRST AID MEASURES

First Aid By::

Inhalation	If affected by inhalation, move victim to fresh air. If symptoms persist, seek medical attention. If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. If irritation persists get medical attention. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean contaminated shoes. Wash with soap and water.
Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Ingestion	If swallowed, get medical attention immediately. Get immediate medical attention. If swallowed , do not induce vomiting. Give large quantities of water. If available, give several glasses of milk. Never give anything by mouth to an unconscious person. Get medical attention immediately. Do not induce vomiting/risk of damage to lungs exceeds poisoning risk.

5 FIRE FIGHTING MEASURES

Flash Point:

=	121	F	SETA	Flashpoint without propellant. Flame projection: 12"; flashback: none.
=	-132	F	TCC	-91 C. TCC/PM

Explosive Limits:

Lower Explosive Limit (LEL)	=	1	'%'
Upper Explosive Limit (UEL)	=	11	'%'

Autoignition Temperature:

Not Available

Extinguishing Media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire and Explosion Hazards:

None known.

Hazardous combustion products: See Section 10.

Special Fire Fighting Procedures:

Use water spray to cool nearby containers and structures exposed to fire.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Ventilate area. Avoid breathing of vapors. Use self-containing breathing apparatus or airmask for large spills in a confined area. Remove sources of ignition. Avoid contact with eyes.

SPILL OR LEAK PROCEDURES

Recovery:

Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 5, "Unusual Fire and Explosion Hazards", for proper container and storage procedures. Remove with inert absorbent and non sparking tools.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Keep away from heat, sparks, and flames. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

STORAGE

Storage Conditions:

Keep away from heat, sparks, and flames. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based

on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Ventilation required when spraying or applying in confined area. Ventilation equipment should be explosion proof. Eliminate ignition sources.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source	Memo
MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (severe) HEAVY NAPHTHENIC	64742-52-5	TLV-TWA	5mg/m3	-	Threshold Limit Values (TLVs) - ACGIH	
MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (severe) HEAVY NAPHTHENIC	64742-52-5	TLV-STEL	10mg/m3	-	Threshold Limit Values (TLVs) - ACGIH	
MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (severe) HEAVY NAPHTHENIC	64742-52-5	GM OEG-TWA	5mg/m3	-	GM Occupational Exposure Guidelines (OEG)	
MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (severe) HEAVY NAPHTHENIC	64742-52-5	GM OEG-STEL	10mg/m3	-	GM Occupational Exposure Guidelines (OEG)	
MINERAL OIL, PETROLEUM DISTILLATES, HYDROTREATED (severe) HEAVY NAPHTHENIC	64742-52-5	PEL-TWA	5mg/m3	-	OSHA - Permissible Exposure Limits (PELs)	
ETHANOL, 2-BUTOXY-	111-76-2	PEL-TWA	50ppm	-	OSHA - Permissible Exposure Limits (PELs)	Skin
ETHANOL, 2-BUTOXY-	111-76-2	GM OEG-TWA	20ppm	-	GM Occupational Exposure Guidelines (OEG)	Skin
ETHANOL, 2-BUTOXY-	111-76-2	TLV-TWA	20ppm	-	Threshold Limit Values (TLVs) - ACGIH	
ETHANOL, 2-BUTOXY-	111-76-2	State-TWA	25ppm	-	MICHIGAN	
ETHANOL, 2-BUTOXY-	111-76-2	State-TWA	25ppm	-	NEW YORK	
ETHANOL, 2-BUTOXY-	111-76-2	State-TWA	25ppm	-	TENNESSEE	
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	GM OEG-TWA	25ppm	-	GM Occupational Exposure Guidelines (OEG)	
BENZENE, 1,2,4-TRIMETHYL-	95-63-6	TLV-TWA	25ppm	-	Threshold Limit Values (TLVs) - ACGIH	
PROPANE	74-98-6	PEL-TWA	1000ppm	-	OSHA -	

Chemical Name	CAS Number	Type	Value	Specification	Source	Memo
PROPANE	74-98-6	GM OEG-TWA	1000ppm	-	Permissible Exposure Limits (PELs) GM Occupational Exposure Guidelines (OEG)	
PROPANE	74-98-6	TLV-TWA	1000ppm	-	Threshold Limit Values (TLVs) - ACGIH	
PROPANE	74-98-6	State-TWA	1000ppm	-	MICHIGAN	
PROPANE	74-98-6	State-TWA	1000ppm	-	NEW YORK	
PROPANE	74-98-6	State-TWA	1000ppm	-	TENNESSEE	
BUTANE	106-97-8	TLV-TWA	1000ppm	-	Threshold Limit Values (TLVs) - ACGIH	
2-PENTANOL, 4-METHYL-	108-11-2	TLV-TWA	25ppm	-	Threshold Limit Values (TLVs) - ACGIH	Skin
2-PENTANOL, 4-METHYL-	108-11-2	TLV-STEL	40ppm	-	Threshold Limit Values (TLVs) - ACGIH	Skin
2-PENTANOL, 4-METHYL-	108-11-2	PEL-TWA	25ppm	-	OSHA - Permissible Exposure Limits (PELs)	Skin
NAPHTHALENE	91-20-3	PEL-TWA	10ppm	-	OSHA - Permissible Exposure Limits (PELs)	
NAPHTHALENE	91-20-3	GM OEG-TWA	10ppm	-	GM Occupational Exposure Guidelines (OEG)	Skin
NAPHTHALENE	91-20-3	GM OEG-STEL	15ppm	-	GM Occupational Exposure Guidelines (OEG)	Skin
NAPHTHALENE	91-20-3	TLV-TWA	10ppm	-	Threshold Limit Values (TLVs) - ACGIH	Skin
NAPHTHALENE	91-20-3	TLV-STEL	15ppm	-	Threshold Limit Values (TLVs) - ACGIH	Skin
NAPHTHALENE	91-20-3	State-TWA	10ppm	-	MICHIGAN	
NAPHTHALENE	91-20-3	State-STEL	15ppm	-	MICHIGAN	
NAPHTHALENE	91-20-3	State-	10ppm	-	NEW YORK	

Chemical Name	CAS Number	Type	Value	Specification	Source	Memo
NAPHTHALENE	91-20-3	TWA State-STEL	15ppm	-	NEW YORK	
NAPHTHALENE	91-20-3	State-TWA	10ppm	-	TENNESSEE	
NAPHTHALENE	91-20-3	State-STEL	15ppm	-	TENNESSEE	

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Avoid contact with eyes. Wear chemical goggles if there is the possibility of contact or splashing in the eye.
Hand Protection	Appropriate chemical resistant gloves should be worn.
Skin Protection	To prevent skin contact wear protective clothing covering all exposed areas.
Respiratory Protection	If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid.

Odor: Normal for this product type.

PHYSICAL PROPERTIES

pH Value:
Not Determined

Changes of State:
Boiling Point = -42 F -41 C.

Vapor Pressure:
Not Determined

Vapor Density:
= 4.7 (air = 1.0)

Evaporation Rate:
= .4 (butyl acetate = 1.0).

Density:
Density = 7.35 lb/gal

Specific Gravity:
= .88 Specific Gravity Calculated from MSDS data by General Motors Technical Review.

Solubility:
Water Not Determined

VOC:
Theoretical VOC (by. wt.) = 45 %Wt

Additional Chemical and Physical Data:
Coefficient of water/oil distribution: Not Determine

d

Rule 66 status of product: Photochemically reactive.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:
None known.

Incompatible Materials:
Strong oxidizers.

Hazardous Polymerization:
None anticipated.

Comment:
Sensitivity to impact: No.
Sensitivity to static discharge: Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Thermal Decomposition	Carbon monoxide and carbon dioxide

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

TOXICOLOGICAL EFFECTS

Data By Chemical:

Chemical Name	CAS Number	Comment
ETHANOL, 2-BUTOXY-	111-76-2	Contains glycol ether which has been shown to cause blood effects damage in laboratory animals.

CLASSIFICATION OF INGREDIENTS

Carcingenicity:
Possible cancer hazard. Contains ingredients which may cause cancer based on animal data. Risk to your health depends upon the level and duration of exposure.
NAPHTHALENE (91-20-3): IARC Group 2B - Sufficient Animal Data POSSIBLY CARCINOGENIC IN HUMANS BASED ON ANIMAL STUDIES. NTP Suspect Carcinogens: Anticipated carcinogen.
ETHYLENE GLYCOL MONOBUTYL ETHER (111-76-2): ACGIH Carcinogens Group A3: Confirmed animal carcinogen with unknown relevance to humans.
California Proposition 65:
WARNING: This product contains a chemical known to the State of California to cause cancer.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:
Not available at this time.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:
Disposal should be made in accordance with federal, state and local regulations.

14 TRANSPORT INFORMATION

DOT Shipping Name:
Contact Supplier for further information.

Comment:
49 CFR Hazardous Material Regulations Parts 100-180
The supplier will apply the combustible liquid exception in 49 CFR 173.150(f), limited quantity or "does not sustain combustion" exceptions and consumer commodity rules, when authorized. Please check 49 CFR Parts 100-180 to determine if the use of these exceptions applies to your shipments when re-shipping our products.
International Air Transport Association:
Proper Shipping Name: Contact Supplier for further information.
International Maritime Organization:
Proper Shipping Name: Contact Supplier for further information.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

NFPA Health	3
NFPA Flammability	4
NFPA Reactivity	1
HMIS Health	3
HMIS Flammability	4
HMIS Reactivity	1
HMIS PPE	X

Comment:
NFPA assigned by General Motors Technical Review.
HMIS PPE: See Section 8 for Personal Protective Equipment (PPE).

NATIONAL REGULATIONS

SARA 311/312: Yes
SARA 313: Yes
Immediate Health: Yes
Delayed Health: Yes
Fire: No
Sudden Pressure Release: Yes
Reactive: No
Other Regulation:

SARA 302:	No ingredients listed.
SARA 313:	ETHYLENE GLYCOL MONOBUTYL ETHER (111-76-2), 5 - 10% Wt., YES. 1,2,4-TRIMETHYLBENZENE (95-63-6), 5 - 10% Wt., NAPHTHALENE (91-20-3), 1 - 5% Wt.: form R reporting required for 1.0% de minimis concentration
CERCLA RQ:	NAPHTHALENE (91-20-3), 1 - 5% Wt.: 100 lbs.
TSCA Inventory:	All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements

STATE/LOCAL REGULATIONS

Comment:
Pennsylvania Right To Know:
PROPANE 74-98-6
NAPHTHALENE 91-20-3
AROMATIC NAPHTHA, LIGHT 64742-95-6
BUTANE 106-97-8
METHYL AMYL ALCOHOL 108-11-2
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2
DISTILLATES, PETROLEUM, HYDROTREATED HEAVY NAPHTHE 64742-52-5
AROMATIC NAPHTHA 64742-94-5
1,2,4-TRIMETHYLBENZENE 95-63-6
Additional Non-Hazardous Materials
WATER 7732-18-5
PROPRIETARY OIL 1%-6% Trade Secret
California Proposition 65:
WARNING: This product contains a chemical known to the State of California to cause cancer.

16 OTHER INFORMATION

Comments:
Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID:	**ACD415.070**
Product Name:	88862628 11 OZ RUST PENETRANT& INHIBITOR
Product Use:	Paint product.
Print date:	01/Aug/2012
Revision Date:	01/Aug/2012

Company Identification
The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

Manufacturer's Phone: 1-612-851-7000

24-Hour Medical Emergency Phone: 1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:
Inhalation
Ingestion
Skin absorption

Eye Contact:

- Moderate eye irritation
- Risk of serious damage to eyes.

Skin Contact:

- Causes skin irritation.
- Dermatitis
- May cause defatting of the skin.
- Harmful if absorbed through skin.
- Can be absorbed through skin.

Ingestion:

- Irritation of the mouth, throat, and stomach.
- Harmful if swallowed.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- Causes respiratory tract irritation.
- Harmful by inhalation.
- Asphyxia
- May cause bronchopneumonia or bronchitis.

Acute Other Health Effects:
- Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
- May cause frostbite

Target Organ and Other Health Effects:
- Cardiac arrhythmias
- Kidney injury may occur.
- Causes headache, drowsiness or other effects to the central nervous system.
- Liver injury may occur.
- Spleen damage may occur.
- Blood disorders
- Contains glycol ether which has been shown to cause blood effects damage in laboratory animals.

This product contains ingredients that may contribute to the following potential chronic health effects:
- Notice: 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.

Carcinogens:
- Possible cancer hazard. Contains material which may cause cancer based on animal data.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name
AROMATIC NAPHTHA, LIGHT 64742-95-6	15 - 20	Petroleum naphtha, light aromatic
AROMATIC NAPHTHA, HEAVY 64742-94-5	10 - 15	Solvent naphtha, petroleum, heavy arom.
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	5 - 10	2-Butoxyethanol
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	1,2,4-Trimethylbenzene
PROPRIETARY OIL	1 - 5	PROPRIETARY OIL
PROPANE 74-98-6	1 - 5	Propane
BUTANE 106-97-8	1 - 5	Butane
METHYL AMYL ALCOHOL 108-11-2	1 - 5	Methylisobutyl carbinol
NAPHTHALENE 91-20-3	1 - 5	Naphthalene

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

PROPRIETARY ADDITIVE	1 - 5	PROPRIETARY ADDITIVE

If this section is blank there are no hazardous components per OSHA guidelines.

4. FIRST AID MEASURES

Eye Contact:
Remove any contact lenses and open eyes wide apart. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If medical assistance is not immediately available, flush an additional 15 minutes. Get medical attention immediately.

Skin Contact:
Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:
Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:
Move injured person into fresh air and keep person calm under observation. Get medical attention immediately. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. Do not give direct mouth-to-mouth resuscitation if inhaled. To protect rescuer, use air-viva, oxy-viva or one-way mask. Resuscitate in a well-ventilated area.

Medical conditions aggravated by exposure:
Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	-100
Flash point (Celsius):	-73
Lower explosive limit (%):	1
Upper explosive limit (%):	10.6
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:
None known.

Extinguishing media:
Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:
Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

6. ACCIDENTAL RELEASE MEASURES

Action to be taken if material is released or spilled:
Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage:
Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

Personal Protective Equipment

Eye and face protection:
Wear chemical goggles with splash shields or face shield. Contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury in case of exposure.

Skin protection:
Appropriate chemical resistant gloves should be worn.

Other Personel Protection Data:
To prevent skin contact wear protective clothing covering all exposed areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection:
If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation
Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines

OSHA Permissible Exposure Limits (PEL's)

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	5 - 10	240 mg/m^3 TWA 50 ppm TWA		prevent or reduce skin absorption
PROPRIETARY OIL	1 - 5	2000 mg/m^3 500 ppm		
PROPANE 74-98-6	1 - 5	1000 ppm TWA 1800 mg/m^3 TWA		
METHYL AMYL ALCOHOL 108-11-2	1 - 5	100 mg/m^3 TWA 25 ppm TWA		prevent or reduce skin absorption

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
NAPHTHALENE 91-20-3	1 - 5	10 ppm TWA 50 mg/m^3 TWA		

ACGIH Threshold Limit Value (TLV's)

Ingredient Name CAS-No.	Approx. Weight %	TWA	STEL	Ceiling limits	Skin designations
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	5 - 10	20 ppm TWA			
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	25 PPM			
PROPANE 74-98-6	1 - 5	1000 ppm TWA			
BUTANE 106-97-8	1 - 5	1000 ppm TWA			
METHYL AMYL ALCOHOL 108-11-2	1 - 5	25 ppm TWA	40 ppm STEL		CAN BE ABSORBED THROUGH THE SKIN
NAPHTHALENE 91-20-3	1 - 5	10 ppm TWA	15 ppm STEL		CAN BE ABSORBED THROUGH THE SKIN

9. PHYSICAL PROPERTIES

Odor:	Normal for this product type.
Physical State:	Aerosol
pH:	not determined
Vapor pressure:	NOT DETERMINED mmHg @ 68ºF (20ºC)
Vapor density (air = 1.0):	4.7
Boiling point:	-44ºF (-42ºC)
Solubility in water:	not determined
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	7.29
Specific Gravity:	.87
Evaporation rate (butyl acetate = 1.0):	0.3
Flash point (Fahrenheit):	-100
Flash point (Celsius):	-73
Lower explosive limit (%):	1
Upper explosive limit (%):	10.6
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Carbon monoxide and carbon dioxide.

10. STABILITY AND REACTIVITY

Sensitivity to static discharge: Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
AROMATIC NAPHTHA, LIGHT 64742-95-6	15 - 20	= 3400 ppm Inhalation LC50 Rat 4 h = 8400 mg/kg Oral LD50 Rat > 2000 mg/kg Dermal LD50 Rabbit > 5.2 mg/L Inhalation LC50 Rat 4 h
AROMATIC NAPHTHA, HEAVY 64742-94-5	10 - 15	> 2000 mg/kg Dermal LD50 Rabbit > 5000 mg/kg Oral LD50 Rat > 590 mg/m^3 Inhalation LC50 Rat 4 h
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	5 - 10	= 2.21 mg/L Inhalation LC50 Rat 4 h = 220 mg/kg Dermal LD50 Rabbit = 2270 mg/kg Dermal LD50 Rat = 450 ppm Inhalation LC50 Rat 4 h = 470 mg/kg Oral LD50 Rat
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	= 18 g/m^3 Inhalation LC50 Rat 4 h = 3400 mg/kg Oral LD50 Rat > 3160 mg/kg Dermal LD50 Rabbit
PROPRIETARY OIL	1 - 5	= 2.18 mg/L Inhalation LC50 Rat 4 h > 2000 mg/kg Dermal LD50 Rabbit > 5000 mg/kg Oral LD50 Rat
PROPANE 74-98-6	1 - 5	= 658 mg/L Inhalation LC50 Rat 4 h
BUTANE 106-97-8	1 - 5	= 658 mg/L Inhalation LC50 Rat 4 h
METHYL AMYL ALCOHOL 108-11-2	1 - 5	= 2590 mg/kg Oral LD50 Rat = 2870 mg/kg Dermal LD50 Rabbit > 16 mg/L Inhalation LC50 Rat 4 h > 3776 ppm Inhalation LC50 Rat 4 h
NAPHTHALENE 91-20-3	1 - 5	= 490 mg/kg Oral LD50 Rat > 20 g/kg Dermal LD50 Rabbit > 2500 mg/kg Dermal LD50 Rat > 340 mg/m^3 Inhalation LC50 Rat 1 h

Mutagens/Teratogens/Carcinogens:

Possible cancer hazard. Contains material which may cause cancer based on animal data.

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Reproductive (Female)	California Prop 65 - Carcinogen
NAPHTHALENE 91-20-3	1 - 5		Listed. initial date 4/19/02 - carcinogen

Ingredient Name CAS-No.	Approx. Weight %	IARC Group 1 - Human Evidence	IARC Group 2A - Limited Human Data	IARC Group 2B - Sufficient Animal Data
NAPHTHALENE 91-20-3	1 - 5			Monograph 82 [2002]

Ingredient Name CAS-No.	Approx. Weight %	NTP Known Carcinogens	NTP Suspect Carcinogens	NTP Evidence of Carcinogenicity
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	5 - 10			male rat-no evidence; female rat-equivocal evidence; male mice-some evidence; female mice-some evidence
NAPHTHALENE 91-20-3	1 - 5		Reasonably Anticipated To Be A Human Carcinogen	male rat-clear evidence; female rat-clear evidence; male mice-no evidence; female mice-some evidence

Ingredient Name CAS-No.	Approx. Weight %	OSHA - Hazard Communication Carcinogens	OSHA - Specifically Regulated Carcinogens	ACGIH Carcinogens
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	5 - 10			A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans
NAPHTHALENE 91-20-3	1 - 5	Present		

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation
UN ID Number (msds): CONCOM
Proper Shipping Name: CONSUMER COMMODITY ORM-D [Paint]

U.S Hazmat and/or International DG shipment exceptions
The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

Reportable Quantity Description:

International Air Transport Association (IATA):
UN ID Number (msds): UN1950
Proper Shipping Name: AEROSOLS, FLAMMABLE
Hazard Class: 2.1

International Maritime Organization (IMO):
IMO UN/ID Number (msds): UN1950
Proper Shipping Name: AEROSOLS, FLAMMABLE
Hazard Class: 2.1
Marine Pollutant YES
Marine Pollutant Ingredient 1 NAPHTHALENE
Marine Pollutant Ingredient 2 AROMATIC NAPHTHA, LIGHT

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

Ingredient Name CAS-No.	Approx. Weight %	SARA 302	SARA 313	CERCLA RQ in lbs.
ETHYLENE GLYCOL MONOBUTYL ETHER 111-76-2	5 - 10		YES	
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10		Listed.	
NAPHTHALENE 91-20-3	1 - 5		form R reporting required for 1.0% de minimis concentration	100

SARA 311/312 Hazard Class:

Acute:	yes
Chronic:	yes
Flammability:	no
Reactivity:	no
Sudden Pressure:	yes

U.S. STATE REGULATIONS:

Right to Know:
The specific chemical identity of a component may be withheld as a trade secret under 34 Pennsylvania Code, Chapter 317.

Pennsylvania Right To Know:

AROMATIC NAPHTHA, LIGHT	64742-95-6
1,2,4-TRIMETHYLBENZENE	95-63-6
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2
METHYL AMYL ALCOHOL	108-11-2
PROPRIETARY OIL	Trade Secret
PROPRIETARY ADDITIVE	Trade Secret
AROMATIC NAPHTHA, HEAVY	64742-94-5
NAPHTHALENE	91-20-3
PROPANE	74-98-6
BUTANE	106-97-8

Additional Non-Hazardous Materials

PROPRIETARY INGREDIENT	Trade Secret
PROPRIETARY OIL	Trade Secret

California Proposition 65:
WARNING! This product contains a chemical known in the State of California to cause cancer.

Rule 66 status of product Photochemically reactive.

INTERNATIONAL REGULATIONS - Chemical Inventories

US TSCA Inventory:
All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada Domestic Substances List:
All components of this product are listed on the Domestic Substances List.

16. OTHER INFORMATION

HMIS Codes

Health:	2*
Flammability:	4
Reactivity:	1
PPE:	X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:
OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:
The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By:	Regulatory Affairs Department
Print date:	01/Aug/2012
Revision Date:	01/Aug/2012

Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : **ACDelco dexos2 Motor Oil 5W-30**
Uses : Engine oil.

Manufacturer/Supplier : **SOPUS Products**
700 Milam
Houston TX 77002-2806
USA

MSDS Request :

Emergency Telephone Number
Spill Information : 877-242-7400
Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Highly refined mineral oils, polyalphaolefins and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance and Odour : Amber. Liquid at room temperature. Slight hydrocarbon.

Health Hazards : Not classified as dangerous for supply or conveyance.
Safety Hazards : Not classified as flammable but will burn.
Environmental Hazards : Not classified as dangerous for the environment.

Health Hazards : Not expected to be a health hazard when used under normal conditions.

Health Hazards
Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.
Skin Contact : Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Contact : May cause slight irritation to eyes.
Ingestion : Low toxicity if swallowed.
Other Information : Used oil may contain harmful impurities.
Signs and Symptoms : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.
Aggravated Medical Conditions : Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.

Environmental Hazards	:	Not classified as dangerous for the environment.
Additional Information	:	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.

4. FIRST AID MEASURES

General Information	:	Not expected to be a health hazard when used under normal conditions.
Inhalation	:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
Skin Contact	:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
Eye Contact	:	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	:	In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Advice to Physician	:	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point	:	> 230 °C / 446 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V)(based on mineral oil)
Auto ignition temperature	:	> 320 °C / 608 °F
Specific Hazards	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water in a jet.
Protective Equipment for Firefighters	:	Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

Protective measures	:	Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading

		or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Clean Up Methods	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.
Additional Advice	:	Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions	:	Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Handling	:	Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.
Storage	:	Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F
Recommended Materials	:	For containers or container linings, use mild steel or high density polyethylene.
Unsuitable Materials	:	PVC.
Additional Information	:	Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	ACGIH	TWA(Inhalable fraction.)		5 mg/m3	
Oil mist, mineral	OSHA Z1	PEL(Mist.)		5 mg/m3	
Oil mist, mineral	OSHA Z1A	TWA(Mist.)		5 mg/m3	
Oil mist, mineral	OSHA Z1	(Mist.)			Listed.

Additional Information	:	Shell has adopted as Interim Standards the OSHA Z1A values that were established in 1989 and later rescinded.
Exposure Controls	:	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
Personal Protective Equipment	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Respiratory Protection	:	No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].
Hand Protection	:	Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
Eye Protection	:	Wear safety glasses or full face shield if splashes are likely to occur.
Protective Clothing	:	Skin protection not ordinarily required beyond standard issue work clothes.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Environmental Exposure Controls	:	Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Amber. Liquid at room temperature.
Odour	:	Slight hydrocarbon.
pH	:	Not applicable.
Initial Boiling Point and Boiling Range	:	> 280 °C / 536 °F estimated value(s)
Pour point	:	Typical -28 °C / -18 °F
Flash point	:	> 230 °C / 446 °F (COC)
Upper / lower Flammability or Explosion limits	:	Typical 1 - 10 %(V) (based on mineral oil)
Auto-ignition temperature	:	> 320 °C / 608 °F
Vapour pressure	:	< 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Specific gravity	:	Typical 0.88
Density	:	Typical 880 kg/m3
Water solubility	:	Negligible.
n-octanol/water partition coefficient (log Pow)	:	> 6 (based on information on similar products)
Kinematic viscosity	:	Typical 30 - 40 mm2/s at 40 °C / 104 °F
Vapour density (air=1)	:	> 1 (estimated value(s))
Evaporation rate (nBuAc=1)	:	Data not available

10. STABILITY AND REACTIVITY

Stability	:	Stable.
Conditions to Avoid	:	Extremes of temperature and direct sunlight.
Materials to Avoid	:	Strong oxidising agents.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	:	Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Not considered to be an inhalation hazard under normal conditions of use.
Skin Irritation	:	Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation.
Sensitisation	:	Not expected to be a skin sensitiser.
Repeated Dose Toxicity	:	Not expected to be a hazard.
Mutagenicity	:	Not considered a mutagenic hazard.
Carcinogenicity	:	Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.

Reproductive and Developmental Toxicity	:	Not expected to be a hazard.
Additional Information	:	Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible. Continuous contact with used engine oils has caused skin cancer in animal tests.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity	:	Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.
Mobility	:	Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
Persistence/degradability	:	Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.
Bioaccumulation	:	Contains components with the potential to bioaccumulate.
Other Adverse Effects	:	Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.
Container Disposal	:	Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)
This material is either not classified as dangerous under IATA regulations or needs to follow country specific requirements.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

EINECS	All components listed or polymer exempt.
TSCA	All components listed.
DSL	All components listed.

Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA.

SARA Hazard Categories (311/312)
No SARA 311/312 Hazards.

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	:	0, 1, 0
MSDS Version Number	:	1.1
MSDS Effective Date	:	10/17/2011
MSDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation	:	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
MSDS Distribution	:	The information in this document should be made available to all who may handle the product.
Disclaimer	:	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.

Initial Preparation Date: *5/20/2011*
Last Revision Date: *5/20/2011*
Effective Date: *4/4/2013*

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTITY: ACDelco® CLASSIC COOLANT
U.S. # 88865163, 10-5048
Int'l. # 88865161

1. CHEMICAL PRODUCT & COMPANY INFORMATION

OLD WORLD INDUSTRIES, LLC
4065 COMMERCIAL AVENUE
NORTHBROOK, ILLINOIS 60062
PHONE: 847-559-2000
EMERGENCY PHONE: 1-800-424-9300 (CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	***CAS#***	***% by Wt***	***PEL (OSHA)***	***TLV (ACGIH)***
Ethylene Glycol	107-21-1	90 - 95	50 ppm	50 ppm
Diethylene Glycol	111-46-6	0 - 5	None	None
Dipotassium Phosphate	7758-11-4	1 - 2	None	None
Denatonium Benzoate	3734-33-6	30-50 ppm	30-50 ppm	30-50 ppm

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Slight odor.	***May be fatal if swallowed.***	***Vapors can cause eye irritation.***

Lowest Known LD50 (Oral)	107-21-1	5840 mg/kg (Rats)
Lowest Known LD50 (Skin)	107-21-1	9530 mg/kg (Rabbits)

HAZARD RATING SYSTEM

NFPA: HEALTH: 1	**FLAMMABILITY: 1**	**REACTIVITY: 0**
HMIS: HEALTH: 2	**FLAMMABILITY: 1**	**REACTIVITY: 0**

KEY: 0 – Minimal 1 – Slight 2 - Moderate 3 - Serious 4 - Severe

POTENTIAL HEALTH EFFECTS

Routes of Exposure: Inhalation, Ingestion, Skin Contact/Absorption, Eye Contact

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

Skin: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potential lethal amounts.

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

Inhalation: At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

Systemic (Other Target Organ) Effects: Repeated excessive exposures may cause severe kidney and also liver and gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Observations in animals include formation of bladder stones after repeated oral doses of ethylene glycol. Reports of kidney failure and death in burn patients suggest the ethylene glycol may have been a factor. The use of topical applications containing this material may not be appropriate in severely burned patients or individuals with impaired renal function.

Cancer Information: Based on data from long-term animal studies, ethylene glycol is not believed to pose a carcinogenic risk to man.

Teratology (Birth Defects): Exposure to ethylene glycol has caused birth defects in laboratory animals only at doses toxic to the mother.

Reproductive Effects: Ethylene glycol has not interfered with reproduction in animal studies except at very high doses.

CHRONIC, PROLONGED OR REPEATED OVEREXPOSURE

Effects of Repeated Overexposure: Repeated inhalation of ethylene glycol mist may produce signs of central nervous system involvement, particularly dizziness and nystagmus.

Other Effects of Overexposure: repeated skin contact with ethylene glycol may, in a very small proportion of cases, cause sensitization with the development of allergic contact dermatitis. The incidence is significantly less than 1% with the undiluted material.

4. FIRST AID MEASURES
Ensure physician has access to this MSDS.

TREATMENT

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Get medical attention as soon as possible. Contact lenses should never be worn when working with this chemical.

Skin: Flush area of skin contact immediately with large amounts of water for at least 15 minutes while removing contaminated clothing. If irritation persists after flushing, get medical attention promptly. Wash clothing before re-use.

Inhalation: If inhaled, immediately remove victim to fresh air and call ***emergency medical care.*** If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: Obtain medical attention immediately. If patient is fully conscious, give two glasses of water. Do not induce vomiting. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whisky. For children, give proportionally less liquor, according to weight.

Notes to Physician:
It is estimated that the lethal oral dose to adults is of the order of 1.0 ml/kg. Ethylene glycol is metabolized by alcohol dehydrogenate to various metabolites including glyceraldehydes, glycolic acid and oxalic acid which cause an elevated anion-gap metabolic acidosis and renal tubular injury. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, CNS depression, and kidney injury. Urinalysis may show albuminuria, hematuria and oxaluria. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis and prevention of kidney injury. It is essential to have immediate and follow up urinalysis and clinical chemistry. There should be particular emphasis on acid-base balance and renal function tests. A continuous infusion of 5% sodium bicarbonate with frequent monitoring of electrolytes and fluid balance is used to achieve correction of metabolic acidosis and forced diuresis. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal. Given in the early stages of intoxication, it blocks the formulation of nephrotoxic metabolites. A therapeutically effective blood concentration of ethanol is in the range 100-150 mg/dl, and should be achieved by a rapid loading dose and maintained by intravenous infusion. For severe and/or deteriorating cases, hemodialysis may be required. Dialysis should be considered for patients who are symptomatic, have severe metabolic acidosis, a blood ethylene glycol concentration greater than 25 md/dl, or compromise of renal functions.

A more effective intravenous antidote for physician use is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occurred. A generally recommended protocol is a loading dose of 15 mg/kg followed by 10 mg/kg every 12 hours for 4 doses and then 15 mg/kg every 12 hours until ethylene glycol concentrations are below 20 mg/100 ml. Slow intravenous infusion is required. Since 4-methyplyrozole is dialyzable, increased dosage may be necessary during hemodialysis. Additional therapeutic measures may include the administration of cofactors involved in the metabolism of ethylene glycol. Thiamine (100 mg) and pyridoxine (50 mg) should be given every six hours.

Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. The mechanism of production has not been elucidated, but it appears to be non-cardiogenic in origin in several cases. Respiratory support with mechanical ventilation and positive end expiratory pressure may be required. There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphasia.

5. FIRE FIGHTING MEASURES

Flammable Properties
Flash Point: 119°C (247°F)
Method Used: Setaflash
Autoignition Temperature: Autoignition temperature for ethylene glycol is 398°C (748°F).

Flammability Limits - % of vapor concentration at which product can ignite in presence of spark.
Lower Flammability Limit: 3.2%
Upper Flammability Limit: 15.3%

Hazardous Combustion Products: Hazardous combustion products may include and are not limited to carbon monoxide, carbon dioxide and trace amounts of aldehydes and organic acids. When available oxygen is limited, as in a fire or when heated to very high temperatures by a hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

Extinguishing Media: Water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Carbon dioxide. Dry chemical. Do not use direct water stream. May spread fire.

Fire Fighting Instructions: No fire and explosion hazards expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently. Keep people away. Isolate fire area and deny unnecessary entry.

Protective Equipment for Fire Fighters: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

6. ACCIDENTAL RELEASE MEASURES

Protect People: Material is moderately toxic when ingested. Take adequate precautions to keep people, especially children away from spill site. PVC-coated rubber gloves and monogoggles or face shield can be used during cleanup of spill site. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below -18^{o}C (0^{o}F). Do not store near food, foodstuffs, drugs or potable water supplies.

Protect the Environment: Do not dump used product or diluted material into sewers, on the ground, or into any body of water.

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

7. HANDLING AND STORAGE

Steps to be Taken in Case Material is Released or Spilled: Eliminate all sources of ignition in vicinity of the spilled or released fluid.

Other Precautions: Use normal precautions in handling any combustible liquid. Keep container closed when not in use. Store away from heat or open flame. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below -18^{o}C (0^{o}F). Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Respiratory protection is required if airborne concentration exceeds TLV. At any detectable concentration any self-contained breathing apparatus with a full face piece and operated in a pressure-demand or other positive pressure mode or any supplied-air respirator with a full face piece and operated in a pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Escape: Any air-purifying full face piece respirator (gas mask) with a chin-style or front- or back-mounted organic vapor canister or any appropriate escape-type self-contained breathing apparatus.

Skin Protection: Protective gloves recommended when prolonged skin contact cannot be avoided. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Natural Rubber, Butyl Rubber. Safety shower should be available.

Eye Protection: Safety goggles and face shield. Emergency eyewash should be available. Contact lenses should not be worn when working with this chemical.

Engineering Controls: Use general or local exhaust ventilation to meet TLV requirements.

EXPOSURE LIMITS

Component	**Exposure Limits**	**Skin Form**
Ethylene glycol	100 mg/m3 CEILING ACGIH	Aerosol
Ethylene glycol	125 mg/m3 CEILING OSHA-vacated	
	50 ppm CEILING OSHA – vacated	
	100 mg/m3 CEILING UCC	Aerosol and Vapor
Diethylene glycol	50 ppm TWA8 AIHA WEEL	Aerosol and Vapor
Diethylene glycol	10 mg/m3 TWA8 AIHA WEEL	Aerosol

In the Exposure Limits Chart above, if there is no specific qualifier (i.e., Aerosol) listed in the Form Column for a particular limit, the listed limit includes all airborne forms of the substance that can be inhaled.

A “blank” in the Skin column indicates that exposure by the cutaneous (skin) route is not a potential significant contributor to overall exposure.

9. PHYSICAL / CHEMICAL PROPERTIES

Boiling Range:	171 - 175^{o}C (339 - 348^{o}F)
Freeze Point:	-18^{o}C (0^{o}F)
Specific Gravity (Water =1):	1.12
Pounds/Gallons:	9.3
Vapor Pressure (mm of Hg) @ 20C:	<0.1
Vapor Density (air=1):	2.1
Water Solubility:	Complete
Evaporation Rate (BuAc = 1):	Nil
% Volatile By Volume:	97.0
Appearance:	Green
Odor:	Mild
pH (50% Water Solution):	10.5-11.0

10. STABILITY & REACTIVITY DATA

Stability:	Stable
Conditions to Avoid:	Keep away from flame
Incompatibility (Materials to Avoid):	Strong acid or oxidizing agents
Hazardous Decomposition Products:	Incomplete combustion may produce CO gas
Hazardous Polymerization:	Will not occur

11. TOXICOLOGICAL INFORMATION

Skin: The dermal LD50 has not been determined.

Ingestion: The lethal dose in humans is estimated to be 100 ml (3 ozs.). The oral LD50 for rats is in the 6000-13,000-mg/kg range.

Mutagenicity (The Effects on Genetic Material): In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

Significant Data with Possible Relevance to Humans: Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. Also, in a preliminary study to asses the effects of exposure of pregnant rats and made to aerosis at concentrations of 150, 1000 and 25000 mg/m3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentration, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol percutaneous absorption of ethylene glycol from contaminated skin, or swallowing ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1000 and 25000 mg/m3) and developmental toxicity with minimal evidence of teratogenicity (2500 mg/m3). The no-effects concentration (based on maternal toxicity) was 500 mg/m3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen. There is currently no available information to suggest that ethylene glycol has caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental

toxicity. Exposure to high aerosol concentrations is only minimally effective in producing developmental toxicity. The major route for producing developmental toxicity is perorally. Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

A chronic dietary feeding study of diethylene glycol with rats showed mild kidney injury at 1%, while concentrations of 2% and 4% caused more marked kidney injury. In addition, at 2% and 4% of diethylene glycol in the diet, some rats developed benign papillary tumors in the urinary bladder. These have been attributed to the presence of urinary bladder calcium oxalate stones. No evidence for carcinogenicity was found with a chronic skin-painting study with diethylene glycol in mice. The absence of a direct chemical carcinogenic effect addords with the results in vitro genotoxicity studies that show that it does not produce mutagenic or clastogenic effects. A feeding study employing up to 5.0% diethylene glycol in the diet failed to produce any teratogenic effects. In a mouse continuous breeding study with large doses of diethylene glycol in drinking water, there was evidence for reproductive toxicity at 3.5% (equivalent to 6.1 g/kg/day) as reduced number of litter, live pups per litter and live pup weight. No such effects were seen at 1.75% (approximately 3.05 g/kg/day). The relevance of these very high dosages to human health is uncertain. Pregnant rats receiving undiluted diethylene glycol by gavage over the period of organogenesis had toxic effects at 4.0 and 8.0 ml/kg/day as mortality, decreased body weight, decreased food consumption increased water consumption and increased liver and kidney weights. Fetotoxicity was seen only at these maternally toxic dosages. Decreased fetal body weight occurred at 8.0 ml/kg/day, and increased skeletal variants at 4.0 and 8.0 ml/kg/day. No embryotixic or teratogenic effects were seen. Neither maternal toxicity nor fetotoxicity occurred at 1.0 ml/kg/day. In a study with mice also receiving undiluted diethylene glycol over the period of organogenesis, maternal toxicity occurred at 2.5 and 10.0 ml/kg/day, but not at 0.5 ml/kg/day. Definitive developmental toxicity was not seen in this species.

ACUTE TOXICITY

Peroral: The lethal dose in humans is estimated to be 3 oz. or 100 ml.
Rat: LD50 (6000 – 13000) mg/kg

Percutaneous:
Rabbit: LD50 = >22270 mg/kg; 24 h occluded

Inhalation:
Rat: 8-hour exposure, substantially saturated vapor studies, dynamic generation method

Mortality: 0/6

Inhalation: Mist/vapor study, rat, at 170°C, 8-hour exposure = 2.2 mg/l

Mortality: 0/6

Inhalation:
Rat: 8-hour exposure, fog = 10000 ppm; 65° - 70°C

Mortality: 0/6

IRRITATION

Skin:

Rabbit: 24-hour occluded contact, 0.5 ml
Results: Minor erythema and edema

Skin:

Human: Primary irritation patch test, 48-hour occluded, 0.2 ml
Results: Evidence of irritation

Eye:

Rabbit: 0.1 ml
Results: Minor transient iritis, conjunctival irritation with discharge

REPEATED EXPOSURE

In a 7-day dietary study with rats, a significant increase in kidney weights in females was observed at 5.0 gm/kg. The NOEL was 2.5 gm/kg.

In a 24-month dietary study with rats, increased mortality in males was observed at the highest dose, 1.0 gm/kg/day. There were multiple signs: mineralization of several organs, including the cardiac vessels, cardiac muscle, vas deferens, stomach and pulmonary vessels; cellular hyperplasia of the parathyroids, hemosiderosis of the spleen, myocardial fibrosis, portal fibrosis of the liver, bile duct hyperplasia and hydronephrosis and oxylate nephrosis of the kidneys. Ethylene glycol was not oncogenic.

In a 90-day dietary study with dogs, repeated exposures to 2.5 gm/kg resulted in acute renal failure and deaths. The NOAEL was 1.0 gm/kg.

SENSITIZATION (ANIMAL AND HUMAN STUDIES)

Repeated skin contact with ethylene glycol may, in a very small proportion of cases, cause sensitization with the development of allergic contact dermatitis. The incidence is significantly less than 1% with the undiluted material.

REPRODUCTIVE TOXICITY

A three-generation study indicated that ethylene glycol did not affect reproductive parameters at dietary concentrations up to 1.0 gm/kg/day in any generation.

CHRONIC TOXICITY AND CARCINOGENICITY

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of a carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

GENETIC TOXICOLOGY

In Vitro: Ethylene glycol was devoid of genotoxic activity in an Ames test, forward gene mutation and sister chromatid exchange (SCE) studies in Chinese Hamster Ovary (CHO) cells and an in vitro cytogenetics study.

In Vivo: Ethylene glycol by three different routes (intravenous, peroral and percutaneous) demonstrates apparent first-order pharmacokinetic behavior for the disposition in and the elimination from the plasma. Dose-dependent changes occur for the elimination of metabolites in the urine and as $14CO^2$ after single doses for the intravenous and peroral, but not the percutaneous route. The hypothesis from literature sources exists that developmental toxicity is caused by a metabolite of ethylene glycol, called glycolic acid, and not parent ethylene glycol. Under most conditions of ethylene glycol exposure, the glycolic acid metabolite is present in the blood in very low levels. However, it can become the major metabolite following large doses of ethylene glycol due to saturation of glycolic acid oxidation and/or elimination. When levels of this acidic metabolite exceed the capacity of maternal blood buffers to neutralize it, a maternal metabolic acidosis ensues, which has been hypothesized to be the true agent responsible for ethylene glycol induced developmental toxicity. Research suggests that ethylene glycol developmental toxicity is due to a dose-rate dependent toxicokinetic shift leading to glycolate accumulation and metabolic acidosis.

ADDITIONAL STUDIES

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations of 150, 1000 and 2500 mg/m^3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentration, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1000 and 2500 mg/m^3) and developmental toxicity with minimal evidence of teratogenicity (2500 mg/m^3). The no-effects concentration (based on maternal toxicity) was 500 mg/m^3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen. There is currently no available information to suggest that ethylene glycol has caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity. Exposure to high aerosol concentrations is only minimally effective in producing developmental toxicity.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

Movement & Partitioning: Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log octanol/water partition coefficient (log Kow) is -1.36. Henry's Law Constant (H) is 6.0E-08 atm-m3/mol. Bioconcentration factor (BCF) is 10 in golden orfe.

Degradation & Transformation: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). 5-Day biochemical oxygen demand (BOD5) is 0.78 p/p. 10-Day biochemical oxygen demand (BOD10) is 1.06 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.15 p/p. Theoretical oxygen demand (THOD) is calculated to be 1.29 p/p. Biodegradation may occur under both aerobic and anaerobic conditions (in either the presence or absence of oxygen). Inhibitory concentration (IC50) in OECD "Activated Sludge, Respiration Inhibition Test" (Guideline # 209) is < 1000 mg/L. Degradation is expected in the atmospheric environment within days to weeks.

Ecotoxicology: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (Pimephales promelas) is 51000 mg/L. Acute LC50 for bluegill (Lepomis macrochirus) is 27549 mg/L. Acute LC50 for rainbow trout (Oncorhynchus mykiss) is about 18000-46000 mg/L. Acute LC50 for guppy (Poecilia reticulata) is 49300 mg/L. Acute LC50 for water flea (Daphnia magna) is 46300-51100 mg/L. Acute LC50 for the cladoceran Ceriodaphnia dubia is 10000-25800 mg/L. Acute LC50 for crayfish is 91430 mg/L. Acute LC50 for brine shrimp (Artemia salina) is 20000 mg/L. Acute LC50 for golden orfe (Leuciscus idus) is greater than 10000 mg/L. Acute LC50 for goldfish (Carassius auratus) is greater than 5000 mg/L. Growth inhibition EC50 for green alga Selenastrum capricornutum is 9500-13000 mg/L.

BOD (% Oxygen Consumption):

Day 5	Day 10	Day 15	Day 20	Day 30
51%	80%		97%	

ECOTOXICITY

Toxicity to Micro-organisms:
Bacterial / NA: 16 h; IC50
Result Value: >10000 mg/l

Toxicity to Aquatic Invertebrates:
Daphnia: 48 h; LC50
Result Value: >100000 mg/l

Toxicity to Fish
Fathead Minnow: 94 h; LC50
Result Value: 70000 mg/l

FURTHER INFORMATION

Chemical Oxygen Demand (COD) – Measured: 1.29 mg/mg
Theoretical Oxygen Demand (THOD) – Calculated: 1.30 mg/mg

Octanol/Water Partition Coefficient – Measured: -1.36

13. DISPOSAL CONSIDERATIONS

DO NOT discharge to sewer. Wear appropriate personal protection. Take up with sand, vermiculite, or similar inert material. Dispose in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION
Non-Bulk
Not regulated by the US D.O.T. (in quantities under 5,000 lbs in any one inner package)

Bulk

Proper Shipping Name:	Environmentally Hazardous Substance, LIQUID N.O.S. (ETHYLENE GLYCOL)
Technical Name:	ETHYLENE GLYCOL
ID Number:	UN 3082
Hazard Class:	9
Packing Group:	PG III
Reportable Quantity:	5,000 lb.

IATA
Non-Bulk
Not Regulated by IATA

IMDG
Non-Bulk
Not regulated by IMDG (in quantities under 5,000 lbs in any one inner package)

15. REGULATORY INFORMATION

THIS PRODUCT CONTAINS COMPONENT(S) CITED ON THE FOLLOWING REGULATIONS.

	Chemical Name	***Cas Number***
	Ethylene Glycol	107-21-1

United States - TSCA Inventory: Listed

Water Standards: No data available

Atmospheric Standards: Clean Air Act (1990) - List of Hazardous Air Contaminants: listed

CERCLA: Reportable Quantity (RQ): 5,000 pounds (532 gallons)

OSHA Hazard Communication Standard: This product is a "hazardous chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III: Section 311/312 - Categories: Acute hazard; chronic hazard

Section 312 - Inventory Reporting: Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.

Section 313 - Emission Reporting: Ethylene glycol is subject to Form R reporting requirements.

Section 302 - Extremely Hazardous Substances: Ethylene glycol is not listed.

State Right-To-Know:

California - Exposure Limits - Ceilings:	vapor-50 ppm ceiling; 125 mg/m3 ceiling
Director's List of Hazardous Substances:	listed
Florida - Hazardous Substances List:	listed
Massachusetts - Right-to-Know List:	listed
Minnesota - Haz. Subs. List:	listed (particulate and vapor)
New Jersey - Right-to-Know List (Total):	Present greater than 1.0%
Pennsylvania Right-to-Know List:	environmental hazard

Canadian Regulations: 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.

WHMIS Information: D2A - material has potential toxic effects. Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): The normal consumer use of this product does not result in exposure to chemicals known to the state of California to cause Cancer and/or reproductive harm above the significant risk level for carcinogens or the maximum allowable dose levels for reproductive toxins. Warnings are not required for consumer packaging. However, industrial or other occupational use of this product at higher frequency and using larger quantities of this product may result in exposures exceeding these levels and are labeled accordingly.

California SCAQMD Rule 443.1 (South Coast Air Quality Management District Rule 443.1, Labeling of Materials Containing Organic Solvents):

VOC: Vapor pressure 0.06 mmHg at 20°C
1113.38 g/l

16. OTHER INFORMATION

Contact: Thomas Cholke Phone: (847) 559-2225

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Initial Preparation Date: *5/20/2011*
Last Revision Date: *5/20/2011*
Effective Date: *4/4/2013*

MATERIAL SAFETY DATA SHEET

PRODUCT IDENTITY: ACDelco® PRE-DILUTED 50/50 CLASSIC COOLANT
U.S. # 88865164, 10-5049
Int'l. # 88865162

1. CHEMICAL PRODUCT & COMPANY INFORMATION

OLD WORLD INDUSTRIES, LLC
4065 COMMERCIAL AVENUE
NORTHBROOK, ILLINOIS 60062
PHONE: 847-559-2000
EMERGENCY PHONE: 1-800-424-9300 (CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	***CAS#***	***% by Wt***	***PEL (OSHA)***	***TLV (ACGIH)***
Water	7732-18-5	49 - 50	None	None
Ethylene Glycol	107-21-1	45 - 48	50 ppm	50 ppm
Diethylene Glycol	111-46-6	0 - 2	None	None
Denatonium Benzoate	3734-33-6	30-50 ppm	30-50 ppm	30-50 ppm
Dipotassium Phosphate	7758-11-4	< 2	None	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Slight odor.	***May be fatal if swallowed.***	***Vapors can cause eye irritation.***

Lowest Known LD50 (Oral)	107-21-1	11,680 mg/kg (Rats)
Lowest Known LD50 (Skin)	107-21-1	19,060 mg/kg (Rabbits)

HAZARD RATING SYSTEM

NFPA: HEALTH: 1	**FLAMMABILITY: 1**	**REACTIVITY: 0**
HMIS: HEALTH: 2	**FLAMMABILITY: 1**	**REACTIVITY: 0**

KEY: 0 – Minimal 1 – Slight 2 - Moderate 3 - Serious 4 - Severe

POTENTIAL HEALTH EFFECTS

Routes of Exposure: Inhalation, Ingestion, Skin Contact/Absorption, Eye Contact

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

Skin: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potential lethal amounts.

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

Inhalation: At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

Systemic (Other Target Organ) Effects: Repeated excessive exposures may cause severe kidney and also liver and gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Observations in animals include formation of bladder stones after repeated oral doses of ethylene glycol. Reports of kidney failure and death in burn patients suggest the ethylene glycol may have been a factor. The use of topical applications containing this material may not be appropriate in severely burned patients or individuals with impaired renal function.

Cancer Information: Based on data from long-term animal studies, ethylene glycol is not believed to pose a carcinogenic risk to man.

Teratology (Birth Defects): Exposure to ethylene glycol has caused birth defects in laboratory animals only at doses toxic to the mother.

Reproductive Effects: Ethylene glycol has not interfered with reproduction in animal studies except at very high doses.

CHRONIC, PROLONGED OR REPEATED OVEREXPOSURE

Effects of Repeated Overexposure: Repeated inhalation of ethylene glycol mist may produce signs of central nervous system involvement, particularly dizziness and nystagmus.

Other Effects of Overexposure: repeated skin contact with ethylene glycol may, in a very small proportion of cases, cause sensitization with the development of allergic contact dermatitis. The incidence is significantly less than 1% with the undiluted material.

4. FIRST AID MEASURES
Ensure physician has access to this MSDS.

TREATMENT

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Get medical attention as soon as possible. Contact lenses should never be worn when working with this chemical.

Skin: Flush area of skin contact immediately with large amounts of water for at least 15 minutes while removing contaminated clothing. If irritation persists after flushing, get medical attention promptly. Wash clothing before re-use.

Inhalation: If inhaled, immediately remove victim to fresh air and call ***emergency medical care.*** If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: Obtain medical attention immediately. If patient is fully conscious, give two glasses of water. Do not induce vomiting. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whisky. For children, give proportionally less liquor, according to weight.

Notes to Physician:
It is estimated that the lethal oral dose to adults is of the order of 1.0 ml/kg. Ethylene glycol is metabolized by alcohol dehydrogenate to various metabolites including glyceraldehydes, glycolic acid and oxalic acid which cause an elevated anion-gap metabolic acidosis and renal tubular injury. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, CNS depression, and kidney injury. Urinalysis may show albuminuria, hematuria and oxaluria. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis and prevention of kidney injury. It is essential to have immediate and follow up urinalysis and clinical chemistry. There should be particular emphasis on acid-base balance and renal function tests. A continuous infusion of 5% sodium bicarbonate with frequent monitoring of electrolytes and fluid balance is used to achieve correction of metabolic acidosis and forced diuresis. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal. Given in the early stages of intoxication, it blocks the formulation of nephrotoxic metabolites. A therapeutically effective blood concentration of ethanol is in the range 100-150 mg/dl, and should be achieved by a rapid loading dose and maintained by intravenous infusion. For severe and/or deteriorating cases, hemodialysis may be required. Dialysis should be considered for patients who are symptomatic, have severe metabolic acidosis, a blood ethylene glycol concentration greater than 25 md/dl, or compromise of renal functions.

A more effective intravenous antidote for physician use is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occurred. A generally recommended protocol is a loading dose of 15 mg/kg followed by 10 mg/kg every 12 hours for 4 doses and then 15 mg/kg every 12 hours until ethylene glycol concentrations are below 20 mg/100 ml. Slow intravenous infusion is required. Since 4-methyplyrozole is dialyzable, increased dosage may be necessary during hemodialysis. Additional therapeutic measures may include the administration of cofactors involved in the metabolism of ethylene glycol. Thiamine (100 mg) and pyridoxine (50 mg) should be given every six hours.

Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. The mechanism of production has not been elucidated, but it appears to be non-cardiogenic in origin in several cases. Respiratory support with mechanical ventilation and positive end expiratory pressure may be

required. There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphasia.

5. FIRE FIGHTING MEASURES

Flammable Properties
Flash Point: None, since % of water is over 20.
Autoignition Temperature: Autoignition temperature for 100% ethylene glycol is 398°C (748°F).

Flammability Limits - % of vapor concentration at which product can ignite in presence of spark.
Lower Flammability Limit: Not determined
Upper Flammability Limit: Not determined

Flammability limits are not determined on this product because the solution consists of 50% water. If and when the water evaporates and 100% glycol is left, the upper and lower flammability limits would be 3.2% and 15.3% (the same as concentrated Ethylene glycol).

Hazardous Combustion Products: Hazardous combustion products may include and are not limited to carbon monoxide, carbon dioxide and trace amounts of aldehydes and organic acids. When available oxygen is limited, as in a fire or when heated to very high temperatures by a hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

Extinguishing Media: Water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Carbon dioxide. Dry chemical. Do not use direct water stream. May spread fire.

Fire Fighting Instructions: No fire and explosion hazards expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently. Keep people away. Isolate fire area and deny unnecessary entry.

Protective Equipment for Fire Fighters: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

6. ACCIDENTAL RELEASE MEASURES

Protect People: Material is moderately toxic when ingested. Take adequate precautions to keep people, especially children away from spill site. PVC-coated rubber gloves and monogoggles or face shield can be used during cleanup of spill site. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below -18^{o}C (0^{o}F). Do not store near food, foodstuffs, drugs or potable water supplies.

Protect the Environment: Do not dump used product or diluted material into sewers, on the ground, or into any body of water.

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

7. HANDLING AND STORAGE

Steps to be Taken in Case Material is Released or Spilled: Eliminate all sources of ignition in vicinity of the spilled or released fluid.

Other Precautions: Use normal precautions in handling any combustible liquid. Keep container closed when not in use. Store away from heat or open flame. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below -37^{o}C (-34^{o}F). Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Respiratory protection is required if airborne concentration exceeds TLV. At any detectable concentration any self-contained breathing apparatus with a full face piece and operated in a pressure-demand or other positive pressure mode or any supplied-air respirator with a full face piece and operated in a pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Escape: Any air-purifying full face piece respirator (gas mask) with a chin-style or front- or back-mounted organic vapor canister or any appropriate escape-type self-contained breathing apparatus.

Skin Protection: Protective gloves recommended when prolonged skin contact cannot be avoided. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Natural Rubber, Butyl Rubber. Safety shower should be available.

Eye Protection: Safety goggles and face shield. Emergency eyewash should be available. Contact lenses should not be worn when working with this chemical.

Engineering Controls: Use general or local exhaust ventilation to meet TLV requirements.

EXPOSURE LIMITS

Component	**Exposure Limits**	**Skin Form**
Ethylene glycol	100 mg/m3 CEILING ACGIH	Aerosol
Ethylene glycol	125 mg/m3 CEILING OSHA-vacated	
	50 ppm CEILING OSHA – vacated	
	100 mg/m3 CEILING UCC	Aerosol and Vapor
Diethylene glycol	50 ppm TWA8 AIHA WEEL	Aerosol and Vapor
Diethylene glycol	10 mg/m3 TWA8 AIHA WEEL	Aerosol

In the Exposure Limits Chart above, if there is no specific qualifier (i.e., Aerosol) listed in the Form Column for a particular limit, the listed limit includes all airborne forms of the substance that can be inhaled.

A “blank” in the Skin column indicates that exposure by the cutaneous (skin) route is not a potential significant contributor to overall exposure.

9. PHYSICAL / CHEMICAL PROPERTIES

Boiling Range:	106 - 108^{o}C (224 - 227^{o}F)
Freeze Point:	-37^{o}C (-34^{o}F)
Specific Gravity (Water =1):	1.07
Pounds/Gallons:	8.9
Vapor Pressure (mm of Hg) @ 20C:	<0.1
Vapor Density (air=1):	2.1
Water Solubility:	Complete
Evaporation Rate (BuAc = 1):	Nil
% Volatile By Volume:	50
Appearance:	Green
Odor:	Mild
pH:	10.5-11.0

10. STABILITY & REACTIVITY DATA

Stability:	Stable
Conditions to Avoid:	Keep away from flame
Incompatibility (Materials to Avoid):	Strong acid or oxidizing agents
Hazardous Decomposition Products:	Incomplete combustion may produce CO gas
Hazardous Polymerization:	Will not occur

11. TOXICOLOGICAL INFORMATION

(Concentrated Ethylene Glycol)

Skin: The dermal LD50 has not been determined.

Ingestion: The lethal dose in humans is estimated to be 100 ml (3 ozs.). The oral LD50 for rats is in the 6000-13,000-mg/kg range.

Mutagenicity (The Effects on Genetic Material): In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

Significant Data with Possible Relevance to Humans: Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. Also, in a preliminary study to asses the effects of exposure of pregnant rats and made to aerosis at concentrations of 150, 1000 and 25000 mg/m3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentration, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol percutaneous absorption of ethylene glycol from contaminated skin, or swallowing ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1000 and 25000 mg/m3) and developmental toxicity with minimal evidence of teratogenicity (2500 mg/m3). The no-effects concentration (based on maternal toxicity) was 500 mg/m3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to skin of

pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen. There is currently no available information to suggest that ethylene glycol has caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity. Exposure to high aerosol concentrations is only minimally effective in producing developmental toxicity. The major route for producing developmental toxicity is perorally. Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

A chronic dietary feeding study of diethylene glycol with rats showed mild kidney injury at 1%, while concentrations of 2% and 4% caused more marked kidney injury. In addition, at 2% and 4% of diethylene glycol in the diet, some rats developed benign papillary tumors in the urinary bladder. These have been attributed to the presence of urinary bladder calcium oxalate stones. No evidence for carcinogenicity was found with a chronic skin-painting study with diethylene glycol in mice. The absence of a direct chemical carcinogenic effect addords with the results in vitro genotoxicity studies that show that it does not produce mutagenic or clastogenic effects. A feeding study employing up to 5.0% diethylene glycol in the diet failed to produce any teratogenic effects. In a mouse continuous breeding study with large doses of diethylene glycol in drinking water, there was evidence for reproductive toxicity at 3.5% (equivalent to 6.1 g/kg/day) as reduced number of litter, live pups per litter and live pup weight. No such effects were seen at 1.75% (approximately 3.05 g/kg/day). The relevance of these very high dosages to human health is uncertain. Pregnant rats receiving undiluted diethylene glycol by gavage over the period of organogenesis had toxic effects at 4.0 and 8.0 ml/kg/day as mortality, decreased body weight, decreased food consumption increased water consumption and increased liver and kidney weights. Fetotoxicity was seen only at these maternally toxic dosages. Decreased fetal body weight occurred at 8.0 ml/kg/day, and increased skeletal variants at 4.0 and 8.0 ml/kg/day. No embryotixic or teratogenic effects were seen. Neither maternal toxicity nor fetotoxicity occurred at 1.0 ml/kg/day. In a study with mice also receiving undiluted diethylene glycol over the period of organogenesis, maternal toxicity occurred at 2.5 and 10.0 ml/kg/day, but not at 0.5 ml/kg/day. Definitive developmental toxicity was not seen in this species.

ACUTE TOXICITY

Peroral: The lethal dose in humans is estimated to be 3 oz. or 100 ml.
Rat: LD50 (6000 – 13000) mg/kg

Percutaneous:
Rabbit: LD50 = >22270 mg/kg; 24 h occluded

Inhalation:
Rat: 8-hour exposure, substantially saturated vapor studies, dynamic generation method

Mortality: 0/6

Inhalation: Mist/vapor study, rat, at 170°C, 8-hour exposure = 2.2 mg/l

Mortality: 0/6

Inhalation:
Rat: 8-hour exposure, fog = 10000 ppm; 65° - 70°C

Mortality: 0/6

IRRITATION

Skin:

Rabbit: 24-hour occluded contact, 0.5 ml
Results: Minor erythema and edema

Skin:

Human: Primary irritation patch test, 48-hour occluded, 0.2 ml
Results: Evidence of irritation

Eye:

Rabbit: 0.1 ml
Results: Minor transient iritis, conjunctival irritation with discharge

REPEATED EXPOSURE

In a 7-day dietary study with rats, a significant increase in kidney weights in females was observed at 5.0 gm/kg. The NOEL was 2.5 gm/kg.

In a 24-month dietary study with rats, increased mortality in males was observed at the highest dose, 1.0 gm/kg/day. There were multiple signs: mineralization of several organs, including the cardiac vessels, cardiac muscle, vas deferens, stomach and pulmonary vessels; cellular hyperplasia of the parathyroids, hemosiderosis of the spleen, myocardial fibrosis, portal fibrosis of the liver, bile duct hyperplasia and hydronephrosis and oxylate nephrosis of the kidneys. Ethylene glycol was not oncogenic.

In a 90-day dietary study with dogs, repeated exposures to 2.5 gm/kg resulted in acute renal failure and deaths. The NOAEL was 1.0 gm/kg.

SENSITIZATION (ANIMAL AND HUMAN STUDIES)

Repeated skin contact with ethylene glycol may, in a very small proportion of cases, cause sensitization with the development of allergic contact dermatitis. The incidence is significantly less than 1% with the undiluted material.

REPRODUCTIVE TOXICITY

A three-generation study indicated that ethylene glycol did not affect reproductive parameters at dietary concentrations up to 1.0 gm/kg/day in any generation.

CHRONIC TOXICITY AND CARCINOGENICITY

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of a carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

GENETIC TOXICOLOGY

In Vitro: Ethylene glycol was devoid of genotoxic activity in an Ames test, forward gene mutation and sister chromatid exchange (SCE) studies in Chinese Hamster Ovary (CHO) cells and an in vitro cytogenetics study.

In Vivo: Ethylene glycol by three different routes (intravenous, peroral and percutaneous) demonstrates apparent first-order pharmacokinetic behavior for the disposition in and the elimination from the plasma. Dose-dependent changes occur for the elimination of metabolites in the urine and as $14CO^2$ after single doses for the intravenous and

peroral, but not the percutaneous route. The hypothesis from literature sources exists that developmental toxicity is caused by a metabolite of ethylene glycol, called glycolic acid, and not parent ethylene glycol. Under most conditions of ethylene glycol exposure, the glycolic acid metabolite is present in the blood in very low levels. However, it can become the major metabolite following large doses of ethylene glycol due to saturation of glycolic acid oxidation and/or elimination. When levels of this acidic metabolite exceed the capacity of maternal blood buffers to neutralize it, a maternal metabolic acidosis ensues, which has been hypothesized to be the true agent responsible for ethylene glycol induced developmental toxicity. Research suggests that ethylene glycol developmental toxicity is due to a dose-rate dependent toxicokinetic shift leading to glycolate accumulation and metabolic acidosis.

ADDITIONAL STUDIES

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations of 150, 1000 and 2500 mg/m^3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentration, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1000 and 2500 mg/m^3) and developmental toxicity with minimal evidence of teratogenicity (2500 mg/m^3). The no-effects concentration (based on maternal toxicity) was 500 mg/m^3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen. There is currently no available information to suggest that ethylene glycol has caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity. Exposure to high aerosol concentrations is only minimally effective in producing developmental toxicity.

12. ECOLOGICAL INFORMATION

(Concentrated Ethylene Glycol)

ENVIRONMENTAL FATE

Movement & Partitioning: Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log octanol/water partition coefficient (log Kow) is -1.36. Henry's Law Constant (H) is 6.0E-08 atm-m3/mol. Bioconcentration factor (BCF) is 10 in golden orfe.

Degradation & Transformation: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). 5-Day biochemical oxygen demand (BOD5) is 0.78 p/p. 10-Day biochemical oxygen demand (BOD10) is 1.06 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.15 p/p. Theoretical oxygen demand (THOD) is calculated to be 1.29 p/p. Biodegradation may occur under both aerobic and anaerobic conditions (in either the presence or absence of oxygen). Inhibitory concentration (IC50) in OECD "Activated Sludge, Respiration Inhibition Test" (Guideline # 209) is < 1000 mg/L. Degradation is expected in the atmospheric environment within days to weeks.

Ecotoxicology: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (Pimephales promelas) is 51000 mg/L. Acute LC50 for bluegill (Lepomis macrochirus) is 27549 mg/L. Acute LC50 for rainbow trout (Oncorhynchus mykiss) is about 18000-46000 mg/L. Acute LC50 for guppy (Poecilia reticulata) is 49300 mg/L. Acute LC50 for water flea

(Daphnia magna) is 46300-51100 mg/L. Acute LC50 for the cladoceran Ceriodaphnia dubia is 10000-25800 mg/L. Acute LC50 for crayfish is 91430 mg/L. Acute LC50 for brine shrimp (Artemia salina) is 20000 mg/L. Acute LC50 for golden orfe (Leuciscus idus) is greater than 10000 mg/L. Acute LC50 for goldfish (Carassius auratus) is greater than 5000 mg/L. Growth inhibition EC50 for green alga Selenastrum capricornutum is 9500-13000 mg/L.

BOD (% Oxygen Consumption):

Day 5	Day 10	Day 15	Day 20	Day 30
51%	80%		97%	

ECOTOXICITY

Toxicity to Micro-organisms:
Bacterial / NA: 16 h; IC50
Result Value: >10000 mg/l

Toxicity to Aquatic Invertebrates:
Daphnia: 48 h; LC50
Result Value: >100000 mg/l

Toxicity to Fish
Fathead Minnow: 94 h; LC50
Result Value: 70000 mg/l

FURTHER INFORMATION

Chemical Oxygen Demand (COD) – Measured: 1.29 mg/mg
Theoretical Oxygen Demand (THOD) – Calculated: 1.30 mg/mg

Octanol/Water Partition Coefficient – Measured: -1.36

13. DISPOSAL CONSIDERATIONS

DO NOT discharge to sewer. Wear appropriate personal protection. Take up with sand, vermiculite, or similar inert material. Dispose in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION
Non-Bulk
Not regulated by the US D.O.T. (in quantities under 5,000 lbs in any one inner package)

Bulk

Proper Shipping Name:	Environmentally Hazardous Substance, LIQUID N.O.S. (ETHYLENE GLYCOL)
Technical Name:	ETHYLENE GLYCOL
ID Number:	UN 3082
Hazard Class:	9
Packing Group:	PG III
Reportable Quantity:	5,000 lb.

IATA
Non-Bulk
Not Regulated by IATA

IMDG
Non-Bulk
Not regulated by IMDG (in quantities under 5,000 lbs in any one inner package)

15. REGULATORY INFORMATION

THIS PRODUCT CONTAINS COMPONENT(S) CITED ON THE FOLLOWING REGULATIONS.

	Chemical Name	***Cas Number***
	Ethylene Glycol	107-21-1

United States - TSCA Inventory: Listed

Water Standards: No data available

Atmospheric Standards: Clean Air Act (1990) - List of Hazardous Air Contaminants: listed

CERCLA: Reportable Quantity (RQ): 5,000 pounds (532 gallons)

OSHA Hazard Communication Standard: This product is a "hazardous chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III: Section 311/312 - Categories: Acute hazard; chronic hazard

Section 312 - Inventory Reporting: Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.

Section 313 - Emission Reporting: Ethylene glycol is subject to Form R reporting requirements.

Section 302 - Extremely Hazardous Substances: Ethylene glycol is not listed.

State Right-To-Know:

California - Exposure Limits - Ceilings:	vapor-50 ppm ceiling; 125 mg/m3 ceiling
Director's List of Hazardous Substances:	listed
Florida - Hazardous Substances List:	listed
Massachusetts - Right-to-Know List:	listed
Minnesota - Haz. Subs. List:	listed (particulate and vapor)
New Jersey - Right-to-Know List (Total):	Present greater than 1.0%
Pennsylvania Right-to-Know List:	environmental hazard

Canadian Regulations: 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.

WHMIS Information: D2A - material has potential toxic effects. Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): The normal consumer use of this product does not result in exposure to chemicals known to the state of California to cause Cancer and/or reproductive harm above the significant risk level for carcinogens or the maximum allowable dose levels for reproductive toxins. Warnings are not required for consumer packaging. However, industrial or other occupational use of this product at higher frequency and using larger quantities of this product may result in exposures exceeding these levels and are labeled accordingly.

California SCAQMD Rule 443.1 (South Coast Air Quality Management District Rule 443.1, Labeling of Materials Containing Organic Solvents):

VOC: Vapor pressure 0.06 mmHg at 20°C
1113.38 g/l

16. OTHER INFORMATION

Contact: Thomas Cholke Phone: (847) 559-2225

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: LUBRIZOL 6178
Product Code: 27112630-5828564-503930-102103
External Keys:

CN08778	GM of Canada Approval Number
88900330	Distributable Material (Part #)
10-4003	Distributable Material (Part #)
Limited Slip Axle Lubricant Additive	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: LUBRIZOL CORP
Address:

29400 LAKELAND BLVD.	USA	OHIO	44092	WICKLIFFE	MAILING

Communication Lines:

Phone	800-424-9300	CHEMTREC
Phone	440-943-4200	INFO
Phone	703-527-3887	Chemtrec (outside the U.S.)

Comment:
PRODUCT TYPE: AUTOMOTIVE GEAR OIL ADDITIVE.

2 INGREDIENT INFORMATION

FORMULATION

Chemical Characterization:
Generic Chemical Name Mixture.
Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
MINERAL OIL	989915-78-8	<	100	%Wt	Yes

Comment:
This material has no known hazards under applicable laws.

3 HAZARDS IDENTIFICATION

Specific Hazards:
Principal Hazards: This material has no known health hazards.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Eye Contact	Acute	Not expected to cause eye irritation Based on data from components or similar materials.
Skin Contact	Acute	Not expected to be a primary skin irritant. Based on data from components or similar mateials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.
Inhalation	Acute	If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract. Based on data from components or similar materials. No data available to indicate product or components may be a toxic inhalation hazard.

3 HAZARDS IDENTIFICATION

Medical Conditions Aggravated By Exposure:

Not provided.

Additional Health Hazard Data:

No data available to indicate product or components may be a skin sensitizer.
No data available to indicate product or components may be respiratory sensitizers.
Chronic Toxicity : No data available to indicate product or components present at greater than 1% are chronic health hazards.

Comment:

See Section 11 for complete health hazard information.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Remove exposed person to fresh air if adverse effects are observed.
Skin Contact	Wash with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse.
Eye Contact	Flush with water at least 30 minutes. Get medical attention if eye irritation develops or persists.
Ingestion	DO NOT INDUCE VOMITING. Get immediate medical attention.

Notes To Physician:

TREAT SYMPTOMATICALLY.

5 FIRE FIGHTING MEASURES

Flash Point:

=	309.2	°F	PMCC	154 C. Typical.

Explosive Limits:

Upper Explosive Limit (UEL)	Not Determined	Flammable Limit
Lower Explosive Limit (LEL)	Not Determined	Flammable Limit

Autoignition Temperature:

NOT DETERMINED.

Extinguishing Media:

CO2, dry chemical, or foam. Water can be used to cool and protect exposed material.

Fire and Explosion Hazards:

None known. Material does not have explosive properties.

Special Fire Fighting Procedures:

Recommend wearing self-contained breathing apparatus. Water may cause splattering.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate area if spilled in confined space or other poorly ventilated areas.

Environmental Precautions:

Prevent entry into sewers and waterways

SPILL OR LEAK PROCEDURES

Recovery:

Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.

Disposal:

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Disposal:

Dispose of in accordance with all federal, state and local environmental regulations.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Pumping Temperature: Not determined
Maximum Handling Temperature: 140 F.; 60 C.
Keep containers closed when not in use. Do not discharge into drains or the environment, dispose to an authorized waste collection point. Use appropriate containment to avoid environmental contamination. Wash thoroughly after handling. Empty container contains product residue which may exhibit hazards of product.
Loading Temperature: 140 F.; 60 C.

STORAGE

Storage Conditions:

Maximum Storage Temperature: 113 F.; 45 C.
No special storage precautions required.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Use with adequate ventilation.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
MINERAL OIL	989915-78-8	TLV-STEL	10mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
MINERAL OIL	989915-78-8	State-TWA	5mg/m3	-	MICHIGAN
MINERAL OIL	989915-78-8	State-TWA	5mg/m3	-	NEW YORK
MINERAL OIL	989915-78-8	State-TWA	5mg/m3	-	TENNESSEE
MINERAL OIL	989915-78-8	GM OEG-STEL	10mg/m3	-	GM Occupational Exposure Guidelines (OEG)
MINERAL OIL	989915-78-8	PEL-TWA	5mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
MINERAL OIL	989915-78-8	GM OEG-TWA	5mg/m3	-	GM Occupational Exposure Guidelines (OEG)
MINERAL OIL	989915-78-8	TLV-TWA	5mg/m3	-	Threshold Limit Values (TLVs) - ACGIH

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection SAFETY GLASSES.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Skin Protection	LONG SLEEVE SHIRT IS RECOMMENDED.
Respiratory Protection	Use NIOSH/MSHA approved respirator with a combination organic vapor and high efficiency filter cartridge if recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.
Hand Protection	NITRILE GLOVES.

Hygiene Measures:

Launder contaminated clothing before reuse.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: AMBER.
Odor: Mild petroleum

PHYSICAL PROPERTIES

pH Value:

Not Determined

Changes of State:

Boiling Point	Not Determined			
Pourpoint	=	5	°F	-15 C.
Melting/Freezing Point	Not Determined			

Vapor Pressure:

Not Determined

Vapor Density:

Not Determined

Evaporation Rate:

NOT DETERMINED.

Density:

Bulk Density	Not Determined

Specific Gravity:

=	0.92	15.6 DEG C.

Solubility:

Water	INSOLUBLE.

Viscosity:

Viscosity	=	35	Centistokes (40 °C) 6.3 Centistokes (100 °C)

Total Amount Of::

Percent Solid	Not Determined

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Total Amount Of::

Percent Volatile	Not Determined

Comment:

The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Conditions to Avoid:

Not determined.

Incompatible Materials:

Oxidizing agents.

Hazardous Polymerization:

Will not occur.

Comment:

Material can become unstable at elevated temperatures and pressures.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Decomposition Temperature Not determined.
Thermal Decomposition	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: phosphorus.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Product Data:

Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
Skin Contact	LD50	>	2000	mg/kg	Rabbits	Based on data from components or similar materials
Ingestion	LD50	>	5000	mg/kg	Rats	Based on data from components or similar materials

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.
Cal. Prop. 65: This product contains the following chemical(s) known to the state of California to cause cancer based on maximum impurity levels of components: < 0.5 ppm cadmium < 0.5 ppm lead < 1 ppm arsenic

Mutagenicity:

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Effects:

No data available to indicate either product or components present at greater than 0.1 % that may cause reproductive toxicity.
Teratogenicity: No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.
Cal. Prop. 65: This product contains the following chemical(s) known to the state of California to cause birth defects based on maximum impurity levels of components: < 0.5 ppm cadmium < 0.5 ppm lead < 1 ppm arsenic

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Comment:

Other: No other health hazards known.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

ENVIRONMENTAL FATE:
Biodegradation: At least 25% of the components in this product show limited biodegradation based on OECD 301-type test data. At least 25% of the components in this product show moderate biodegradation based on OECD 302-type test data.
Bioaccumulation: 25% or greater of the components display no potential to bioconcentrate.
Soil Mobility: Not determined.

ECOTOXICITY

Comment:

The acute LC50 is 100 - 1000 mg/L based on component data.
Freshwater Fish Toxicity: Not determined.
Freshwater Invertebrates Toxicity: Not determined.
Algal Inhibition : Not determined.
Saltwater Fish Toxicity: Not determined.
Saltwater Invertebrates Toxicity: Not determined.
Bacteria Toxicity: The acute EC50 is > 1000 ppm based on component data.
Miscellaneous Toxicity: Not determined.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261.
Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

14 TRANSPORT INFORMATION

DOT Information:

U.S. DOT Bulk Not regulated
U.S. DOT Non-Bulk Not regulated.
DOT NAERG Not applicable.

Comment:

ICAO/IATA I : Not regulated.
ICAO/IATA II : Not regulated.
IMDG: Not regulated.
IMDG EMS Fire : Not applicable.
IMDG EMS Spill: Not applicable.
IMDG MFAG: Not applicable.
MARPOL Annex II: Not determined.
USCG Compatibility Not determined
TDG Bulk Not regulated.
TDG Non-Bulk Not regulated.
TDG Regulated Limit. None known.
Mexico Not regulated.
Mexico Non-Bulk Not regulated.
Bulk Quantity 85000 liters, 22457 gal.
Non-Bulk Quantity 207.8 liters, 55 gal.
Review classification requirements before shipping materials at elevated temperatures.

15 REGULATORY INFORMATION

LABELLING

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	1
HMIS Health	0
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	1
NFPA Reactivity	1

Comment:

NFPA Special: N/A

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

TSCA:	All components of this material are on the US TSCA Inventory or are exempt
Other TSCA Reg.:	None known.
SARA Ext. Haz. Subst. :	This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.
SARA Section 313:	This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.
CERCLA Hazardous Substances:	None known.
FDA Approval:	Not applicable.
U.S. Fuel Registration	Not applicable.
U.S. Dept of Agriculture:	This product was registered or qualified as an H2 product.
NSF Nonfood Compounds Registration:	This product has not been filed with the NSF to support H1 or H2 approvals.

STATE/LOCAL REGULATIONS

Comment:

Cal. Prop. 65: This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects based on maximum impurity levels of components: < 0.5 ppm cadmium < 0.5 ppm lead < 1 ppm arsenic

16 OTHER INFORMATION

Comments:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

Additional Comments:

Prepared according to 29CFR 1910.1200.
Precautionary Labels : This material has no known health hazards.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: Shell MTX Fluid FM
Product Code: 402826L
External Keys:

9986105	Productive Materials
10-4014, 88900399	Distributable Material (Part #)
12377916	Distributable Material (Part #)
772398	Distributable Material (Part #)
ACDELCO SYNCROMESH TRANSMISSION FLUID - FRICTION MODIFIED	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: SOPUS Products
Address:

700 Milam	USA	Texas	77002-2806	Houston	PO Box 4427 (Zip: 77210-4427)	Mailing
	USA	TX	77210-4427	Houston	4427	Mailing

Communication Lines:

Phone	877-242-7400	Spill information
Phone	877-504-9351	Health information
Phone	877-276-7285	MSDS Assistance
Internet	www.pennzoil-quakerstate.com	Website (with MSDS for SOPUS Products)
Phone	877-276-7285	
Phone	877-242-7400	Emergency Spill Information
Phone	Health Information	Emergency Health Information

2 INGREDIENT INFORMATION

Chemical Family: Lubricants.

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
HIGHLY REFINED PETROLEUM OILS	989987-87-5	Range	60-70	%Wt	No
ADDITIVES	989922-74-6	Range	30-40	%Wt	No
ZINC	7440-66-6	<	1.0	%Wt	Yes

3 HAZARDS IDENTIFICATION

Hazards Overview:

Appearance & Odor: Dark red liquid. Mild Hydrocarbon Odor.
Health Hazards: No known immediate health hazards. High-pressure injection under the skin may cause serious damage.
Physical Hazards: No known physical hazards.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
		Inhalation of vapors (generated at high temperatures

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Inhalation	General	only) or oil mist may cause mild irritation of the nose, throat, and respiratory tract.
Eye Contact	General	Lubricating oils are generally considered no more than minimally irritating to the eyes.
Skin Contact	General	May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result. Release of the material during high-pressure applications may result in injection under the skin causing possible extensive tissue damage which is difficult to heal. Other adverse effects not expected from brief skin contact.
Ingestion	General	Lubricating oils are generally no more than slightly toxic if swallowed.

Medical Conditions Aggravated By Exposure:

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

Additional Health Hazard Data:

Other Health Effects: Material may release hydrogen sulfide (H2S), a highly toxic and extremely flammable gas, when heated to 180 Degrees F or higher. H2S can cause irritation of the eyes and respiratory tract, headache, dizziness, nausea, vomiting, diarrhea, and pulmonary edema. The odor ("rotten egg") threshold is 0.02 ppm. Do not depend on sense of smell for warning; H2S rapidly deadens the sense of smell.
Signs and Symptoms: Irritation as noted above. Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours following injection.

Comment:

For additional health information, refer to section 11.

4 FIRST AID MEASURES

First Aid By::

Inhalation	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 material is injected under the skin, transport to the nearest medical facility for additional treatment. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
Eye Contact	Flush with water. If irritation occurs, get medical attention.
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.

Notes To Physician:

In general, emesis induction is unnecessary in high viscosity, low volatility products such as oils and greases.

5 FIRE FIGHTING MEASURES

Flash Point:

=	350	F	COC.	176.76 C

Autoignition Temperature:

Not Available	NOT DETERMINED

Extinguishing Media:

5 FIRE FIGHTING MEASURES

Extinguishing Media:

This material is non-flammable. Material will float and can be re-ignited on surface of water. Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water.

Fire and Explosion Hazards:

Material may ignite when preheated.

Special Fire Fighting Procedures:

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. This material is non-flammable.

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:

Protective Measures: May burn although not readily ignitable.
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. Place in container for proper disposal. Remove contaminated soil to remove contaminated trace residues. Dispose of in same manner as material.
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.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

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. 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. Material may release hydrogen sulfide (H2S), a highly toxic and extremely flammable gas, when heated to 180 Degrees F or higher. H2S may collect in the headspace of the container.
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.

STORAGE

Storage Conditions:

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.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Provide adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
ZINC	7440-66-6	GM OEG -TWA	10mg/m3	-	GM Occupational Exposure Guidelines (OEG)

Comment:

OIL MIST, MINERAL :ACGIH TLV 5 mg/m3, 10 mg/m3.
OIL MIST, MINERAL: OSHA PEL: 5 mg/m3.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Comment:

DECOMPOSITION PRODUCT:
HYDROGEN SULFIDE: ACGIH -TLV: TWA: 10 PPMM, STEL: 15 PPMM.
HYDROGEN SULFIDE: OSHA-PEL IS: TWA: 10 PPMM, STEL: 15 PPMM.
DECOMPOSITION PRODUCT:
HYDROGEN SULFIDE: METHOD: Elevated temperatures, CONDITION: >220 degrees F.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Chemical Goggles, or 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 boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.
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: Supplied-Air Respirator. 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.
Hand Protection	Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves. 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

Special Precautions:

PERSONAL PROTECTION: 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 above.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: Dark red.
Odor: Mild hydrocarbon odor.

PHYSICAL PROPERTIES

Changes of State:

Pourpoint	=	-45	F

Specific Gravity:

= 0.8822

Solubility:

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solubility:

Water	Insoluble.

Viscosity:

Viscosity	Range	40-50	cSt @ 40 C

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Avoid heat and open flames.

Incompatible Materials:

Avoid contact with strong oxidizing agents.

Hazardous Polymerization:

Hazardous Polymerization: None. Hazardous Polymerization Text: DO NOT OCCUR.

Comment:

Stability: Material is stable under normal conditions.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	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, Hydrogen Sulfide and other unidentified organic compounds may be formed upon combustion.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Product Data:

Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
Skin Contact	LD50	>	5.0	g/kg	Rabbit	OSHA CLASSIFICATION: Non-toxic. MATERIAL TESTED: Based on components(s)
Ingestion	LD50	>	5.0	g/kg	Rat	OSHA CLASSIFICATION: Non-toxic. MATERIAL TESTED: Based on components(s)

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

TRANSMISSION FLUID: NTP: No. IARC: Not reviewed. ACGIH: No. OSHA: No.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

Environmental Impact Summary: There is no ecological data available for this product. However, this product is an oil. It is persistent and does not readily biodegrade. However, it does not bioaccumulate.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

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.

14 TRANSPORT INFORMATION

DOT Information:

US Department of Transportation Classification: This material is not subject to DOT regulations under 49 CFR Parts 171-180.
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.

Comment:

International Air Transport Association: Not regulated under IATA rules. International Maritime Organization Classification: Not regulated under International Maritime Organization rules.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	1
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	0
NFPA Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: Yes
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
RCRA:

Hazardous Waste

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.

Other Regulation:

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.
Ozone Depleting Substances (40 CFR 82 Clean Air Act):	This material does not contain nor was it directly

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Other Regulation:

	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 313	Inherited from ingredient list.
Toxic Substances Control Act (TSCA) Status:	All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

STATE/LOCAL REGULATIONS

Comment:

State Regulation: This material is not regulated by California Prop 65, New Jersey Right-to-Know Chemical List or Pennsylvania Right-To-Know Chemical List. However for details on your regulation requirements you should contact the appropriate agency in your state.

16 OTHER INFORMATION

Comments:

ADDITIONAL EXPOSURE LIMITS: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

Additional Comments:

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.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: AC DELCO AUTO-TRAK II FLUID

Recommended Use:

Automatic Transmission Fluid developed primarily for transfer cases on GM four wheel drive vehicles but suitable also for other vehicle makes and as a hydraulic and power steering fluid for mobil equipment.

External Keys:

10-4017	Distributable Material (Part #)
12378508	Distributable Material (Part #)
773494	Distributable Material (Part #)
88900402	Distributable Material (Part #)
AUTO-TRAK II	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: Petro-Canada Lubricants Inc.

Address:

2310 Lakeshore Road West	CAN	Ontario	L5J 1K2	Mississauga	Mailing

Communication Lines:

Phone	403-296-3000	Information (Suncor Energy)
Phone	613-996-6666	Emergency (Canutec)
Internet	www.online.petro-canada.ca/	MSDS available

2 INGREDIENT INFORMATION

Synonyms:

RDL3239B, GM12378508, GM10953626, 88900402

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
SEVERELY HYDROTREATED AND HYDROCRACKED BASE OIL (PETROLEUM)	989987-94-6	<	100	%Wt	No

Comment:

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.
The base oil may be a mixture of the following CAS#s: 8042-47-5, 64742-46-7 64742-55-8, 72623-84-8, 72623-85-9, 72623-86-0, 72623-87-1, 178603-64-0, 64742-47-8 178603-65-1, 64742-53-6, 178603-66-2, 64742-54-7, 445411-73-4

3 HAZARDS IDENTIFICATION

Hazards Overview:

Emergency overview: No specific hazard.

Specific Hazards:

Routes of entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Inhalation	Acute	No known significant effects or critical hazards.
Ingestion	Acute	No known significant effects or critical hazards.
Skin Contact	Acute	Slightly irritating to the skin.
Eye Contact	Acute	Slightly irritating to the eyes.

Medical Conditions Aggravated By Exposure:

Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated skin exposure

3 HAZARDS IDENTIFICATION

Medical Conditions Aggravated By Exposure:

can produce local skin destruction or dermatitis.

Additional Health Hazard Data:

Chronic effects: No known significant effects or critical hazards.
Chronic toxicity
Conclusion/Summary: Not available.

4 FIRST AID MEASURES

First Aid Procedures:

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.

First Aid By::

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.
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 skin thoroughly with soap and water or use recognized skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
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.
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.

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

Product Flammability:

FLAMMABILITY: May be combustible at high temperature.

Flash Point:

=	212	°C	Cleveland Open Cup
=	413.6	°F	Cleveland Open Cup

Explosive Limits:

Upper Explosive Limit (UEL)	Not Available
Lower Explosive Limit (LEL)	Not Available

Autoignition Temperature:

=	228	°C
=	442.4	°F

Extinguishing Media:

Suitable: Use an extinguishing agent suitable for the surrounding fire.

Non Suitable Extinguishing Media:

Not suitable: None known

Fire and Explosion Hazards:

Products of combustion: Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), aldehydes, smoke and irritating vapours as products of incomplete combustion.
Special remarks on fire hazards: Low fire hazard. This material must be heated before ignition will occur.
Special remarks on explosion hazards: Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of

5 FIRE FIGHTING MEASURES

Fire and Explosion Hazards:

ignition.

Special Fire Fighting Procedures:

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.

Comment:

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

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

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.

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).

SPILL OR LEAK PROCEDURES

Recovery:

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

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

Disposal:

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Put on appropriate personal protective equipment. 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. 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.

STORAGE

Storage Conditions:

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 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.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

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. Ensure that eyewash stations and safety showers are close to the workstation location.

EXPOSURE LIMITS

Comment:

OTHER EXPOSURE LIMITS: Consult local, state, provincial or territory authorities for acceptable exposure limits.
Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Respiratory Protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapor filter
Hand Protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: neoprene, nitrile, polyvinyl alcohol (PVA), Viton.
Eye Protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
Skin Protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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.

Special Precautions:

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.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: Blue
Odor: No odour or slight petroleum oil like.
Comment:

Physical State: Liquid
APPEARANCE: Viscous liquid.

PHYSICAL PROPERTIES

pH Value:

Concentrate	Not Available

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Changes of State:

Boiling Point	Not Available		
Pourpoint	=	- 48	°C
Pourpoint	=	-54	°F
Melting/Freezing Point	Not Available		

Vapor Pressure:

Not Available

Vapor Density:

Not Available

Evaporation Rate:

Not Available

Density:

Density	=	0.8508	kg/l	=	15	°C	59 ºF

Specific Gravity:

=	0.8508	=	15	°C	59 ºF

Solubility:

In Water	Insoluble

Viscosity:

Viscosity	=	34.41	=	40	°C	cSt @ 104 ºF
Viscosity	=	7.33	=	100	°C	cSt @ 212 ºFC, VI= 187

Total Amount Of::

Volatile	Not Available

Additional Chemical and Physical Data:

ODOR THRESHOLD	Not Available

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Incompatible Materials:

Reactive with oxidizing agents, reducing agents and acids.

Hazardous Polymerization:

Under normal conditions of storage and use, hazardous polymerization will not occur.

Comment:

STABILITY: The product is stable .

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Hazardous decomposition products: May release COx, NOx, SOx, methacrylate monomers, aldehydes, smoke and irritating vapours when heated to decomposition.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

TOXICOLOGICAL EFFECTS

Product Data:

Investigated Effect	Route of Administration	Comment Observed
Sensitization	Skin Contact	This product is not expected to be a skin sensitizer, based on the available data and the known hazards of the components.
Sensitization	Inhalation	This product is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.

LETHAL LIMIT VALUES

Product Data:

Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
oral	LD50	>	5000	mg/kg	Rat	
dermal	LD50	>	2000	mg/kg	Rabbit	
Inhalation	LC50	>	5.2	mg/l	Rat	4 hours

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

Not listed as carcinogenic by OSHA, NTP or IARC.
Conclusion/Summary: Not available.
Mixture of severely hydrotreated and hydrocracked base oil (petroleum). : ACGIH: A4; IARC: --; EPA: ---; NIOSH: ---; NTP: ---; OSHA: ---
U.S. Federal regulations/ State regulations: California Prop. 65: This product contains an ingredient(s) for which the State of California has found to cause cancer.

Mutagenicity:

No known significant effects or critical hazards.
Conclusion/Summary: Not available.

Reproductive Effects:

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.
Conclusion/Summary: Not available.
U.S. Federal regulations/ State regulations: California Prop. 65: This product contains an ingredient(s) for which the State of California has found to cause birth defects or other reproductive harm.

Allergen Or Sensitivity:

Sensitizer
Conclusion/Summary: Not available.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

No known significant effects or critical hazards.
Biodeqradability Conclusion/Summary: Not available.
Other adverse effects: No known significant effects or critical hazards.

ECOTOXICITY

Comment:

Aquatic ecotoxicity Conclusion/Summary: Not available.

13 DISPOSAL CONSIDERATIONS

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

14 TRANSPORT INFORMATION

DOT UN Code:

Not regulated

Comment:

SPECIAL PROVISIONS FOR TRANSPORT: Not applicable.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	1
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	1
NFPA Reactivity	0
HMIS PPE	B

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

OSHA/HCS status	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
United States inventory (TSCA 8b)	All components are listed or exempted.

STATE/LOCAL REGULATIONS

Comment:

U.S. Federal regulations/ State regulations: California Prop. 65: This product contains an ingredient(s) for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute.

16 OTHER INFORMATION

Comments:

ADDITIONAL EXPOSURE LIMITS: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: 3309 US ATF

Recommended Use:

Hydraulic/transmission fluid.

External Keys:

9986195	Productive Materials
22689186	SPO Catalog Discontinued
10-4028, 88900925	Distributable Material (Part #)
FLUID-A/TRANS (AISIN)	SPO Catalog Discontinued
ACDELCO T-IV AUTOMATIC TRANSMISSION FLUID	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: Exxon Mobil Corporation

Address:

3225 Gallows Rd.	USA	Virginia	22037	Fairfax		Corporate
13501 Katy Freeway	USA	Texas	77079	Houston		Synthetics Business Unit
Новинский бульвар, 31	RUS			Москва	123242	Mailing

Communication Lines:

Phone	609-737-4411	24HOUR HEALTH EMERGENCY
Phone	800-424-9300	TRANSPORTATION EMERGENCY PHONE
Phone	281-834-3296	EXXONMOBIL TRANSPORATION NO.
Phone	800-662-4525, 800-947-9147	PRODUCT TECHNICAL INFORMATION.
Phone	732-321-6048	Technical Information
Phone	609-737-4411	Health Emergency
Phone	800-424-9300	Transportation Emergency (CHEMTREC)
Phone	202-483-7616	Transportation Emergency
Phone	+4952322223	

Comment:

Prepared By: Imperial Oil Limited, IH and Product Safety

2 INGREDIENT INFORMATION

Synonyms:

Product Code: 520064-00, 97T870.

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
Lubricating oils, petroleum, C15-30, hydrotreated neutral oil-based	72623-86-0	Range	10-20	%Wt	No

Comment:

All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

3 HAZARDS IDENTIFICATION

Hazards Overview:

POTENTIAL HEALTH EFFECTS: Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

ENVIRONMENTAL HAZARDS: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	Low order of toxicity. Excessive exposure may result in skin irritation. High-pressure injection under skin may cause serious damage.
Eye Contact	General	Low order of toxicity. Excessive exposure may result in eye irritation.
Inhalation	General	Low order of toxicity. Excessive exposure may result in respiratory irritation.

Medical Conditions Aggravated By Exposure:

Not provided.

Comment:

Additional Health Hazard Data: VARIABILITY AMONG INDIVIDUALS: HEALTH STUDIES HAVE SHOWN THAT MANY PETROLEUM HYDROCARBONS AND SYNTHETIC LUBRICANTS POSE POTENTIAL HUMAN HEALTH RISKS WHICH MAY VARY FROM PERSON TO PERSON. AS A PRECAUTION EXPOSURE TO LIQUIDS, VAPORS, MISTS OR FUMES SHOULD BE MINIMIZED.

4 FIRST AID MEASURES

First Aid By::

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.

5 FIRE FIGHTING MEASURES

Flash Point:

= 365 °F > 185 C. ASTM D-92

Explosive Limits:

Upper Explosive Limit (UEL)	=	7	%Vol	Flammable Limits (Approximate volume % in air).
Lower Explosive Limit (LEL)	=	0.9	%Vol	Flammable Limits (Approximate volume % in air).

Autoignition Temperature:

Not Determined

Extinguishing Media:

Use water fog, foam, dry chemical or carbon dioxide (C02) to extinguish flames.

Non Suitable Extinguishing Media:

Straight Streams of Water

Special Fire Fighting Procedures:

Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to oool fire exposed surfaces and to protect personnel.

5 FIRE FIGHTING MEASURES

Comment:

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Incomplete combustion products, Oxides of carbon.

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Environmental Precautions:

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SPILL OR LEAK PROCEDURES

Recovery:

SPILL MANAGEMENT:
Land Spill: Stop leak If you can do it without risk. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. 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 end 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.

Comment:

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 reaoh any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Prevent small spills and leakage to avoid slip hazard.
Static Accumulator: This material is a static accumulator.

STORAGE

Storage Conditions:

Do not store in open or unlabeled containers.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

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 PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	If contact is likely, safety glasses with side shields are recommended.
Skin 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.
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

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

	applicable. Types of respirators to be considered for this material include: No special requirements under ordinary conditions of use and with adequate ventilation, For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.
Hand Protection	Contact local health and safety representative for appropriate glove type for your specific application(s).

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.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: Red
Odor: Characteristic.
Comment:
Physical State: Liquid.

PHYSICAL PROPERTIES

pH Value:

Not Applicable

Changes of State:

Boiling Point	Not Determined	
Melting/Freezing Point	N/A	Melting Point.

Vapor Pressure:

<	0.013	kPa	(0.1 mm Hg) at 20°C

Vapor Density:

>	2	at 101 kPa (Air = 1).

Evaporation Rate:

<	1	(N-Butyl Acetate = 1)

Specific Gravity:

=	0.86	at 15 C.

Solubility:

Water	Negligible

Viscosity:

Viscosity	>	30	cSt (30 mm²/sec) at 40°C | 7.25 cSt (7.25 mm²/sec) at 100 °C

Additional Chemical and Physical Data:

Log Pow (n-Octanol/Water Partition Coefficient):	>	3.5

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Additional Chemical and Physical Data:

DMSO Extract (mineral oil only), IP-346:	<	3	%wt

Comment:

Typical physical and chemical properties are given above. Consult the Supplier in Section 1 for additional data.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Excessive heat. High energy sources of ignition.

Incompatible Materials:

Strong oxidizers.

Hazardous Polymerization:

Will not occur.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

TOXICOLOGICAL EFFECTS

Product Data:

Route of Administration	Comment Observed
Inhalation	Irritation: No end point data. Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Skin Contact	Irritation (Rabbit): Data available. Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye Contact	Irritation (Rabbit): Data available. May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

LETHAL LIMIT VALUES

Product Data:

Exposure Routes	Type	Prefix	Value	Unit	Species	Comment
Inhalation	LC50	>	5000	mg/m3	Rat	Minimally Toxic. Based on assessment of the components.
Ingestion	LD50	>	5000	mg/kg	Rat	Minimally Toxic. Based on test data for structurally similar materials.
Skin Contact	LD50	>	5000	mg/kg	Rabbit	Minimally Toxic. Based on test data for structurally similar materials.

CLASSIFICATION OF INGREDIENTS

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

CHRONIC/OTHER EFFECTS 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.
NTP CARC, NTP SUS, IARC 1, IARC 2A, AIRC 2B, OSHA CARC. NONE

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

The information given is based on data available for the material, the components of the material, and similar materials.
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.

ECOTOXICITY

Comment:

The information given is based on data available for the material, the components of the material, and similar materials.
Material: Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

DISPOSAL RECOMMENDATIONS: Product is suitable for burning In an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.
REGULATORY DISPOSAL INFORMATION: RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous
waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.
Empty Container Waning 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.

14 TRANSPORT INFORMATION

DOT Information:

Not Regulated for Land Transport

Comment:

LAND (TDG) : Not Regulated for Land Transport.
SEA (IMDG)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ALKYL PHOSPHITE)
Hazard Class & Division: 9
EMS Number: F-A. S-F
UN Number. 3082
Packing Group: III
Marine Pollutant: Yes
Label(s): 9
Transport Document Name: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID.

14 TRANSPORT INFORMATION

Comment:

N.O.S. (Alkyl phosphite). 9. PG III, MARINE POLLUTANT
AIR (IATA)
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (ALKYL PHOSPHITE)
Hazard Class & Division: 9
UN Number 3082
Packing Group: III
Label(s) / Mark(s): 9. EHS
Transport Document Name: UN3082. ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Alkyl phosphite), 9, PG III

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	0
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	0
NFPA Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: No
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

TSCA: Listed.

16 OTHER INFORMATION

Comments:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

Prod.Name: TB1281B SILICONE RUBBER COMPOUND **Manufacturer:** Three Bond International, Inc. **Supplier:** GM of Canada - Oshawa **HMCS ID:** 352275 **SUC:** 06 - Adhesives, Sealers - General	**MATERIAL SAFETY DATA SHEET**	**Revision:** 26.Mar.2002 **Effective:** 26.Mar.2002 **Print Date:** 05.Apr.2013 **Page:** 1 of 9

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: TB1281B SILICONE RUBBER COMPOUND

External Keys:

CN35274	GM of Canada Approval Number
10-2011, 89020326	Distributable Material (Part #)
ACDELCO SILICONE SEALANT	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: Three Bond International, Inc.

Address:

6184 SCHUMACHER PARK DRIVE	USA	OHIO	45069	WEST CHESTER	MAILING

Communication Lines:

Phone	800-424-9300	CHEMTREC
Phone	513-779-7300	EMERGENCY

SUPPLIER INFORMATION

Supplier: GM of Canada - Oshawa

Address:

1908 Colonel Sam Drive	CAN	ON	L1H8P7	Oshawa	Mailing

Comment:

MOLECULAR FORMULA: NOT APPLICABLE. MATERIAL USES: INDUSTRIAL APPLICATIONS: ONE COMPONENT SILICONE RUBBER COMPOUND. EMERGENCY OVERVIEW: REACTS WITH WATER OR AIR MOISTURE AND GRADUALLY GENERATES METHYL ETHYL KETOXIME (MEKO) 96-29-7. SEE MEKO'S EXPOSURE LIMITS. CAUSES MILD IRRITATION TO THE SKIN AND CAN BE ABSORBED THROUGH THE SKIN. CAUSES SEVERE EYE IRRITATION. SHOWS NARCOTIC ACTION IN HIGH CONCENTRATION BY INHALATION. SKIN SENSITIZER. TOLUENE 108-88-3 CAUSES IRRITATION OF EYE, SKIN, MUCOUS MEMBRANE & UPPER RESPIRATORY. CONTACT CAN CAUSE CHEMICAL BURNS. SYMPTOMS OF INHALATION EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING. EXPOSURE CAN CAUSE LUNG IRRITATION, CHEST PAIN AND OEDEMA WHICH MAY BE FATAL HARMFUL IF SWALLOWED. SIGNS AND SYMPTOMS OF EXPOSURE THROUGH SWALLOWING AND SKIN CONTACT MAY INCLUDE: METALLIC TASTE, STOMACH AND INTESTINAL UPSET (NAUSEA, VOMITING, DIARRHEA), IRRITATION (NOSE, THROAT, AIRWAYS), CENTRAL NERVOUS SYSTEM DEPRESSION (DIZZINESS, WEAKNESS, DROWSINESS, FATIGUE, NAUSEA, HEADACHE AND UNCONSCIOUSNESS), OR CENTRAL NERVOUS SYSTEM EXCITATION (LIGHT-HEADED FEELING). AVOID CONTACT WITH EYES. KEEP CONTAINER CLOSED. USE ONLY WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. PROVIDE LOCAL EXHAUST SYSTEM. VALIDATED BY THREEBOND.

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
2-BUTANONE, OXIME	96-29-7	<	1	%Wt	No
TOLUENE	108-88-3	Range	4	%Wt	Yes
IRON(III) OXIDE	1309-37-1	Range	2	%Wt	Yes
ZINC OXIDE	1314-13-2	Range	25 - 35	%Wt	Yes
2-Butanone, O,O',O''-(ethenylsilylidyne)trioxime	2224-33-1	Range	5 - 15	%Wt	No
Silane, dichlorodimethyl-, reaction products with silica	68611-44-9	<	1	%Wt	No
SILICA, AMORPHOUS FUMED	112945-52-5	Range	5 - 15	%Wt	No

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
CATALYST	989901-66-9	<	1	%Wt	No
SILICONE OIL	989903-82-3	Range	1 - 10	%Wt	No
SILICONE RESIN	989920-75-3	Range	35 - 45	%Wt	No
ADDITIVES	989922-74-6	Range	1 - 10	%Wt	No

Comment:

Other Information: THE PRODUCT CONTAINS 1-10% OF CAS # 989922746 WHICH IS ADDITIVES. OF THIS 1-10%, THERE IS <1% OF A SILANE ADDITIVE, A CURE ADDITIVE AND A CATALYST. 1-10% OF THE ENTIRE PRODUCT IS ALSO A SILICONE OIL ADDITIVE.

3 HAZARDS IDENTIFICATION

Hazards Overview:

Skin Primary Entry: Yes. Eye Primary Entry: Yes. Inhalation Primary Entry: Yes. Ingestion Primary Entry: Yes.

Specific Hazards:

96-29-7 MEKO, A CURING REACTION BY-PRODUCT, MAY BE ABSORBED THROUGH SKIN, EYE CONTACT, INHALATION AND INGESTION.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	POTENTIAL ACUTE HEALTH EFFECTS: ON DIRECT CONTACT, UNHARDENED PRODUCT OR ITS VAPOR ONLY CAUSE MINOR IRRITATION. MEKO 96-29-7: MILDLY IRRITATING TO THE SKIN. POTENTIAL CHRONIC HEALTH EFFECTS: POSSIBLE SKIN SENSITIZER. SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: 108-88-3 CAUSES IRRITATION OF SKIN.
Eye Contact	General	POTENTIAL ACUTE HEALTH EFFECTS: UNHARDENED PRODUCT AND ITS VAPORS ONLY CAUSE MINOR IRRITATION. MEKO 96-29-7, A BY-PRODUCT IS SEVERE EYE IRRITANT. SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: 108-88-3 CAUSES IRRITATION OF EYE.
Inhalation	General	POTENTIAL ACUTE HEALTH EFFECTS: OVEREXPOSURE TO REACTION BY-PRODUCT MEKO 96-29-7 VAPORS CAUSES DROWSINESS AND MAY IRRITATE NOSE AND THROAT. 108-88-3 CAUSES IRRITATION OF THE RESPIRATORY TRACT. EXPOSURE CAN CAUSE LUNG IRRITATION, CHEST PAIN AND OEDEMA WHICH MAY BE FATAL. SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.
Ingestion	General	POTENTIAL ACUTE HEALTH EFFECTS: MAY BE FATAL IF LARGE AMOUNT IS SWALLOWED.

3 HAZARDS IDENTIFICATION

Medical Conditions Aggravated By Exposure:

PREEXISTING EYE, SKIN OR RESPIRATORY TRACT CONDITIONS MAY BE AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT.

Comment:

Additional Health Hazard Data: TARGET ORGAN: NERVES, LIVER, KIDNEYS, BLOOD, EYES AND EARS. OVEREXPOSURE SIGNS/SYMPTOMS: OVEREXPOSURE TO REACTION BY-PRODUCT MEKO'S 96-29-7 VAPORS CAUSES DROWSINESS AND MAY IRRITATE NOSE AND THROAT. SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: 108-88-3 CAUSES IRRITATION OF MUCOUS MEMBRANE & UPPER RESPIRATORY. CONTACT CAN CAUSE CHEMICAL BURNS. MAY CAUSE LIVER AND KIDNEY EFFECTS. EXPOSURE CAN CAUSE LUNG IRRITATION, CHEST PAIN AND OEDEMA WHICH MAY BE FATAL. SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING. SYMPTOMS OF EXPOSURE: SIGNS AND SYMPTOMS OF EXPOSURE THROUGH BREATHING, SWALLOWING AND SKIN CONTACT MAY INCLUDE: METALLIC TASTE, STOMACH AND INTESTINAL UPSET (NAUSEA, VOMITING, DIARRHEA), IRRITATION (NOSE, THROAT, AIRWAYS, CENTRAL NERVOUS SYSTEM DEPRESSION (DIZZINESS, WEAKNESS, DROWSINESS, FATIGUE, NAUSEA, HEADACHE AND UNCONSCIOUSNESS), OR CENTRAL NERVOUS SYSTEM EXCITATION (LIGHT-HEADED FEELING). OVEREXPOSURE TO 108-88-3 HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING TO HUMANS: CARDIAC SENSITIZATION AND KIDNEY DAMAGE. SPECIAL REMARKS ON OTHER TOXIC EFFECTS ON HUMANS: NO ADDITIONAL REMARK. POTENTIAL CHRONIC HEALTH EFFECTS: PROLONGED 108-88-3 CONTACT MAY LEAD TO DAMAGE TO MANY ORGAN SYSTEMS HAVING EFFECTS ON: CENTRAL AND PERIPHERAL NERVOUS SYSTEMS, VISION, HEARING, LIVER, KIDNEYS, HEART AND BLOOD. SUCH ABUSE HAS BEEN ASSOCIATED WITH BRAIN DAMAGE CHARACTERIZED BY PERSONALITY CHANGES AND LOSS OF MEMORY. CHRONIC EFFECTS ON HUMANS: THE TOXICOLOGICAL DATA ARE THE MEKO'S, A REACTION BY-PRODUCT GENERATED WITH CONTACT OF PRODUCT AND WATER OR AIR MOISTURE. OVEREXPOSURE TO VAPORS MAY CAUSE DROWSINESS AND MAY IRRITATE NOSE AND THROAT.

4 FIRST AID MEASURES

First Aid By::

Inhalation	IF SYMPTOMS OF PROLONGED EXPOSURE TO CONCENTRATED MATERIAL VAPORS APPEAR, REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, LOOSEN ANY RESTRICTIVE CLOTHING AND PROVIDE OXYGEN AND GET MEDICAL CARE IF NECESSARY.
Skin Contact	AFTER CONTACT WITH SKIN WASH IMMEDIATELY WITH PLENTY OF WATER. GENTLY AND THOROUGHLY WASH THE CONTAMINATED SKIN WITH RUNNING WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. WASH CONTAMINATED CLOTHING BEFORE REUSING.
Eye Contact	CHECK FOR AND REMOVE ANY CONTACT LENSES. DO NOT USE AN EYE OINTMENT. IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR AT LEAST 15 MINUTES, KEEPING EYELIDS OPEN. SEEK MEDICAL ATTENTION.
Ingestion	RINSE MOUTH WELL WITH WATER. NEVER GIVE AN UNCONSCIOUS PERSON ANYTHING TO INGEST. SEEK MEDICAL ATTENTION.

Notes To Physician:

NOT AVAILABLE.

5 FIRE FIGHTING MEASURES

Flash Point:

Flash Point Text:NOT APPLICABLE FOR A SOLID PRODUCT.

Fire and Explosion Hazards:

FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES: EMITS TOXIC FUMES WHEN BURNED. EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES: NONE KNOWN. SPECIAL REMARKS ON FIRE HAZARDS: WHEN BURNED IT EMITS TOXIC FUMES. SPECIAL REMARKS ON EXPLOSION HAZARDS: NO ADDITIONAL REMARK.

Special Fire Fighting Procedures:

PROTECTIVE CLOTHING (FIRE) WEAR APPROPRIATE RESPIRATOR WHEN VENTILATION IS INADEQUATE.

Comment:

5 FIRE FIGHTING MEASURES

Comment:

FLAMMABILITY OF THE PRODUCT: MAY BURN WHEN EXPOSED TO FIRE. FLAMMABLE LIMITS: NOT AVAILABLE. PRODUCTS OF COMBUSTION: SILICON DIOXIDE, CARBON OXIDES (CO, CO2) NITROGEN OXIDES (NO, NO2), FORMALDEHYDE. METALLIC FUMES. HAZARDOUS DECOMPOSITION PRODUCTS: WATER, MOISTURE OR HUMID AIR CAN CAUSE THE PRODUCT TO PRODUCE METHYL ETHYL KETOXIME. THERMAL BREAKDOWN OF THIS PRODUCT DURING FIRE OR VERY HIGH HEAT CONDITION MAY EVOLVE THE FOLLOWING HAZARDOUS DECOMPOSITION PRODUCT: CARBON OXIDES AND TRACES OF INCOMPLETELY BURNED CARBON COMPOUNDS. SILICON DIOXIDE, NITROGEN OXIDES, FORMALDEHYDE AND METAL OXIDES.

6 ACCIDENTAL RELEASE MEASURES

Comment:

Spill or Leak Procedures: SMALL SPILL AND LEAK: ABSORB WITH AN INERT MATERIAL AND PUT THE SPILLED MATERIAL IN AN APPROPRIATE WASTE DISPOSAL CONTAINER. DISPOSAL OF COLLECTED MATERIAL, RESIDUES AND CLEANUP MATERIALS MAY BE GOVERNMENTALLY REGULATED. OBSERVE ALL APPLICABLE LOCAL, STATE AND FEDERAL WASTE MANAGEMENT REGULATIONS. LARGE SPILL AND LEAK: SEE SECTION 8 FOR PERSONAL PROTECTIVE EQUIPMENT FOR SPILLS. ABSORB WITH AN INERT MATERIAL AND PUT THE SPILLED MATERIAL IN AN APPROPRIATE WASTE DISPOSAL CONTAINER. DISPOSAL OF COLLECTED MATERIAL, RESIDUES AND CLEANUP MATERIALS MAY BE GOVERNMENTALLY REGULATED. OBSERVE ALL APPLICABLE LOCAL, STATE AND FEDERAL WASTE MANAGEMENT REGULATIONS. PERSONAL PROTECTION IN CASE OF A LARGE SPILL: SPLASH GOGGLES. GLOVES. A SELF CONTAINED BREATHING APPARATUS SHOULD BE USED TO AVOID INHALATION OF THE PRODUCT. CLOTHING COVERALLS RECOMMENDED.

7 HANDLING AND STORAGE

STORAGE

Additional Information on Storage Conditions:

Precautions to be Taken in Handling and Storage: AVOID CONTACT WITH EYES. KEEP CONTAINER CLOSED. USE ONLY WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. AVOID USE IN NON-VENTILATED AREAS. PRODUCT THAT MAY PRODUCT MEKO 96-29-7, MUST BE STORED TO AVOID CONTACT WITH STRONG OXIDIZERS (SUCH AS CHLORINE, BROMINE AND FLUORINE), SINCE VIOLENT REACTION OCCUR. STORE IN TIGHTLY CLOSED CONTAINERS IN A COOL, WELL-VENTILATED AREA. STORE AWAY FROM HEAT, SPARKS AND FLAME. SOURCE OF IGNITION SUCH AS SMOKING AND OPEN FLAMES ARE PROHIBITED WHERE METHYL ETHYL KETONE ARE USED, HANDLED, OR STORED. METAL CONTAINER INVOLVING THE TRANSFER OF 5 GALLONS OR MORE OF METHYL ETHYL KETONE SHOULD BE GROUNDED AND BONDED. DRUMS MUST BE EQUIPPED WITH SELF-CLOSING VALVES, PRESSURE VACUUM BUNGS AND FLAME ARRESTERS. USE ONLY NON-SPARKING TOOLS AND EQUIPMENT, ESPECIALLY WHEN OPENING AND CLOSING CONTAINERS OF PRODUCT CONTAINING METHYL ETHYL KETOXIME.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Engineering Controls: VENTILATION IS NORMALLY REQUIRED WHEN HANDLING OR USING THIS PRODUCT. LOCAL EXHAUST IS RECOMMENDED FOR BULK REPACKAGING OR CONTINUOUS LARGE QUANTITY USE.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
TOLUENE	108-88-3	PEL-TWA	200ppm	-	OSHA - Permissible Exposure Limits (PELs)
TOLUENE	108-88-3	PEL-Ceiling	300ppm	-	OSHA - Permissible Exposure Limits (PELs)
TOLUENE	108-88-3	GM OEG -TWA	100ppm	-	Threshold Limit Values (TLVs) -

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
TOLUENE	108-88-3	GM OEG -STEL	150ppm	-	ACGIH Threshold Limit Values (TLVs) - ACGIH
TOLUENE	108-88-3	TLV-TWA	50ppm	-	GM Occupational Exposure Guidelines (OEG)
TOLUENE	108-88-3	State-TWA	100ppm	-	MICHIGAN
TOLUENE	108-88-3	State-STEL	150ppm	-	MICHIGAN
TOLUENE	108-88-3	State-TWA	100ppm	-	NEW YORK
TOLUENE	108-88-3	State-STEL	150ppm	-	NEW YORK
TOLUENE	108-88-3	State-TWA	100ppm	-	TENNESSEE
TOLUENE	108-88-3	State-STEL	150ppm	-	TENNESSEE
IRON(III) OXIDE	1309-37-1	PEL-TWA	10mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
IRON(III) OXIDE	1309-37-1	GM OEG -TWA	5mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
IRON(III) OXIDE	1309-37-1	TLV-TWA	5mg/m3	-	GM Occupational Exposure Guidelines (OEG)
IRON(III) OXIDE	1309-37-1	State-TWA	10mg/m3	-	MICHIGAN
IRON(III) OXIDE	1309-37-1	State-TWA	10mg/m3	-	NEW YORK
IRON(III) OXIDE	1309-37-1	State-TWA	10mg/m3	-	TENNESSEE
ZINC OXIDE	1314-13-2	PEL-TWA	15mg/m3	-	OSHA - Permissible Exposure Limits (PELs)
ZINC OXIDE	1314-13-2	GM OEG -TWA	10mg/m3	-	Threshold Limit Values (TLVs) - ACGIH
ZINC OXIDE	1314-13-2	TLV-TWA	2mg/m3	-	GM Occupational Exposure Guidelines (OEG)
ZINC OXIDE	1314-13-2	TLV-STEL	10mg/m3	-	GM Occupational

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
ZINC OXIDE	1314-13-2	State-TWA	10mg/m3	-	Exposure Guidelines (OEG) MICHIGAN
ZINC OXIDE	1314-13-2	State-TWA	10mg/m3	-	NEW YORK
ZINC OXIDE	1314-13-2	State-TWA	10mg/m3	-	TENNESSEE

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	SAFETY GLASSES
Skin Protection	BODY: CLOTHING COVERALLS RECOMMENDED. FEET: CHEMICAL RESISTANT SHOES.
Respiratory Protection	IN CASE OF INSUFFICIENT VENTILATION, WEAR SUITABLE RESPIRATORY EQUIPMENT.
Hand Protection	GLOVES (DISPOSABLE, VINYL).

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Solid
Color: RED PASTE. TASTE: NOT AVAILABLE. COLOR: RED.
Odor: OXIME ODOR. ODOR THRESHOLD: NOT AVAILABLE.

PHYSICAL PROPERTIES

pH Value:

Solution	(1% SOLN/WATER) BASIC

Changes of State:

Boiling Point				BOILING/CONDENSATION POINT: NOT APPLICABLE.
Melting/Freezing Point	=	1690.45	C	WEIGHTED AVERAGE. 1700 C (3092 F) BASED ON DATA FOR: AEROSOL R812S.
Melting/Freezing Point	=	3074.8	F	WEIGHTED AVERAGE. 1700 C (3092 F) BASED ON DATA FOR: AEROSOL R812S.

Vapor Pressure:

NOT AVAILABLE

Vapor Density:

NOT AVAILABLE

Evaporation Rate:

< 1

Specific Gravity:

= 1.4 WATER=1

Solubility:

Water Solubility in Water Text:INSOLUBLE IN WATER.

Viscosity:

NOT APPLICABLE.

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Viscosity:

Viscosity

Total Amount Of::

Percent Volatile by Weight NOT AVAILABLE

Additional Chemical and Physical Data:

Molecular Weight NOT APPLICABLE

Comment:

CRITICAL TEMPERATURE: NOT APPLICABLE. LOGKOW: NOT APPLICABLE. IONICITY (IN WATER): NOT APPLICABLE. DISPERSION PROPERTIES: IS NOT DISPERSED IN WATER. PHYSICAL CHEMICAL COMMENTS: NONE.

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Hazardous Polymerization:

Hazardous Polymerization: None.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	WATER, MOISTURE OR HUMID AIR CAN CAUSE THE PRODUCT TO PRODUCE METHYL ETHYL KETOXIME. THERMAL BREAKDOWN OF THIS PRODUCT DURING FIRE OR VERY HIGH HEAT CONDITION MAY EVOLVE THE FOLLOWING HAZARDOUS DECOMPOSITION PRODUCT: CARBON OXIDES AND TRACES OF INCOMPLETELY BURNED CARBON COMPOUNDS. SILICON DIOXIDE, NITROGEN OXIDES, FORMALDEHYDE AND METAL OXIDES.

Comment:

Stability Text: THE PRODUCT IS STABLE. CONDITIONS OF INSTABILITY: AVOID EXPOSURE TO AIR AND MOISTURE UNTIL READY TO USE BECAUSE THEY CAUSE CURING AND METHYL ETHYL KETOXIME VAPORS FORM GRADUALLY. INCOMPATIBILITY WITH VARIOUS SUBSTANCES: WATER OR MOISTURE.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Carcingenicity:

MEKO 96-29-7 IS CLASSIFIED AS MAK-2: SUBSTANCES THAT ARE CONSIDERED TO BE CARCINOGENIC FOR HUMANS BECAUSE SUFFICIENT DATA FROM LONG-TERM ANIMAL STUDIES OR LIMITED EVIDENCE FROM ANIMAL STUDIES SUBSTANTIATED BY EVIDENCE FROM EPIDEMIOLOGICAL STUDIES INDICATE THAT THEY CAN MAKE SIGNIFICANT CONTRIBUTION TO CANCER RISK. MEKO: MALE RODENTS EXPOSED TO MEKO VAPOR AT HIGH CONCENTRATION THROUGHOUT THEIR LIFE TIME DEVELOPED LIVER CANCER. BUT RELEVANCE TO HUMANS IS UNCERTAIN NOW.

Comment:

Toxicological Data Unlimited Text: ADDITIONAL TOXICOLOGY DATA ON INDIVIDUAL INGREDIENTS IS AVAILABLE AT THE MSDS PROCESSING CENTER.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

ECOTOXICITY, BOD5 AND COD, BIODEGRADABLE/OECD, MOBILITY, PRODUCTS OF DEGRADATION: NOT AVAILABLE. TOXICITY OF THE PRODUCTS OF BIODEGRADATION: MATERIAL WILL REACT WITH WATER, RELEASING MEKO WHICH HAS BEEN DETERMINED TO BE BIODEGRADABLE AND HAS A STATIC 96 HOURS LC50 OF 48 MG/L (BLUEGILL) AND A 48 HOUR EC50 OF 750 MG/L (DAPHNIA). 2224-33-1.

13 DISPOSAL CONSIDERATIONS

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

WASTE MUST BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. WASTE STREAM: NOT AVAILABLE. CONSULT YOUR LOCAL OR REGIONAL AUTHORITIES.

14 TRANSPORT INFORMATION

DOT Information:

DOT CLASSIFICATION: NOT A CONTROLLED MATERIAL (UNITED STATES). NOT REGULATED. MARINE POLLUTANT: NOT AVAILABLE.

Comment:

SPECIAL PROVISIONS FOR TRANSPORT: HAZARD SUBSTANCE: ZINC OXIDE, 30% BY WEIGHT; REPORTABLE QUANTITY: 1000 LBS (454 KG). TOLUENE 0-4% BY WEIGHT; REPORTABLE QUANTITY: 1000 LBS (454 KG). ADR/RID CLASSIFICATION: NOT CONTROLLED UNDER ADR (EUROPE). IMO/IMDG CLASSIFICATION: NOT CONTROLLED UNDER IMDG. ICAO/IATA CLASSIFICATION: NOT CONTROLLED UNDER IATA.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	2
HMIS Health	2
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	2
NFPA Reactivity	2

NATIONAL REGULATIONS

Immediate Health: Yes
Delayed Health: No
Comment:

RCRA Hazardous Waste Number Text: THIS PRODUCT CONTENTS RCRA HAZARDOUS WASTE MATERIAL. EPA-RCRA # U-220, D001 (108-88-3).

Comment:

HCS CLASSIFICATION: CLASS: WATER REACTIVE MATERIAL. CLASS: IRRITATING SUBSTANCE. CLASS: SENSITIZING SUBSTANCE. CLASS: TARGET ORGAN EFFECTS. U.S. FEDERAL REGULATIONS: TSCA: ALL MATERIAL CONTAINED IN THIS PRODUCT ARE IN COMPLIANCE WITH TSCA. SARA 302/304/311/312 EXTREMELY HAZARDOUS SUBSTANCES: NO PRODUCTS WERE FOUND. SARA 302/304 EMERGENCY PLANNING AND NOTIFICATION: NO PRODUCTS WERE FOUND. SARA 302/304/311/312 HAZARDOUS CHEMICALS: 108-88-3. SARA 311/312 MSDS DISTRIBUTION CHEMICAL INVENTORY HAZARD IDENTIFICATION: 108-88-3: FIRE, IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD. SARA 313 TOXIC CHEMICAL NOTIFICATION AND RELEASE REPORTING: ZINC OXIDE 1314-13-2 30%; TOLUENE 108-88-3 2%. CLEAN WATER ACT (CWA) 307: NO PRODUCTS WERE FOUND. CLEAN WATER ACT (CWA) 311: NO PRODUCTS WERE FOUND. CLEAN AIR ACT (CAA) 112 ACCIDENTAL RELEASE PREVENTION: NO PRODUCTS WERE FOUND. CLEAN AIR ACT (CAA) 112 REGULATED FLAMMABLE SUBSTANCES: TOLUENE 108-88-3. CLEAN AIR ACT (CAA) 112 REGULATED TOXIC SUBSTANCES: NO PRODUCTS WERE FOUND. INTERNATIONAL REGULATIONS: EINECS: NOT AVAILABLE. DSCL (EEC): R20/22 HARMFUL BY INHALATION AND IF SWALLOWED. R43 MAY CAUSE SENSITIZATION BY SKIN CONTACT. R14 REACTS VIOLENTLY WITH WATER. R2 RISK OF EXPLOSION BY SHOCK, FRICTION, FIRE OR OTHER SOURCES OF IGNITION. R36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN. R47 MAY CAUSE BIRTH DEFECTS. INTERNATIONAL LISTS: NO PRODUCTS WERE FOUND. STATE REGULATIONS: NO PRODUCTS WERE FOUND. CALIFORNIA PROP. 65: THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS FOR WHICH THE STATE OF CALIFORNIA HAS FOUND TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM, WHICH WOULD REQUIRE A WARNING UNDER THE STATUTE: TOLUENE 108-88-3. CALIFORNIA PROP. 65: THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS FOR WHICH THE STATE OF CALIFORNIA HAS FOUND TO CAUSE BIRTH DEFECTS WHICH WOULD REQUIRE A WARNING UNDER THE STATUTE: TOLUENE 108-88-3. SPECIAL PROVISIONS FOR TRANSPORT: HAZARD SUBSTANCE: ZINC OXIDE, 30% BY WEIGHT; REPORTABLE QUANTITY: 1000 LBS (454 KG). TOLUENE 0-4% BY WEIGHT; REPORTABLE QUANTITY: 1000 LBS (454 KG).

16 OTHER INFORMATION

Additional Comments:

LABEL REQUIREMENTS: REACTS WITH WATER OR AIR MOISTURE AND GRADUALLY GENERATES METHYL ETHYL KETOXIME (MEKO) 96-29-7. SEE MEKO'S EXPOSURE LIMITS. CAUSES MILD IRRITATION TO THE SKIN AND CAN BE ABSORBED THROUGH THE SKIN. CAUSES SEVERE EYE IRRITATION. SHOWS NARCOTIC ACTION IN HIGH CONCENTRATION BY INHALATION. SKIN SENSITIZER. TOLUENE 108-88-3 CAUSES IRRITATION OF EYE, SKIN, MUCOUS MEMBRANE & UPPER RESPIRATORY. CONTACT CAN CAUSE CHEMICAL BURNS. SYMPTOMS OF INHALATION EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING. EXPOSURE CAN CAUSE LUNG IRRITATION, CHEST PAIN AND OEDEMA WHICH MAY BE FATAL. HARMFUL IF SWALLOWED. SIGNS AND SYMPTOMS OF EXPOSURE THROUGH SWALLOWING AND SKIN CONTACT MAY INCLUDE: METALLIC TASTE, STOMACH AND INTESTINAL UPSET (NAUSEA, VOMITING, DIARRHEA), IRRITATION (NOSE, THROAT, AIRWAYS), CENTRAL NERVOUS SYSTEM DEPRESSION (DIZZINESS, WEAKNESS, DROWSINESS, FATIGUE, NAUSEA, HEADACHE AND UNCONSCIOUSNESS), OR CENTRAL NERVOUS SYSTEM EXCITATION (LIGHT-HEADED FEELING). HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S. A.): HEALTH 2, FIRE HAZARD 1, REACTIVITY 2, PERSONAL PROTECTION C. NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.) HEALTH 2, FIRE HAZARD 1, REACTIVITY 2. OTHER SPECIAL CONSIDERATIONS: CONTACT WITH WATER OR AIR MOISTURE WILL GRADUALLY GENERATE METHYL ETHYL KETOXIME (MEKO) 96-29-7. MALE RODENTS EXPOSED TO MEKO VAPOR AT HIGH CONCENTRATION THROUGHOUT THEIR LIFETIME DEVELOPED LIVER CANCER. BUT RELEVANCE TO HUMANS IS UNCERTAIN NOW.

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: FUSOR 127EZ, 128EZ, T24, TF24 PLASTIC BONDING SLOW ADH PART A

Recommended Use:

Product Use/Class: URETHANE ADHESIVE, PART 1 OF 2

External Keys:

89020330 Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: LORD CORPORATION

Address:

111 Lord Dive	USA	NORTH CAROLINA	27512-8012	CARY	MAILING

Communication Lines:

Phone	800-424-9300	CHEMTREC
Phone	614-763-2345	EMERGENCY
Phone	814-868-3611	INFO
Phone	703-527-3887	Chemtrec outside Continental US

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
ISOCYANIC ACID, METHYLENEDI-p-PHENYLENE ESTER	101-68-8	<	20	%Wt	Yes
Benzene, 1,1'-methylenebis [isocyanato-	26447-40-5	<	10	%Wt	No
AROMATIC POLYISOCYANATE	989908-30-3	<	15	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

EMERGENCY OVERVIEW: Harmful if inhaled. May cause allergic skin reaction. May cause allergic respiratory reaction. Causes skin and eye irritation. Causes respiratory tract irritation.

Specific Hazards:

PRIMARY ROUTE(S) OF ENTRY: Skin contact, inhalation, ingestion, eye contact.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	MAY CAUSE SKIN SENSITIZATION. MAY CAUSE DERMATITIS. CAUSES SKIN IRRITATION. Animal tests have indicated that respiratory sensitizatioii can result from skin contact with certain isoeyanatcs.
Eye Contact	General	CAUSES EYE IRRITATION.
Inhalation	General	POSSIBLE IRRITATION OF THE RESPIRATORY SYSTEM CAN OCCUR CAUSING A VARIETY OF SYMPTOMS SUCH AS DRYNESS OF THE THROAT, TIGHTNESS OF THE CHEST, AND SHORTNESS OF BREATH. ALLERGIC CONDITIONS CAN OCCUR IN CERTAIN INDIVIDUALS WITH HIGH SENSITIVITY TO ISOCYANATES; THIS

3 HAZARDS IDENTIFICATION

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
		MAY RESULT IN ASTHMA-LIKE SYMPTOMS. MAY CAUSE RESPIRATORY SENSITIZATION. MAY CAUSE LUNG DAMAGE.
Ingestion	General	HARMFUL IF SWALLOWED. INGESTION IS NOT AN EXPECTED ROUTE OF ENTRY IN INDUSTRIAL OR COMMERCIAL USES.

Effects Of Overexposure:

CHRONIC HAZARDS: May cause long-term lung damage. Chronic skin contact may cause dermatitis.

Medical Conditions Aggravated By Exposure:

Not provided.

4 FIRST AID MEASURES

First Aid By::

Inhalation	MOVE PERSON TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET IMMEDIATE MEDICAL ATTENTION.
Skin Contact	FLUSH CONTAMINATED SKIN WITH LARGE AMOUNTS OF WATER WHILE REMOVING CONTAMINATED CLOTHING. WASH AFFECTED SKIN AREAS WITH SOAP AND WATER. GET MEDICAL ATTENTION IF SYMPTOMS OCCUR.
Eye Contact	FLUSH EYES IMMEDIATELY WITH LARGE AMOUNT OF WATER FOR AT LEAST 15 MINUTES HOLDING EYELIDS OPEN WHILE FLUSHING. GET PROMPT MEDICAL ATTENTION.
Ingestion	IF SWALLOWED, DO NOT INDUCE VOMITING. GIVE VICTIM ONE OR TWO GLASSES OF WATER OR MILK. CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY FOR FURTHER INSTRUCTIONS. NEVER GIVE ANYTHING BY MOUTH IF VICTIM IS RAPIDLY LOSING CONSCIOUSNESS, UNCONSCIOUS OR CONVULSING.

5 FIRE FIGHTING MEASURES

Flash Point:

>	201	°F	SCC	93 ºC

Explosive Limits:

Upper Explosive Limit (UEL)	Not Applicable
Lower Explosive Limit (LEL)	Not Applicable

Autoignition Temperature:

Not Determined

Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

Fire and Explosion Hazards:

UNUSUAL FIRE AND EXPLOSION HAZARDS: During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion. Keep containers tightly closed. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool.

Special Fire Fighting Procedures:

If water is used, fog nozzles are preferable.

Comment:

Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA).

6 ACCIDENTAL RELEASE MEASURES

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Keep non-essential personnel a safe distance away from the spill area. Avoid breathing vapors. Use self-contained breathing equipment. Avoid contact. Before attempting cleanup, refer to hazard caution information in other sections of the MSDS form.

Environmental Precautions:

Notify appropriate authorities if necessary.

SPILL OR LEAK PROCEDURES

Recovery:

Scoop spilled material into an appropriate container for proper disposal (If necessary,, use inert absorbent material to aid in containing the spill).

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Keep closure tight and container upright to prevent leakage. Avoid skin and eye contact. Wash thoroughly after handling. Avoid breathing of vapor or spray mists. Do not handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation.

STORAGE

Storage Conditions:

Store only in well ventilated areas. Keep container closed when not in use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

SUFFICIENT VENTILATION IN PATTERN AND VOLUME SHOULD BE PROVIDED IN ORDER TO MAINTAIN AIR CONTAMINANT LEVELS BELOW RECOMMENDED EXPOSURE LIMITS.

EXPOSURE LIMITS

Limit Values:

Chemical Name	CAS Number	Type	Value	Specification	Source
ISOCYANIC ACID, METHYLENEDI -p-PHENYLENE ESTER	101-68-8	PEL-Ceiling	20ppb	-	OSHA - Permissible Exposure Limits (PELs)
ISOCYANIC ACID, METHYLENEDI -p-PHENYLENE ESTER	101-68-8	GM OEG -TWA	5ppb	-	GM Occupational Exposure Guidelines (OEG)
ISOCYANIC ACID, METHYLENEDI -p-PHENYLENE ESTER	101-68-8	GM OEG -Ceiling	20ppb	-	GM Occupational Exposure Guidelines (OEG)
ISOCYANIC ACID, METHYLENEDI -p-PHENYLENE ESTER	101-68-8	TLV-TWA	5ppb	-	Threshold Limit Values (TLVs) - ACGIH
ISOCYANIC ACID, METHYLENEDI -p-PHENYLENE ESTER	101-68-8	State-Ceiling	20ppb	-	MICHIGAN
ISOCYANIC ACID, METHYLENEDI -p-PHENYLENE ESTER	101-68-8	State-Ceiling	20ppb	-	NEW YORK
ISOCYANIC ACID, METHYLENEDI -p-PHENYLENE ESTER	101-68-8	State-Ceiling	200ppb	-	TENNESSEE

PERSONAL PROTECTIVE EQUIPMENT

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	USE SAFETY EYEWEAR INCLUDING SAFETY GLASSES WITH SIDE SHIELDS AND CHEMICAL GOGGLES WHERE SPLASHING MAY OCCUR.
Skin Protection	USE DISPOSABLE OR IMPERVIOUS CLOTHING IF WORK CLOTHING CONTAMINATION IS LIKELY. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE. USE LONG-SLEEVED SHIRT TO MINIMIZE SKIN EXPOSURE.
Respiratory Protection	THIS PRODUCT CONTAINS ISOCYANATES WHICH HAVE POOR ODOR WARNING PROPERTIES. IF OCCUPATIONAL EXPOSURE LIMITS ARE EXCEEDED, A NIOSH/MSHA APPROVED SUPPLIED-AIR RESPIRATOR IS REQUIRED. OBSERVE OSHA REGULATIONS (29 CFR 1910.134) FOR RESPIRATOR USE.
Hand Protection	USE NEOPRENE, NITRILE, OR RUBBER GLOVES TO PREVENT SKIN CONTACT.

Hygiene Measures:

WASH HANDS BEFORE EATING, SMOKING, OR USING TOILET FACILITY. FOOD OR BEVERAGES SHOULD NOT BE CONSUMED ANYWHERE THIS PRODUCT IS HANDLED OR STORED. WASH THOROUGHLY AFTER HANDLING.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: BROWN
Odor: NO ODOR

PHYSICAL PROPERTIES

pH Value:

Concentrate	Not Applicable

Changes of State:

Freezing point	Not Determined
Boiling range	Not Applicable

Vapor Pressure:

Not Determined

Vapor Density:

Heavier than Air

Evaporation Rate:

Not Applicable

Density:

Density	=	12.67	lb/gal

Specific Gravity:

=	1.52	Specific Gravity Calculated from MSDS data by General Motors Technical Review.

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solubility:

Water	Insoluble

VOC:

Theoretical VOC (by. wt.)	=	0.06 lb/gal	7g/l

Total Amount Of::

Percent Volatile by Weight	=	.46	%Wt
Percent Volatile by Volume	=	.82	%Vol

Additional Chemical and Physical Data:

COEFFICIENT OF WATER/ OIL DISTRIBUTION:	Not Determined
ODOR THRESHOLD	Not Determined

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

High temperatures.

Incompatible Materials:

Amines, acids, water, hydroxyl, or active hydrogen compounds, Strong bases and oxidizers.

Hazardous Polymerization:

Hazardous polymerization will not occur under normal conditions.

Comment:

STABILITY: Product is stable under normal storage conditions.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	HAZARDOUS DECOMPOSITION PRODUCTS: Monomeric isocyanate, traces of hydrogen cyanide, nitrogen dioxide. Carbon monoxide, carbon dioxide.

11 TOXICOLOGICAL INFORMATION

SCIENTIFIC OBSERVATIONS

LETHAL LIMIT VALUES

Product Data:

Exposure Routes	Type	Comment
Ingestion	LD50	No Data
Skin Contact	LD50	No Data
	LC50	No Data

CLASSIFICATION OF INGREDIENTS

Comment:

SKIN CONTACT: ANIMAL TESTS HAVE INDICATED THAT RESPIRATORY SENSITIZATION CAN RESULT FROM SKIN CONTACT WITH CERTAIN ISOCYANATES.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

NO INFORMATION.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

DISPOSAL SHOULD BE DONE IN ACCORDANCE WITH FEDERAL (40 CFR PART 261), STATE AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. IF WASTE IS DETERMINED TO BE HAZARDOUS, USE LICENSED HAZARDOUS WASTE TRANSPORTER AND DISPOSAL FACILITY.

14 TRANSPORT INFORMATION

Comment:

This product is not regulated for non-bulk road shipments. For the most accurate shipping information, refer to your transportation/ compliance department regarding changes in package size, mode of shipment or other regulatory descriptors.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	2
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	2
NFPA Reactivity	0

Comment:

NFPA assigned by General Motors Technical Review.
HMIS Health = 2*
* Indicates a chronic hazard

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: Yes
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

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: Diphenylmethane diisocyanate CAS NUMBER: 26447-40-5: <20.0%Wt Aromatic polyisocyanate CAS NUMBER: 989908-30-3: <15.0 %WT 4,4'-Diphenylmethane diisocyanate CAS NUMBER: 101-68-8: 10.0 %WT
TOXIC SUBSTANCES CONTROL ACT INVENTORY STATUS:	The chemical substances in this product are on the TSCA Section 8 inventory.
TOXIC SUBSTANCES CONTROL ACT EXPORT NOTIFICATION:	This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

15 REGULATORY INFORMATION

NATIONAL REGULATIONS

Other Regulation:

	NONE
OSHA	This product is considered hazardous as defined by 29 CFR 1910.1200 (OSHA HazCom Standard.)

16 OTHER INFORMATION

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: Fusor 127EZ, 128EZ, T24, TF24 Plastic Bonding Slow Adh Pt B

Recommended Use:

Product Use/Class: URETHANE ADHESIVE, PART 2 OF 2

External Keys:

89020330 Distributable Material (Part #)

MANUFACTURER INFORMATION

Manufacturer: LORD CORPORATION

Address:

111 Lord Dive	USA	NORTH CAROLINA	27512-8012	CARY	MAILING

Communication Lines:

Phone	800-424-9300	CHEMTREC
Phone	614-763-2345	EMERGENCY
Phone	814-868-3611	INFO
Phone	703-527-3887	Chemtrec outside Continental US

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
URETHANE ADHESIVE	989936-30-1	<	100	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

EMERGENCY OVERVIEW: White Liquid, with No odor. Low hazard for usual industrial or commercial handling.

Specific Hazards:

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT, INHALATION, INGESTION, EYE CONTACT.

Specific Hazards (Routes Of Exposure):

Exposure Routes	Exposure Duration	Observation
Skin Contact	General	NO HAZARD EXPECTED IN NORMAL INDUSTRIAL USE.
Eye Contact	General	EYE CONTACT MAY CAUSE SLIGHT IRRITATION.
Inhalation	General	NO INHALATION HAZARD EXPECTED DURING NORMAL WORKPLACE USE.
Ingestion	General	HARMFUL IF SWALLOWED. INGESTION IS NOT AN EXPECTED ROUTE OF ENTRY IN INDUSTRIAL OR COMMERCIAL USES.

Effects Of Overexposure:

EFFECTS OF OVEREXPOSURE CHRONIC HAZARDS: NONE EXPECTED UNDER NORMAL WORKING CONDITIONS.

Medical Conditions Aggravated By Exposure:

Not provided.

4 FIRST AID MEASURES

First Aid By::

*(No Translation Available)

*(No Translation

4 FIRST AID MEASURES

First Aid By::

Available)
*(No Translation Available)

Inhalation	THIS MATERIAL IS NOT LIKELY TO BE HAZARDOUS BY INHALATION. HOWEVER, IF EXPOSED TO EXCESSIVE LEVELS OF VAPOR OR MIST, REMOVE TO FRESH AIR, GIVE OXYGEN IF BREATHING IS DIFFICULT AND GET IMMEDIATE MEDICAL ATTENTION.
Skin Contact	FLUSH CONTAMINATED SKIN WITH LARGE AMOUNTS OF WATER WHILE REMOVING CONTAMINATED CLOTHING. WASH AFFECTED SKIN AREAS WITH SOAP AND WATER. GET MEDICAL ATTENTION IF SYMPTOMS OCCUR.
Eye Contact	FLUSH EYES IMMEDIATELY WITH LARGE AMOUNT OF WATER FOR AT LEAST 15 MINUTES HOLDING EYELIDS OPEN WHILE FLUSHING. GET PROMPT MEDICAL ATTENTION.
Ingestion	IF SWALLOWED, DO NOT INDUCE VOMITING. GIVE VICTIM ONE OR TWO GLASSES OF WATER OR MILK. CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY FOR FURTHER INSTRUCTIONS. NEVER GIVE ANYTHING BY MOUTH IF VICTIM IS RAPIDLY LOSING CONSCIOUSNESS, UNCONSCIOUS OR CONVULSING.

5 FIRE FIGHTING MEASURES

Flash Point:

>	201	F	SCC	93 C.

Explosive Limits:

Upper Explosive Limit (UEL)	Not Applicable
Lower Explosive Limit (LEL)	Not Applicable

Autoignition Temperature:

Not Available	NOT DETERMINED

Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

Fire and Explosion Hazards:

: Keep containers tightly closed. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool. During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

Special Fire Fighting Procedures:

Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA). If water is used, fog nozzles are preferable

6 ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF ACCIDENTAL RELEASE

Personal Precautions:

Avoid breathing vapors. Avoid contact. Keep non-essential personnel away from spill area. Before attempting cleanup, refer to hazard caution information in other sections of the MSDS form.

Environmental Precautions:

Notify appropriate authorities if necessary.

SPILL OR LEAK PROCEDURES

Recovery:

Contain and remove with inert absorbent material

7 HANDLING AND STORAGE

HANDLING

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Keep closure tight and container upright to prevent leakage. Avoid skin and eye contact. Wash thoroughly after handling. Do not handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation.

STORAGE

Storage Conditions:

Store only in well-ventilated areas. Keep container closed when not in use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

PROVIDE ADEQUATE GENERAL VENTILATION WHERE THIS PRODUCT IS USED.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	USE SAFETY EYEWEAR INCLUDING SAFETY GLASSES WITH SIDE SHIELDS AND CHEMICAL GOGGLES WHERE SPLASHING MAY OCCUR.
Respiratory Protection	RESPIRATORY PROTECTION IS NOT REQUIRED UNDER NORMAL WORKING CONDITIONS WHERE ADEQUATE VENTILATION IS PRESENT.
Hand Protection	USE NEOPRENE, NITRILE OR RUBBER GLOVES TO PREVENT SKIN CONTACT.

Hygiene Measures:

REMOVE AND WASH CONTAMINATED CLOTHING BEFORE REUSE. WASH HANDS BEFORE EATING, SMOKING OR USING TOILET FACILITY. DO NOT SMOKE IN ANY CHEMICAL HANDLING OR STORAGE AREA. FOOD OR BEVERAGE SHOULD NOT BE CONSUMED ANYWHERE THIS PRODUCT IS HANDLED OR STORED. WASH THOROUGHLY AFTER HANDLING.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical State: Liquid
Color: WHITE.
Odor: NO ODOR. ODOR THRESHOLD: NOT DETERMINED.

PHYSICAL PROPERTIES

pH Value:

Not Applicable

Changes of State:

Boiling Point	Not Applicable
Freezing Point	Not Determined

Vapor Pressure:

Not Determined

Vapor Density:

Not Applicable

Evaporation Rate:

Not

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Evaporation Rate:

Applicable

Density:

Density	=	10.89	lb/gal

Specific Gravity:

=	1.31	Specific Gravity Calculated from MSDS data by General Motors Technical Review.

Solubility:

Water	INSOLUBLE.

VOC:

Theoretical VOC (by. wt.)	=	0	lb/gal	Calculated.

Total Amount Of::

Percent Volatile by Weight	=	0	%Wt
Percent Volatile by Volume	=	0	%Vol

Additional Chemical and Physical Data:

COEFFICIENT OF WATER/ OIL DISTRIBUTION::	Not Determined

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

High temperatures.

Incompatible Materials:

Acids, caustics, amines, ammonia, halogens, and isocyanates.

Hazardous Polymerization:

WILL NOT OCCUR UNDER NORMAL CONDITIONS.

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	CARBON MONOXIDE, CARBON DIOXIDE.

11 TOXICOLOGICAL INFORMATION

CLASSIFICATION OF INGREDIENTS

Comment:

PRODUCT LD50 (ORAL) DERMAL): NO DATA. PRODUCT LC50: NO DATA.

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

NO INFORMATION

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

DISPOSAL SHOULD BE DONE IN ACCORDANCE WITH FEDERAL (40 CRR PART 261), STATE AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. IF WASTE IS DETERMINED TO BE HAZARDOUS, USE LICENSED HAZARDOUS WASTE TRANSPORTER AND DISPOSAL FACILITY.

14 TRANSPORT INFORMATION

Comment:

This product is NOT REGULATED for non-bulk road shipments. For the most accurate shipping information, refer to your transportation /compliance department regarding changes in package size, mode of shipment or other regulatory descriptors.

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	1
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	1
NFPA Reactivity	0

Comment:

NFPA assigned by General Motors Technical Review.

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: Yes
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

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: None.
TOXIC SUBSTANCES CONTROL ACT INVENTORY STATUS:	The chemical substances in this product are on the TSCA Section 8 Inventory.
TOXIC SUBSTANCES CONTROL ACT EXPORT NOTIFICATION:	This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States: NONE

16 OTHER INFORMATION

Comments:

THIS PRODUCT IS NOT CONSIDERED HAZARDOUS AS DEFINED BY 29 CFR 1910.1200 (OSHA HAZCOM STANDARD)

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **IMP 7498 POWER STEERING FLUID**
Product Description: Base Oil and Additives
Product Code: 17767, 202010303820
Intended Use: Power steering fluid

COMPANY IDENTIFICATION

Supplier: **Canada Imperial Oil Limited, An Affliate of Exxon Mobil Corporation**
P.O. Box 2480, Station M
Calgary, ALBERTA. T2P 3M9 Canada

24 Hour Health Emergency	1-866-232-9563
Transportation Emergency Phone	1-866-232-9563
Supplier General Contact	1-800-567-3776

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	64742-53-6	10 - 20%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Pressurized mists may form a flammable mixture.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >175°C (347°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard			NOTE	Source
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	Mist.	TWA	5 mg/m3		N/A	OSHA Z1
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	Inhalable fraction.	TWA	5 mg/m3		N/A	ACGIH
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	Mist.	TWA	5 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material

include:
Chemical resistant gloves are recommended. No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION
Physical State: Liquid
Color: Pale Yellow
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15 °C): 0.88
Flash Point [Method]: >175°C (347°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: [N/D at 40 °C] | 7.8 cSt (7.8 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: -45°C (-49°F)

DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
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. Based on assessment of the components.
Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

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

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: AICS, DSL, ENCS, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	18
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	64742-53-6	1, 4, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 01: Product Code was modified.
Section 09: Phys/Chem Properties Note was modified.
Section 09: Boiling Point C(F) was modified.
Section 08: Comply with applicable regulations phrase was modified.
Section 09: Vapor Pressure was modified.
Section 07: Handling and Storage - Storage Phrases was modified.
Hazard Identification: Health Hazards was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 11: Dermal Lethality Test Comment was modified.
Section 11: Oral Lethality Test Data was modified.
Section 11: Inhalation Lethality Test Data was modified.
Section 11: Dermal Irritation Test Data was modified.
Section 11: Eye Irritation Test Data was modified.
Section 11: Oral Lethality Test Comment was modified.
Section 11: Inhalation Lethality Test Comment was modified.
Section 11: Dermal Irritation Test Comment was modified.
Section 11: Eye Irritation Test Comment was modified.
Section 11: Inhalation Irritation Test Data was modified.
Section 09: Relative Density - Header was modified.
Section 09: Flash Point C(F) was modified.
Section 09: Viscosity was modified.
Section 14: LAND (TDG) - Header was modified.
Section 15: List Citations Table was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 15: Community RTK - Header was modified.
Section 08: Exposure limits/standards was modified.
Section 16: Synonyms was deleted.
Section 16: Synonyms - Header was deleted.
Section 01: Product Name - Header was deleted.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **IMP 7498 POWER STEERING FLUID**
Product Description: Base Oil and Additives
Product Code: 17767, 202010303820
Intended Use: Power steering fluid

COMPANY IDENTIFICATION

Supplier: **Canada Imperial Oil Limited, An Affliate of Exxon Mobil Corporation**
P.O. Box 2480, Station M
Calgary, ALBERTA. T2P 3M9 Canada

24 Hour Health Emergency	1-866-232-9563
Transportation Emergency Phone	1-866-232-9563
Supplier General Contact	1-800-567-3776

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	64742-53-6	10 - 20%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Pressurized mists may form a flammable mixture.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >175°C (347°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard			NOTE	Source
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	Mist.	TWA	5 mg/m3		N/A	OSHA Z1
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	Inhalable fraction.	TWA	5 mg/m3		N/A	ACGIH
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	Mist.	TWA	5 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material

include:
Chemical resistant gloves are recommended. No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION
Physical State: Liquid
Color: Pale Yellow
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15 °C): 0.88
Flash Point [Method]: >175°C (347°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: [N/D at 40 °C] | 7.8 cSt (7.8 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: -45°C (-49°F)

DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
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. Based on assessment of the components.
Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

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

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: AICS, DSL, ENCS, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	18
HYDROTREATED LIGHT NAPHTHENIC DISTILLATE (PETROLEUM)	64742-53-6	1, 4, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 01: Product Code was modified.
Section 09: Phys/Chem Properties Note was modified.
Section 09: Boiling Point C(F) was modified.
Section 08: Comply with applicable regulations phrase was modified.
Section 09: Vapor Pressure was modified.
Section 07: Handling and Storage - Storage Phrases was modified.
Hazard Identification: Health Hazards was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 11: Dermal Lethality Test Comment was modified.
Section 11: Oral Lethality Test Data was modified.
Section 11: Inhalation Lethality Test Data was modified.
Section 11: Dermal Irritation Test Data was modified.
Section 11: Eye Irritation Test Data was modified.
Section 11: Oral Lethality Test Comment was modified.
Section 11: Inhalation Lethality Test Comment was modified.
Section 11: Dermal Irritation Test Comment was modified.
Section 11: Eye Irritation Test Comment was modified.
Section 11: Inhalation Irritation Test Data was modified.
Section 09: Relative Density - Header was modified.
Section 09: Flash Point C(F) was modified.
Section 09: Viscosity was modified.
Section 14: LAND (TDG) - Header was modified.
Section 15: List Citations Table was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 15: Community RTK - Header was modified.
Section 08: Exposure limits/standards was modified.
Section 16: Synonyms was deleted.
Section 16: Synonyms - Header was deleted.
Section 01: Product Name - Header was deleted.

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Prod.Name:	GM 12345493 HIGH STRENGTH HIGH TEMPERATURE THREADLOCKER RED	**MATERIAL SAFETY DATA SHEET**	**Revision:** 13.Jan.2011 **Effective:** 13.Jan.2011 **Print Date:** 06.May.2013 **Page:** 1 of 5
Manufacturer:	ITW Permatex		
HMCS ID:	353600		
SUC:	05 - Adhesives - Solvent -Based Polyurethanes, Epoxies, and Sealers		

1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT INFORMATION

Product Name: GM 12345493 HIGH STRENGTH HIGH TEMPERATURE THREADLOCKER RED

External Keys:

89021297	Distributable Material (Part #)
HIGH STRENGTH HIGH TEMPERATURE THREADLOCKER - RED	Primary Tradename - Distributable Material

MANUFACTURER INFORMATION

Manufacturer: ITW Permatex

Address:

10 Columbus Blvd.	USA	Connecticut	06106	Hartford	MAILING

Communication Lines:

Phone	877-376-2839	EMERGENCY
Phone	877-376-2839	INFO
Phone	800-255-3924	EMERGENCY
Phone	813-348-0585	International Emergency
Internet	www.permatex.com	Website (with MSDS)

Comment:

Process MSDS as OSHA Compliant.

2 INGREDIENT INFORMATION

FORMULATION

Ingredients:

Chemical Name	CAS Number	Prefix	Value	Unit	Exposure Limits
2-Propenoic acid, 2-methyl-, (1-methylethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) ester	24448-20-2	Range	55 - 75	%Wt	No
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	27813-02-1	Range	10 - 30	%Wt	No
MALEIMIDE, N,N'-(m-PHENYLENE)DI-	3006-93-7	Range	10 - 30	%Wt	No
Siloxanes and Silicones, di-Me, reaction products with silica	67762-90-7	<	3	%Wt	No
HYDROPEROXIDE, alpha,alpha-DIMETHYLBENZYL-	80-15-9	<	3	%Wt	No

3 HAZARDS IDENTIFICATION

Hazards Overview:

Toxicity: At elevated temperatures may cause irritation of the respiratory tract. Irritates mucous membranes. Ingestion may irritate digestive tract and cause nausea, vomiting and diarrhea. High concentrations may cause central nervous system (CNS) depression. May cause eye and skin irritation. May cause skin sensitization. Note: This product does not contain microcyrstalline silica.

Specific Hazards:

Primary Routes of Entry: Eye and skin contact, ingestion, inhalation

Effects Of Overexposure:

Repeated skin contact may cause allergic skin reactions. Skin redness. Ingestion may cause nausea and vomiting. Inhalation overexposure may cause irritation, coughing and flu-like symptoms. May cause pain, redness or swelling of the eyes and excessive blinking and tear production.

3 HAZARDS IDENTIFICATION

Medical Conditions Aggravated By Exposure:

Preexisting skin disorders.

Comment:

Additional Health Hazard Data: AT ELEVATED TEMPERATURES MAY CAUSE IRRITATION OF THE RESPIRATORY TRACT. IRRITATES MUCOUS MEMBRANES. MAY CAUSE CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION.

4 FIRST AID MEASURES

First Aid By::

Inhalation	Move to fresh air in case of accidental Inhalation of vapours. Obtain medical attention.
Skin Contact	Wash off with soap and water. If skin irritation persists, call a physician.
Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
Ingestion	If swallowed, DO NOT induce vomiting. Keep individual calm. Obtain medical attention.

5 FIRE FIGHTING MEASURES

Flash Point:

> 200 °F

Explosive Limits:

Lower Explosive Limit (LEL)	Not Determined
Upper Explosive Limit (UEL)	Not Determined

Extinguishing Media:

Recommended Extinguishing Media: Dry chemical, Carbon dioxide, Foam

Fire and Explosion Hazards:

Hazardous Products of Combustion: Oxides of carbon
Unusual Fire/Explosion Hazards: Closed containers may rupture or explode when exposed to extreme heat. May polymerize exothermically.

Special Fire Fighting Procedures:

Water spray may be ineffective on flames but should be used to keep fire-exposed containers cool.

Comment:

Firefighters should wear self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

Recovery:

Spill Procedures: Maintain good ventilation. Take up with an inert absorbent. Store in a closed waste container until disposal.

Disposal:

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material

7 HANDLING AND STORAGE

HANDLING

Safe Handling Procedures:

Avoid prolonged skin contact. Keep away from eyes. Wash thoroughly after handling.

STORAGE

Storage Conditions:

Store in a cool, dry area.

Additional Information on Storage Conditions:

7 HANDLING AND STORAGE

STORAGE

Additional Information on Storage Conditions:

Precautions to be Taken in Handling and Storage: DO NOT STORE AT OR BELOW 32 DEGREES F, AS INHIBITOR CAN SEPARATE AS A SOLID. PREVENT MOISTURE CONTACT. STORE IN TIGHTLY CLOSED CONTAINERS AWAY FROM HEAT, SPARKS, OPEN FLAME, OXIDIZERS, RADIATION AND OTHER INITIATORS. PREVENT CONTAMINATION BY FOREIGN MATERIALS. USE ONLY NON-SPARKING TOOLS. AVOID PROLONGED SKIN CONTACT. KEEP AWAY FROM EYES. UNLESS INHIBITED, PRODUCT CAN POLYMERIZE, RAISING TEMPERATURE AND PRESSURE AND POSSIBLY RUPTURING THE CONTAINER. DO NOT BLANKET OR MIX WITH OXYGEN-FREE GAS AS IT RENDERS THE INHIBITOR INEFFECTIVE.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:

Ventilation: General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits (or to the lowest feasible levels when limits have not been established) during the use of this product.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE):

Eye Protection	Safety glasses.
Respiratory Protection	An approved organic vapor respirator should be worn when exposures are expected to exceed the applicable limits.
Hand Protection	Neoprene or nitrile gloves recommended.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Color: RED
Odor: MUSTY
Comment:

Physical State: Liquid

PHYSICAL PROPERTIES

pH Value:

Concentrate	Does not apply

Changes of State:

Boiling Point	Not Determined

Vapor Pressure:

Not Determined

Vapor Density:

>	1	Air=1

Evaporation Rate:

Not Determined

Specific Gravity:

=	1.1	=	20	°C

Solubility:

Water	Negligible

VOC:

Theoretical VOC (by.	Calculated from MSDS data by

9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

VOC:

wt.)	<	0.18	lb/gal	General Motors Technical review.
Theoretical VOC (by. wt.)	<	2	%Wt	

10 STABILITY AND REACTIVITY

STABILITY INFORMATION

Stability Under Normal Conditions: Stable

Conditions to Avoid:

Heat

Incompatible Materials:

Strong oxidizers, free radical initiators, inert gases, Peroxides, Reducing agents, Oxygen scavengers

Hazardous Polymerization:

May occur

Comment:

Chemical Stability: Stable at normal conditions

HAZARDOUS DECOMPOSITION

Reactions:

Type of Reaction	Reaction Products
Decomposition	Hazardous Products of Combustion: Oxides of carbon

11 TOXICOLOGICAL INFORMATION

12 ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT

Comment:

NO DATA AVAILABLE

13 DISPOSAL CONSIDERATIONS

Waste Disposal Information:

Recommended Method of Disposal: Disposal should be made in accordance with federal, state and local regulations.
US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material

14 TRANSPORT INFORMATION

DOT Shipping Name:

Not regulated

DOT Hazard Class:

None

DOT UN Code:

None

Comment:

IATA
Proper Shipping Name: Not regulated
Class or Division: None
UN/ID Number: None
IMDG
Proper Shipping: Not regulated
Hazard Class: None
UN Number: None

14 TRANSPORT INFORMATION

Comment:

Marine Pollutant: None

15 REGULATORY INFORMATION

LABELLING

Hazard Codes:

HMIS Reactivity	0
HMIS Health	2
HMIS Flammability	1
NFPA Flammability	1
NFPA Health	2
NFPA Reactivity	0

NATIONAL REGULATIONS

SARA 311/312: No
SARA 313: Yes
Immediate Health: No
Delayed Health: No
Fire: No
Sudden Pressure Release: No
Reactive: No
Other Regulation:

SARA 313 Chemicals	The following component(s) is listed as a SARA Section 313 Toxic Chemical. DIMETHYLBENZYL HYDROPEROXIDE
TSCA Inventory Status	All components of this product are listed (or exempt) on the EPA TSCA inventory.

STATE/LOCAL REGULATIONS

Comment:

California Proposition 65: No California Prop 65 chemicals are known to be present at or above the No Significant Risk Level

16 OTHER INFORMATION

Comments:

Additional Exposure Limits: GM Occupational Exposure Guidelines (OEG) and State-TWA's were provided by General Motors.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: LAS-STIK DUST CLOTH **PAGE 1**

PRODUCT CODE NO. ALL PART NUMBERS **ISSUE DATE:** 1/26/12

RESPONSIBLE PARTY:

THE LAS-STIK MFG. CO.
1441 Milburn Ave
P.O.BOX 941
Dayton, OHIO 45404

TRANSPORTATION EMERGENCIES:

(937) 236-6686

PRODUCT IDENTIFICATION

PRODUCT NAME: LAS-STIK DUST CLOTH

SYNONYMS: NONE

GENERIC NAME: NONE

CHEMICAL FAMILY: HIGH MOL WT. PARAFFINIC OIL M MICRO - CRYSTALLINE WAX IMPREGNATED INTO CLOTH

DOT PROPER SHIPPING NAME: CARTON POLISHING CLOTHS, TREATED

ID NUMBER: NONE

DOT HAZARD CLASSIFICATION: NONE

PRECAUTIONARY WARNING

NONE

SECTION I - COMPONENTS	EXPOSURE LIMIT	UNITS	AGENCY	TYPE

HAZARDOUS COMPONENTS

NONE

PRODUCT CODE NO. ALL PART NUMBERS **ISSUE DATE: 7/27/00**

SECTION I - COMPONENTS

OTHER COMPONENTS

COTTON/POLYESTER FABRIC
MIXTURE OF:

PETROLEUM OIL 64742-52-5
PETROLATUM 8009-03-8
METHYL SALICYLATE 119-36-8

SECTION II - EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT:

NONE

SKIN CONTACT:

WASH WITH SOAP & WATER AFTER USE

INHALATION (BREATHING):

NONE

INGESTION (SWALLOWING):

NONE

SECTION III - HEALTH HAZARD/ROUTES OF ENTRY

EYE CONTACT:

NONE

SKIN CONTACT:

NONE

INHALATION (BREATHING):

NONE

INGESTION (SWALLOWING):

NONE

COMMENTS:

NONE

SECTION IV - SPECIAL PROTECTION INFORMATION

VENTILATION:

NONE

RESPIRATORY PROTECTION:

NONE

PROTECTIVE GLOVES:

NONE

EYE PROTECTION:

NONE

OTHER PROTECTIVE EQUIPMENT:

NONE

SECTION V - REACTIVITY DATA

REACTIVITY:

STABLE

CONDITIONS AFFECTING REACTIVITY:

NONE

INCOMPATIBLE MATERIALS:

NONE

HAZARDOUS DECOMPOSITION PRODUCTS:

NONE

HAZARDOUS POLYMERIZATIONS:

WILL NOTE OCCUR

POLYMERIZATIONS CONDITIONS TO AVOID:

NONE

PRODUCT NAME: LAS-STIK DUST CLOTH **PAGE 4**

PRODUCT CODE NO. ALL PART NUMBERS **ISSUE DATE: 7/27/00**

SECTION VI - SPILL AND LEAK PROCEDURES

PRECAUTIONS IN CASE OF RELEASE OR SPILL:

SOLID

WASTE DISPOSAL METHOD:

DISPOSE OF IN TRASH

SECTION VII - STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

DO NOT STORE NEAR FIRE OR FLAME

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

			HAZARD RANKING	
NFPA	HEALTH HAZARD	0	0 - LEAST	FLASH POINT
HAZARD	FLAMMABILITY	2	1 - SLIGHT	N/A
CLASS	REACTIVITY	0	2 - MODERATE	
			3 - HIGH	
			4 - EXTREME	
			* - CHRONIC HEALTH EFFECTS	

PRODUCT NAME: LAS-STIK DUST CLOTH **PAGE 5**

PRODUCT CODE NO. ALL PART NUMBERS **ISSUE DATE: 7/27/00**

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

EXTINGUISHING MEDIA:

WATER, CO 2, DRY CHEMICAL

UNUSUAL FIRE & EXPLOSION HAZARDS:

NONE

SPECIAL FIRE FIGHTING PROCEDURES:

NONE

SECTION IX - PHYSICAL DATA

APPROX. BOILING POINT	(AIR = 1) VAPOR DENSITY	(N-BUTYL ACETATE = 1) EVAPORATION RATE	%VOLATILE
N/A	N/A	N/A	N/A

% SOLUBILITY IN WATER	APPROX. VAPOR PRESSURE (mm Hg)
N/A	N/A

SPECIFIC GRAVITY	APPROX. BULK DENSITY (lb/gal)
N/A	N/A

APPEARANCE

CHAMIOS COLOR COTTON FLANNEL

ODOR

WINTERGREEN

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **ACDELCO 5W-20**
Product Description: Base Oil and Additives
Product Code: 479410-02
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS ROAD
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525 / 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use

adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 224C (435F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: Brown
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.86
Flash Point [Method]: 224C (435F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)
Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 45.9 cSt (45.9 mm2/sec) at 40 C | 8.1 cSt (8.1 mm2/sec) at 100C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -33°C (-27°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.

Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ZINC DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **ACDELCO 5W-20**
Product Description: Base Oil and Additives
Product Code: 479410-02
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS ROAD
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525 / 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use

adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 224C (435F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: Brown
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.86
Flash Point [Method]: 224C (435F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)
Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 45.9 cSt (45.9 mm2/sec) at 40 C | 8.1 cSt (8.1 mm2/sec) at 100C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -33°C (-27°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.

Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ZINC DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **ACDELCO DEXOS1 0W-20**
Product Description: Base Oil and Additives
Product Code: 20201020B530, 485847-00, 97CC97
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	1 - 5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 223°C (433°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable

regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Brown
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 ℃): 0.848
Flash Point [Method]: 223℃ (433℉) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 ℃
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 43.37 cSt (43.37 mm2/sec) at 40 ℃
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -42℃ (-44℉)
DMSO Extract (mineral oil only), IP-346: < 3 %wt
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	1 - 5%

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	13, 15, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **ACDELCO DEXOS1 0W-20**
Product Description: Base Oil and Additives
Product Code: 20201020B530, 485847-00, 97CC97
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	1 - 5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 223°C (433°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable

regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Brown
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 ℃): 0.848
Flash Point [Method]: 223℃ (433℉) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 ℃
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 43.37 cSt (43.37 mm2/sec) at 40 ℃
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -42℃ (-44℉)
DMSO Extract (mineral oil only), IP-346: < 3 %wt
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	1 - 5%

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	13, 15, 17, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **ACDELCO DEXOS1 5W-20**
Product Description: Base Oil and Additives
Product Code: 20201020B520, 485771-00, 97CB38
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	1 - 2.5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 234°C (453°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable

regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Form: Clear
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.851
Flash Point [Method]: 234°C (453°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapor Density (Air = 1): > 2 at 101 kPa [Estimated]
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
Solubility in Water: Negligible
Viscosity: 47.7 cSt (47.7 mm2/sec) at 40 °C | 8.51 cSt (8.51 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -48°C (-54°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
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. Based on assessment of the components.
Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	1 - 2.5%

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	13, 15, 17

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

No revision information is available.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **ACDELCO DEXOS1 5W-30**
Product Description: Base Oil and Additives
Product Code: 20201020B510, 479436-00, 97BU26
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	< 2.5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 225C (437F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable

regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Form: Clear
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.851
Flash Point [Method]: 225C (437F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 63.3 cSt (63.3 mm2/sec) at 40 C | 10.9 cSt (10.9 mm2/sec) at 100C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -42°C (-44°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures.

	Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL
Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, ENCS, KECI, PICCS, TSCA
Special Cases:

Inventory	Status
ELINCS	Restrictions Apply

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	< 2.5%

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	13, 15, 17

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **ACDELCO DEXOS1 5W-30**
Product Description: Base Oil and Additives
Product Code: 20201020B510, 479436-00, 97BU26
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	< 2.5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 225C (437F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable

regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Form: Clear
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.851
Flash Point [Method]: 225C (437F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: N/D
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 63.3 cSt (63.3 mm2/sec) at 40 C | 10.9 cSt (10.9 mm2/sec) at 100C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -42°C (-44°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures.

	Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL
Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION
RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, ENCS, KECI, PICCS, TSCA
Special Cases:

Inventory	Status
ELINCS	Restrictions Apply

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	< 2.5%

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	13, 15, 17

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **GM VEHICLE CARE DEXRON-VI ATF**
Product Description: Base Oil and Additives
Product Code: 20203020H020, 523100-00, 97AL61
Intended Use: Hydraulic/transmission fluid

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
METHACRYLATE COPOLYMER		1 - 5%
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	30 - 40%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary

from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >180C (356F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: Red
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.846
Flash Point [Method]: >180C (356F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 30 cSt (30 mm2/sec) at 40 C | 5.9 cSt (5.9 mm2/sec) at 100C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -51°C (-60°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.

Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: IECSC, DSL, EINECS, KECI, PICCS, TSCA

Special Cases:

Inventory	Status

AICS	Restrictions Apply
ENCS	Restrictions Apply

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 13: Disposal Considerations - Disposal Recommendations was modified.
Section 10 Stability and Reactivity - Header was modified.
Section 13: Disposal Recommendations - Note was modified.
Section 08: Personal Protection was modified.
Section 07: Handling and Storage - Handling was modified.
Section 07: Handling and Storage - Storage Phrases was modified.
Section 06: Accidental Release - Spill Management - Water was modified.
Section 09: Relative Density - Header was modified.
Section 09: Viscosity was modified.
Section 14: Sea (IMDG) - Header was modified.
Section 14: Air (IATA) - Header was modified.
Section 14: LAND (TDG) - Header was modified.
Section 14: LAND (DOT) - Header was modified.
Composition: Component table was modified.
Section 15: List Citation Table - Header was modified.
Section 14: LAND (DOT) - Default was modified.
Section 14: LAND (TDG) Default was modified.
Section 14: Sea (IMDG) - Default was modified.
Section 14: Air (IATA) - Default was modified.

Section 08: Exposure limits/standards was modified.
Hazard Identification: OSHA - May be Hazardous Statement was modified.
Section 09: Oxidizing Properties was modified.
Section 06: Protective Measures was added.
Section 06: Accidental Release - Protective Measures - Header was added.
Section 15: CWA - Header was deleted.
Section 15: CWA was deleted.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **GM VEHICLE CARE DEXRON-VI ATF**
Product Description: Base Oil and Additives
Product Code: 20203020H020, 523100-00, 97AL61
Intended Use: Hydraulic/transmission fluid

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
METHACRYLATE COPOLYMER		1 - 5%
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	30 - 40%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary

from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >180C (356F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: Red
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.846
Flash Point [Method]: >180C (356F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 30 cSt (30 mm2/sec) at 40 C | 5.9 cSt (5.9 mm2/sec) at 100C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -51°C (-60°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.

Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: IECSC, DSL, EINECS, KECI, PICCS, TSCA

Special Cases:

Inventory	Status

AICS	Restrictions Apply
ENCS	Restrictions Apply

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 13: Disposal Considerations - Disposal Recommendations was modified.
Section 10 Stability and Reactivity - Header was modified.
Section 13: Disposal Recommendations - Note was modified.
Section 08: Personal Protection was modified.
Section 07: Handling and Storage - Handling was modified.
Section 07: Handling and Storage - Storage Phrases was modified.
Section 06: Accidental Release - Spill Management - Water was modified.
Section 09: Relative Density - Header was modified.
Section 09: Viscosity was modified.
Section 14: Sea (IMDG) - Header was modified.
Section 14: Air (IATA) - Header was modified.
Section 14: LAND (TDG) - Header was modified.
Section 14: LAND (DOT) - Header was modified.
Composition: Component table was modified.
Section 15: List Citation Table - Header was modified.
Section 14: LAND (DOT) - Default was modified.
Section 14: LAND (TDG) Default was modified.
Section 14: Sea (IMDG) - Default was modified.
Section 14: Air (IATA) - Default was modified.

Section 08: Exposure limits/standards was modified.
Hazard Identification: OSHA - May be Hazardous Statement was modified.
Section 09: Oxidizing Properties was modified.
Section 06: Protective Measures was added.
Section 06: Accidental Release - Protective Measures - Header was added.
Section 15: CWA - Header was deleted.
Section 15: CWA was deleted.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL 1 ESP FORMULA 5W-30**
Product Description: Synthetic Base Stocks and Additives
Product Code: 2015101010K0, 482497-00, 97Z820
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
MSDS Requests	713-613-3661
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use

mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Oxides of carbon, Smoke, Fume, Incomplete combustion products

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200C (392F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator

selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.85
Flash Point [Method]: >200C (392F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (601F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 72.8 cSt (72.8 mm2/sec) at 40 C | 11.9 cSt (11.9 mm2/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: -36°C (-33°F)

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation

products.

Contains:
Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be

completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT) : Not Regulated for Land Transport

LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: TSCA, AICS, IECSC, KECI, ENCS, PICCS, DSL
Special Cases:

Inventory	Status
ELINCS	Restrictions Apply

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below:*

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	5
PHENOL, 4,4-METHYLENEBIS(2,6-BIS(1,1-DIMETHYLETHYL)-	118-82-1	5
ZINC DITHIOPHOSPHATE	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

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 06: Notification Procedures - Header was modified.
Section 01: Product Code was modified.
Section 13: Empty Container Warning was modified.
Section 09: Boiling Point C(F) was modified.
Section 09: Pour Point C(F) was modified.
Section 08: Hand Protection was modified.
Section 01: Product Description was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 11: Oral Lethality Test Data was modified.
Section 05: Hazardous Combustion Products was modified.
Section 09: Flash Point C(F) was modified.
Section 09: Viscosity was modified.
Section 09: Viscosity was modified.
Section 15: List Citations Table was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 16: Code to MHCs was modified.
Section 09: Relative Density was modified.
Section 06: Notification Procedures was modified.
Section 11: Chronic Tox - Component was modified.
Section 15: Special Cases - Header was added.
Section 15: Special Cases Table was added.
Section 15: Inventory - Header was added.
Section 15: Status - Header was added.
Section 12: Persistence and Degradability- Header was deleted.
Section 12: Biodegradation - Header was deleted.
Section 09: Form - Header was deleted.
Section 09: Physical State was deleted.
Section 09: DMSO IP was deleted.
Section 09: DMSO IP - Header was deleted.
Section 12: Ecological Information - Biodegradation was deleted.
Section 12: Ecological Information - Biodegradation was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is

included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL DELVAC MX 15W-40**
Product Description: Base Oil and Additives
Product Code: 201520402010, 441048-00, 97E501
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
ZINC DITHIOPHOSPHATE	68649-42-3	< 2.5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

Inhalation

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur Oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 215C (419F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The

National Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use

with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: brown
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.879
Flash Point [Method]: 215C (419F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)

Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (N-Butyl Acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 123 cSt (123 mm²/sec) at 40 C | 15.6 cSt (15.6 mm²/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -27°C (-17°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m³	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY
Material -- Not expected to be harmful to aquatic organisms.

MOBILITY
Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL
Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT) : Not Regulated for Land Transport

LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: DSL, KECI, TSCA

Special Cases:

Inventory	Status
AICS	Restrictions Apply
ELINCS	Restrictions Apply

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
ZINC DITHIOPHOSPHATE	68649-42-3	< 2.5%

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	5, 18
ZINC DITHIOPHOSPHATE	68649-42-3	13, 15, 17

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:
Section 04: First Aid Inhalation - Header was modified.
Section 04: First Aid Ingestion - Header was modified.
Section 06: Notification Procedures - Header was modified.
Section 10 Stability and Reactivity - Header was modified.
Section 13: Disposal Recommendations - Note was modified.
Section 09: Phys/Chem Properties Note was modified.
Section 09: Color was modified.
Section 09: Evaporation Rate - Header was modified.
Section 08: Personal Protection was modified.
Section 08: Hand Protection was modified.
Section 07: Handling and Storage - Handling was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 11: Oral Lethality Test Data was modified.
Section 11: Inhalation Lethality Test Data was modified.
Section 05: Hazardous Combustion Products was modified.
Section 09: Relative Density - Header was modified.
Section 09: Viscosity was modified.
Section 09: Viscosity was modified.
Section 15: List Citations Table was modified.
Section 15: List Citation Table - Header was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 16: Code to MHCs was modified.
Section 08: Exposure limits/standards was modified.
Hazard Identification: OSHA - May be Hazardous Statement was modified.
Section 06: Notification Procedures was modified.

Section 01: Company Contact Methods Sorted by Priority was modified.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL DEXRON-VI ATF**
Product Description: Base Oil and Additives
Product Code: 201530204010, 525121-00, 97AL60
Intended Use: Automatic transmission fluid

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	64742-55-8	30 - 40%
METHACRYLATE COPOLYMER	CONFIDENTIAL	1 - 5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >180°C (356°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard			NOTE	Source
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	Mist.	TWA	5 mg/m3		N/A	OSHA Z1
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	Inhalable fraction.	TWA	5 mg/m3		N/A	ACGIH
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	Mist.	TWA	5 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material

include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Red
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.846
Flash Point [Method]: >180°C (356°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F) [Estimated]
Vapor Density (Air = 1): > 2 at 101 kPa [Estimated]
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
Solubility in Water: Negligible
Viscosity: 30 cSt (30 mm2/sec) at 40 °C | 5.9 cSt (5.9 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -51°C (-60°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
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. Based on assessment of the components.
Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

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.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION.

THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: AICS, DSL, IECSC, KECI, PICCS, TSCA

Special Cases:

Inventory	Status
ENCS	Restrictions Apply

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	64742-55-8	1, 3, 4, 17

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:
Section 06: Protective Measures was modified.
Section 09: Vapor Pressure was added.
Section 09: Phys/Chem Properties Note was modified.
Section 09: Boiling Point C(F) was modified.
Section 09: Flash Point C(F) was modified.
Section 09: n-Octanol/Water Partition Coefficient was modified.
Section 08: Comply with applicable regulations phrase was modified.
Section 01: Product Intended Use was modified.
Section 09: Vapor Pressure was modified.
Hazard Identification: Health Hazards was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 11: Dermal Lethality Test Comment was modified.
Section 11: Oral Lethality Test Data was modified.
Section 11: Inhalation Lethality Test Data was modified.
Section 11: Dermal Irritation Test Data was modified.
Section 11: Eye Irritation Test Data was modified.
Section 11: Oral Lethality Test Comment was modified.
Section 11: Inhalation Lethality Test Comment was modified.
Section 11: Dermal Irritation Test Comment was modified.
Section 11: Eye Irritation Test Comment was modified.
Section 11: Inhalation Irritation Test Data was modified.
Section 09: Relative Density - Header was modified.
Section 09: Flash Point C(F) was modified.
Section 09: Viscosity was modified.
Section 09: Viscosity was modified.
Composition: Component table was modified.
Section 15: Chemical Name - Header was added.
Section 15: CAS Number - Header was added.
Section 15: List Citations - Header was added.
Section 15: List Citations Table was added.
Section 15: List Citation Table - Header was modified.
Section 15: National Chemical Inventory Listing - Header was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 15: Community RTK - Header was modified.
Section 08: Exposure limits/standards was modified.
Section 15: Special Cases Table was modified.
Section 08: Exposure Limits Table was added.
Section 08: Exposure Limit Values - Header was added.
Section 09: Decomposition Temperature was added.
Section 09: Decomposition Temp - Header was added.
Section 08: OEL Table - Form Column - Header was added.
Section 08: OEL Table - Limit Column - Header was added.
Section 08: OEL Table - Notation Column - Header was added.

Section 08: OEL Table - Source Column - Header was added.
Section 08: Exposure Limit Values - Header was added.
Section 13: Disposal Considerations - Disposal Recommendations was modified.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL 1 0W-20**
Product Description: Synthetic Base Stocks and Additives
Product Code: 201510101032, 481481-00, 97M085
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use

adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200°C (392°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 °C): 0.84
Flash Point [Method]: >200°C (392°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (601°F) [Estimated]
Vapor Density (Air = 1): > 2 at 101 kPa [Estimated]
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]
Solubility in Water: Negligible
Viscosity: 45 cSt (45 mm2/sec) at 40 °C | 8.6 cSt (8.6 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -48°C (-54°F)
Decomposition Temperature: N/D

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
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. Based on assessment of the components.

Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitizing in test animals and humans.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements:: AICS, DSL, IECSC, KECI, PICCS, TSCA

Special Cases:

Inventory	Status
ENCS	Restrictions Apply

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
PHENOL, 4,4-METHYLENEBIS(2,6-BIS(1,1-DIMETHYLETHYL)-	118-82-1	5
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	15
ZINC ALKYLDITHIOPHOSPHATE	68649-42-3	15
ZINC DITHIOPHOSPHATE	68649-42-3	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 06: Protective Measures was modified.
Section 09: Boiling Point C(F) was modified.
Section 09: Pour Point C(F) was modified.
Section 08: Comply with applicable regulations phrase was modified.
Section 09: Vapor Pressure was modified.
Hazard Identification: Health Hazards was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 11: Dermal Lethality Test Comment was modified.

Section 11: Oral Lethality Test Data was modified.
Section 11: Inhalation Lethality Test Data was modified.
Section 11: Dermal Irritation Test Data was modified.
Section 11: Eye Irritation Test Data was modified.
Section 11: Oral Lethality Test Comment was modified.
Section 11: Inhalation Lethality Test Comment was modified.
Section 11: Dermal Irritation Test Comment was modified.
Section 11: Eye Irritation Test Comment was modified.
Section 11: Inhalation Irritation Test Data was modified.
Section 09: Relative Density - Header was modified.
Section 09: Flash Point C(F) was modified.
Section 09: Viscosity was modified.
Section 09: Viscosity was modified.
Section 14: LAND (TDG) - Header was modified.
Section 15: List Citations Table was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 15: Community RTK - Header was modified.
Section 08: Exposure limits/standards was modified.
Section 15: Special Cases Table was modified.
Section 01: Company Contact Methods Sorted by Priority was modified.

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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **MOBIL SUPER HIGH MILEAGE 5W-30**
Product Description: Base Oil and Additives
Product Code: 20151020G030, 485482-00, 97BT49
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: **EXXON MOBIL CORPORATION**
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use

adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: 217°C (423°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.859
Flash Point [Method]: 217°C (423°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Vapor Density (Air = 1): N/D
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 61.3 cSt (61.3 mm2/sec) at 40 °C | 10.4 cSt (10.4 mm2/sec) at 100°C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -33°C (-27°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

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.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.
Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements: DSL, KECI, TSCA
Special Cases:

Inventory	Status
AICS	Restrictions Apply

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
SULFUR DIOXIDE	7446-09-5	11

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Revision Changes:
Section 06: Protective Measures was modified.
Section 13: Disposal Considerations - Disposal Recommendations was modified.

Section 09: Phys/Chem Properties Note was modified.
Section 09: Boiling Point C(F) was modified.
Section 09: Pour Point C(F) was modified.
Section 08: Comply with applicable regulations phrase was modified.
Section 09: Vapor Pressure was modified.
Hazard Identification: Health Hazards was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 11: Dermal Lethality Test Comment was modified.
Section 11: Oral Lethality Test Data was modified.
Section 11: Inhalation Lethality Test Data was modified.
Section 11: Dermal Irritation Test Data was modified.
Section 11: Eye Irritation Test Data was modified.
Section 11: Oral Lethality Test Comment was modified.
Section 11: Inhalation Lethality Test Comment was modified.
Section 11: Dermal Irritation Test Comment was modified.
Section 11: Eye Irritation Test Comment was modified.
Section 11: Inhalation Irritation Test Data was modified.
Section 09: Relative Density - Header was modified.
Section 09: Flash Point C(F) was modified.
Section 09: Viscosity was modified.
Section 09: Viscosity was modified.
Section 14: LAND (TDG) - Header was modified.
Section 15: List Citations Table was modified.
Section 11: Inhalation Lethality Test Comment was modified.
Section 15: National Chemical Inventory Listing - Header was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 15: Community RTK - Header was modified.
Section 11: Additional Health Information was modified.
Section 08: Exposure limits/standards was modified.
Section 01: Company Contact Methods Sorted by Priority was modified.
Section 15: Special Cases - Header was added.
Section 15: Special Cases Table was added.
Section 15: Inventory - Header was added.
Section 15: Status - Header was added.

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