

HALL CHEM MFG. INC.1270 rue Nobel
Boucherville Qc J4B 5H1

Tel. : (450) 645-0296

Fax : (450) 645-0444

MATERIAL SAFETY DATA SHEET**EMERGENCY : CANUTEC (613) 996-6666****MSDS : 110-2****PRODUCT IDENTIFICATION AND USE****NAME OF PRODUCT :** Antifreeze Super diesel**USE OF PRODUCT :** Antifreeze for diesel motor**TRANSPORTATION OF DANGEROUS GOODS****SHIPPING NAME :****WHMIS CLASSIFICATION:** D2A, D2B**P.N.L. :****PRIMARY CLASS :** Toxic**PACKING GROUP :****SUBSIDIARY CLASS :****COMPONENTS**

COMPOSITION	% V/V	CASE #	LD ₅₀ mg/kg Oral/rat	LC ₅₀	TLV ppm 8h
Ethylene glycol	90 to 95	107-21-1	4700		100 000mg/m ³
Diethylene glycol	0 to 5	111-46-6	12565		
Rust inhibitors					
Borax 5 moles	1	1330-43-4	3,4-3,8 g/kg		1 mg/m ³
Sodium hydroxide	0,3-0,35	1310-73-2			2 mg/m ³
Sodium nitrite	2400-3000 ppm	7632-00-0			

PHYSICAL CHARACTERISTICS

PHYSICAL STATE : Liquid	APPEARANCE : Viscous, green-blue color	ODOR : Typical	ODORTRESHOLD : Not available
VAPOR TENSION (20°C) : 0,06 mm Hg	VAPOR DENSITY (air = 1) : 2,2	EVAPORATING RATE (butyl acetate = 1) : 0,01	
BOILING RANGE : 140°C to 158°C (285°F-317°F)	FREEZING POINT : -37°C (50/50)	pH : 8,5 - 9,5	
DENSITY (20°C) : 1,12	DISTRIBUTION FACTOR WATER/OIL : Not available	SOLUBILITY IN WATER (25°C) : 100%	



MATERIAL SAFETY DATA SHEET

Date Prepared: November 25, 2003
 Supersedes: October 16, 2003
 MSDS Number: 08512

1. PRODUCT INFORMATION

Product Identifier: ESSO ANTIFREEZE/COOLANT
 ESSO RAD (FORMER NAME)

Application and Use:
 Engine antifreeze coolant

Product Description:
 A glycol type antifreeze

REGULATORY CLASSIFICATION

WHMIS:
 Class D, Division 2, Subdivision A: Very Toxic Material.

CEPA: CANADIAN ENVIRONMENTAL PROTECTION ACT
 All components of this product are either on the Domestic
 Substances List (DSL) or are exempt.

TDG INFORMATION (RAIL/ROAD):
 Not Regulated in Canada.

Please be aware that other regulations may apply.

TELEPHONE NUMBERS

Emergency 24 hr. (519) 339-2145
 Technical Info. (800) 268-3183

MANUFACTURER/SUPPLIER:

IMPERIAL OIL
 Products Division
 111 St Clair Avenue West
 Toronto, Ontario
 M5W 1K3
 (416) 968-4441

2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a) (i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

NAME	%	CAS #
Monoethylene Glycol	>90	107-21-1 LD50:4.7g/kg, orl, rat LD50: 9.53 g/Kg, skin, rabbit

3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid
 Specific gravity: 1.110 at 16.0 deg C
 Viscosity: 0.00 cSt at 40 deg C
 Vapour Density: > 1
 Boiling Point: 197 deg C
 Evaporation rate: <1 (1= n-butylacetate)
 Solubility in water: 100.00%
 Freezing/Pour Point: -13 deg C
 pH: 11.0
 Odour Threshold: not available
 Vapour Pressure: <1 kPa at 38 deg C
 Appearance/odour: Clear, green liquid, odourless.

4. HEALTH HAZARD INFORMATION

NATURE OF HAZARD

INHALATION:

Negligible hazard at normal temperatures (up to 38 deg C).
 Elevated temperatures or mechanical action may form vapours, mists or fumes which may be irritating to the eyes, nose, throat and lungs.
 High vapour concentrations are irritating to the eyes, nose, throat and lungs; may cause headaches and dizziness; may be anesthetic and may cause other central nervous system effects.
 Avoid breathing vapours or mists.

EYE CONTACT:

Slightly irritating, but will not injure eye tissue.

SKIN CONTACT:

Low toxicity.
 Frequent or prolonged contact may irritate the skin.

INGESTION:

Moderately toxic.

CHRONIC:

This product contains ethylene glycol (EG). Repeated high dose exposure to ethylene glycol by ingestion has caused kidney damage, neurological effects, degeneration of the liver and changes in blood chemistry and circulating blood cells in laboratory animals. Repeated overexposure to ethylene glycol has the potential to cause similar toxic effects in humans.

Ethylene glycol has been shown to cause developmental and reproductive effects at high dose levels in laboratory animals. These findings are of uncertain significance to humans, but precautionary measures should be taken to avoid exposure during pregnancy.

ACUTE TOXICITY DATA:

Based on animal and human testing data from similar materials and products, the acute toxicity of this product is expected to be:

Oral: LD50 > 1300 mg/kg (human)
LD50 > 8500 mg/kg (rat)

OCCUPATIONAL EXPOSURE LIMIT:

ACGIH recommends:

For Ethylene Glycol aerosol, a ceiling limit of 39.4 ppm (100 mg/m³).

Local regulated limits may vary.

5. FIRST AID MEASURES

INHALATION:

In emergency situations use proper respiratory protection to immediately remove the affected victim from exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water. Use soap if available. Remove severely contaminated clothing (including shoes) and launder before reuse. If irritation persists, seek medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

Nunavut Water
Board

MAY 12 2005

Public Registry

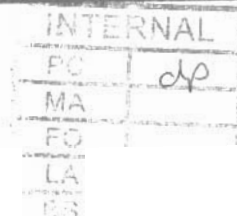
6. PREVENTIVE AND CORRECTIVE MEASURES**PERSONAL PROTECTION:**

The selection of personal protective equipment varies, depending upon conditions of use.

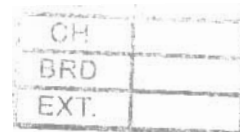
In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves.

Where only incidental contact is likely, wear safety glasses with side shields. No other special precautions are necessary provided skin/eye contact is avoided.

Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

**ENGINEERING CONTROLS:**

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

**HANDLING, STORAGE AND SHIPPING:**

Keep containers closed. Handle and open containers with care.

Store in a cool, well ventilated place away from incompatible materials. Poison. Do not drink this material.

In keeping with good personal hygiene practices, wash hands thoroughly after handling the material.

Store and load at normal (up to 38 deg C) temperature and at atmospheric pressure.

Empty containers may contain product residue. Do not pressurize cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

LAND SPILL:

Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard.

Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth.

Recover by pumping or by using a suitable absorbant.

Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately.

Take all additional action necessary to prevent and remedy the adverse effects of the spill.

WATER SPILL:

Keep public and other shipping traffic away. Prevent additional discharge of material, if possible to do so without hazard.

Consult health information and protection section regarding possible hazards.

Consult an expert on disposal of recovered material. Ensure disposal in

compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

7. FIRE AND EXPLOSION HAZARD

Flashpoint and method: 115 deg C COC ASTM D92

Autoignition: 412 deg C Flammable Limits: LEL: 3.2% UEL: 15.3%

GENERAL HAZARDS:

Low Hazard; liquids may burn upon heating to temperatures at or above the flash point.

Toxic gases will form upon combustion.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel. Shut off fuel to fire.

Use alcohol type foam, dry chemical or water spray to extinguish fire.

Respiratory and eye protection required for fire fighting personnel.

Avoid spraying water directly into storage containers due to danger of boilover.

A self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA may not be required.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, carbon monoxide, carbon dioxide under thermal decomposition.

8. REACTIVITY DATA

STABILITY:

This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents

HAZARDOUS DECOMPOSITION:

none

9. NOTES

10. PREPARATION

Date Prepared: November 25, 2003
Prepared by: Lubricants & Specialties
IMPERIAL OIL
Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3
(800) 268-3183

CAUTION: " The information contained herein relates only to this product or material and may not be valid when used in combination with any other product or material or in any process. If the product is not to be used for a purpose or under conditions which are normal or reasonably foreseeable, this information cannot be relied upon as complete or applicable. For greater certainty, uses other than those described in Section 1 must be reviewed with the supplier. The information contained herein is based on the information available at the indicated date of preparation. This MSDS is for the use of Imperial Oil customers and their employees and agents only. Any further distribution of this MSDS by Imperial Oil customers is prohibited without the written consent of Imperial Oil."

Material Safety Data Sheet / Fiche signalétique**WESTCOAST DRILLING SUPPLIES LTD.**8069 River Way, Delta, British Columbia,
Canada V4G 1L3
Ph. (604) 940-6050 Fax (604) 940-6080

EMERGENCY 1-800-665-6645

SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: BIG BEAR DIAMOND DRILL ROD GREASE
CHEMICAL FAMILY: Hydrocarbon
WHMIS CLASSIFICATION: Not regulated
WORK PLACE HAZARD: Not applicable

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not regulated
PACKAGE GROUP: Not applicable
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Severely hydrotreated naphthenic oils	< 75.00%	64742-52-5	>3 g/kg (Dermal Rabbit) >5 g/kg (Oral Rat)	N/D
Barium soap	< 35.00%	68201-19-4	Not determined	

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:
[XXX] Skin, [] Eye Contact, [] Inhalation, [] Ingestion
SKIN CONTACT: Acute exposure is believed to be minimally irritating
EYE CONTACT: Acute exposure is believed to be minimally irritating.
INHALATION: Believed to be minimally irritating if not in excess of permissible concentrations; see Section VIII.
INGESTION: Not available
CHRONIC OVEREXPOSURE: Not determined
IRRITATION INDEX: SKIN: Believed to be 1.0 - 2.0/8.0 (Rabbit); slightly irritating
EYES: Believed to be <15/110 (Rabbit); no appreciable effect
SYMPTOMS OF EXPOSURE: None expected other than possible minor irritation. Considered practically non-toxic.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: None considered necessary.
EYE CONTACT: As with most foreign materials, should eye contact occur, flush eyes with plenty of water.
INHALATION: None considered necessary.
INGESTION: None considered necessary. Do not induce vomiting.
OTHER INSTRUCTIONS: In some cases of ingestion and/or inhalation, medical attention should be obtained.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: Brownish yellow, fibrous grease
DENSITY (SPECIFIC GRAVITY): >1.0
BOILING POINT: 700° F
MELTING POINT: 400° F
WATER SOLUBILITY: Negligible
% VOLATILE BY VOLUME: Not determined



WESTCOAST DRILLING SUPPLIES LTD.
2069 River Way, Delta, British Columbia, Canada V4G 1L2
Phone: (604) 940-6050 Fax: (604) 940-6050
Toll Free: 1-800-666-6645

RIG REAR DIAMOND DRILL ROD GREASE

EVAPORATION RATE:	Not determined
VAPOR PRESSURE (mm Hg):	Not determined (low)
VAPOR DENSITY (Air = 1):	>1.0
pH:	Not applicable
VISCOSITY:	NLGI No. 3-4 grease

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	>350° F (COC Method)
FLAMMABLE LIMIT:	Not determined
EXTINGUISHING MEDIA:	According to the National Fire Protection Association Guide, use water spray. Dry chemical, Foam, Carbon Dioxide CO ₂ . Water or foam may cause frothing.
SPECIAL FIRE FIGHTING PROCEDURES:	Use water to cool fire-exposed containers. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for persons attempting to stop the leak. See Hazardous Decomposition Products, Section VII.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE [] Info not available	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:	This material decomposes at a high temperature to form carbon monoxide, carbon dioxide, aldehydes and ketones, combustion products of nitrogen and sulphur.
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur []

SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:	None required if exposures are within the permissible concentrations. See below
VENTILATION:	Natural dilution
PROTECTIVE GLOVES:	Nitrile
EYE PROTECTION:	Chemical type goggle or face shield optional
OTHER PROTECTIVE EQUIPMENT:	Standard work clothing and work shoes.
PERMISSIBLE CONCENTRATIONS; AIR:	5mg/cubic metre of air for mineral oil mist averaged over an 8 hour daily exposure (ACGIH 1986 - 87)

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Exposed persons should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water and laundering or dry cleaning soiled work clothing at least weekly. Minimum feasible handling temperatures should be maintained. Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.



WESTCOAST DRILLING SUPPLIES LTD.

8049 River View, Delta, British Columbia, Canada V4C 1L3

Phone: (604) 940-8050 - Fax: (604) 940-6080

Toll Free: 1-800-885-8845

BIG BEAR DIAMOND DRILL ROD GREASE

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STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Contain spill if possible. Wipe up or absorb on suitable material and shovel up.

WASTE DISPOSAL METHOD:

Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures and processes may influence waste classification. Disposal should be in accordance with applicable federal, provincial and local regulations.

SECTION IX: PREPARATION

The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: September 17, 1993

DATE REVISED: April 1, 2000

BY: Product Safety Committee



Revised February 15, 2002

MSDS

Material Safety Data Sheet

PRODUCT NAME:

CALCIUM ALUMINATE CEMENT

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Supplier

Name: Lafarge North America Inc.
Address: 12950 Worldgate Drive, Suite 500
Herndon, VA 20170
Telephone: 703-2480-3600

Product Identifier

Fondu, Fondu XR, Secar 41, 51, 71, 80, LDS Flux, Fondag, Alag

Note: This MSDS covers many products. Individual composition of hazardous constituents will vary.

WHMIS Classification: E

Emergency Telephone Numbers: Health & Transportation:
CHEMTREC 1-800-424-9300 or 1-703-527-3887

2. INFORMATION ON COMPONENTS

Component Name	%	CAS No.
Monocalcium Aluminate	45 - 100	12042-68-1 or 65997-18-2
Aluminum Oxide	0 - 45	1344-28-1

Component Name	EXPOSURE LIMITS	
	OSHA PEL TWA	ACGIH TLV TWA
Aluminum Oxide (Respirable Fraction): (Total Dust)	5 mg/m ³ 15 mg/m ³	10 mg/m ³
Nuisance Dust (Respirable) (Total/Inhalable)	5 mg/m ³ 15 mg/m ³	3 mg/m ³ 10 mg/m ³

3. HAZARD IDENTIFICATION

Emergency Overview

Solid; gray powder; odorless.

Potential Health Effects

INHALATION (acute): Breathing dust may cause nose, throat or lung irritation and choking. The described effect depends on the degree of exposure.

INHALATION (chronic): Prolonged or repeated exposure may cause lung injury.

EYE CONTACT (acute/chronic): May cause eye irritation, severe burns and damage to cornea.

SKIN CONTACT (acute/chronic): May cause dry skin, redness, discomfort, irritation or severe burns.

INGESTION (acute/chronic): Ingestion of large amounts may cause intestinal distress.

4. FIRST AID MEASURES

INHALATION: Move person to fresh air. Seek medical attention for discomfort.

EYE CONTACT: Rinse thoroughly with water. Seek medical attention for abrasions and burns.

SKIN CONTACT: Wash with soap and water. Use moisturizing creams for irritated skin. Seek medical attention for burns.

INGESTION: Do not induce vomiting, but drink plenty of water. Seek medical attention for discomfort.

5. FIREFIGHTING MEASURES

Flashpoint and Method: None.

Flammable Limits: Not combustible.

Autoignition Temperature: None.

General Hazard: Avoid breathing dust.

Firefighting Instructions: Treat adjacent material.

Firefighting Equipment: This product is not a fire hazard. Self contained breathing apparatus is recommended to limit exposures to smoke from any combustion source.

Hazardous Combustion Products: None.

6. ACCIDENTAL RELEASE MEASURES

General: Wind blown dust may cause the hazards identified in Section 3.

3. Remove spilled material to limit potential harm.

Land Spill: Clean up spilled material.

Water Spill: Clean up spilled material.

7. HANDLING AND STORAGE

General: Avoid accidental release. Store dry and away from water.

Storage Temperature: Unlimited.

Storage Pressure: Unlimited.

Empty Containers: Dispose of containers in an approved landfill or incinerator.

8. EXPOSURE CONTROL & PERSONAL PROTECTION



Material Safety Data Sheet , Calcium Aluminate Cement

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Engineering Controls

Use exhaust ventilation to maintain dust levels below exposure limits in workplaces with poor ventilation and dusty conditions.

Personal Protection

RESPIRATORY PROTECTION: Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator when exposed to dust above exposure limits.

EYE PROTECTION: Wear glasses or safety goggles to prevent contact with eyes. Wearing contact lenses when using this product under dusty conditions is not recommended.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	Not measurable
Vapor Density:	Not measurable
Specific Gravity:	3.2
Solubility in Water:	Slight (0.1 - 1.0%)
Evaporation Rate:	Not measurable
pH (in water):	10 - 11
Boiling Point:	> 1000° C
Freezing Point:	None, solid
Viscosity:	None, solid

10. STABILITY AND REACTIVITY

General: Product is stable but must be kept dry. Reacts with water forming polymerized silicates and calcium oxide.
Incompatible Materials and Conditions to Avoid: Must be kept dry.
Hazardous Decomposition: None, powdered solid.

11. MSDS PREPARATION AND TOXICOLOGICAL INFORMATION

For detailed toxicological information contact:

Environment and Government Affairs
 Lafarge North America
 12950 Worldgate Drive, Suite 500
 Herndon, VA 20170
 (703) 480-3600

12. ECOLOGICAL INFORMATION

For detailed ecological information: See Section 11 above

13. DISPOSAL CONSIDERATIONS

Dispose in landfill in accordance with all applicable regulations. Any disposal practice must be in compliance with local, provincial, state and federal laws and regulations. Contact local environmental agency for specific rules.

14. REQUIRED TRANSPORT INFORMATION

Not a hazardous material for DOT or TDG shipping.

15. REGULATORY 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 Products Regulations.

OSHA Hazard Communication Rule, 29 CFR 1910.1200:

Some constituents identified in this product are considered by OSHA to be hazardous and should be included in the employer's hazard communication program.

CERCLA/SUPERFUND, 40 CFR 117.302: Not listed.

SARA TITLE III, Sections 311-312 Hazard Category:

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered a hazardous chemical and a delayed health hazard.

SARA Section 313 Information:

This product contains NONE of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Toxic Substance Control Act (TSCA):

Some constituents identified in this product are listed on the TSCA inventory.

California Proposition 65:

CRYSTALLINE SILICA (CAS - 14808-60-7) is considered to be a carcinogen by the state of California.

WHMIS Information

This product contains substances considered to be hazardous by Health Canada and is a controlled product. Consult local authorities for acceptable exposure limits. WHMIS Information - 613-957-2342

16. OTHER INFORMATION

Abbreviations:

GAS No	Chemical Abstract Service number
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ACGIH	American Conference of Governmental Industrial Hygienists
TLV	Threshold Limit Value
TWA	Time Weighted Average (8 hour)
CL	Ceiling Limit
mg/m ³	milligrams per cubic meter
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
pH	negative log of hydrogen ion
>	greater than
DOT	U.S. Department of Transportation
TDG	Transportation of Dangerous Goods
CFR	Code for Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
SARA	Superfund Amendments and Reauthorization Act
WHMIS	Workplace Hazardous Materials Information System

Information in this MSDS is believed to be current and accurate at the time provided. It is the user's obligation to determine the conditions of safe use of this product.



PRODUITS LUBRI-DELTA INC.
2215, boulevard Industriel
Chomedey, Laval QC H7S 1P8

(450) 629-4555 (514) 383-2784 FAX (514) 383-4241

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT INFORMATION

PRODUCT IDENTIFIER

CHAIN OIL - ALL GRADES

PERSON IN CHARGE
TELEPHONE NUMBER
DATE
MSDS NUMBER

LAURENT MILLETTE
(450) 629-4555
June 2004
1600A

EMERGENCY CANADIAN CENTRE

CANUTEC

EMERGENCY TELEPHONE NUMBER

(613) 996-6666

THIS PRODUCT IS NOT REGULATED BY W.H.M.I.S.

SECTION II - HAZARDOUS INGREDIENTS

DANGEROUS GOODS

none

TRANSPORT CLASSIFICATION

none

SECTION III - PHYSICAL DATA

MOLECULAR FORMULA

MOLECULAR WEIGHT

PHYSICAL STATE

APPEARANCE

COLOUR AND ODOR

ODOUR THRESHOLD [ppm]

DENSITY

FREEZING POINT °C

MELTING POINT °C

BOILING POINT °C

VAPOUR PRESSURE [mmHg 20°C]

CONCENTRATION AT SATURATION

VAPOUR DENSITY [air = 1]

EVAPORATION RATE [butyl acetate = 1]

COEFFICIENT OF WATER/OIL DISTRIBUTION

pH

SOLUBILITY IN WATER AT SATURATION

PARTICLE SIZE

liquid

red liquid

red with a characteristic odour

100

0.86 to 0.88

<1

>1

<1

insoluble in water

MSDS NUMBER 1800A

SECTION IV - FIRE OR EXPLOSION HAZARD

FLASH POINT AND METHOD OF DETERMINATION

160°C minimum [too mehod]

UPPER FLAMMABLE LIMIT [%Volume]

not available

LOWER FLAMMABLE LIMIT [%Volume]

not available

AUTO-IGNITION TEMPERATURE

>350°C

CONDITIONS OF FLAMMABILITY

none

EXPLOSION CONDITIONS

EXPLOSION SENSITIVITY TO MECHANICAL IMPACT

none

EXPLOSION SENSITIVITY TO STATIC DISCHARGE

none

MEANS OF EXTINCTION

dry chemical powder, foam, watermist

SPECIAL PRECAUTIONS

HAZARDOUS COMBUSTION PRODUCTS

thermal decomposition or fire can produce carbon oxide, nitrogen, phosphorous, sulfur

SECTION V - REACTIVITY

CONDITIONS OF CHEMICAL INSTABILITY

stable

SUBSTANCES WITH WHICH THE PRODUCT IS INCOMPATIBLE

oxidizers and comburants

CONDITIONS OF REACTIVITY

excessive heat

HAZARDOUS DECOMPOSITION PRODUCTS

carbon oxide, nitrogen, phosphorous, sulfur

POLYMERIZATION

SECTION VI - TOXICOLOGICAL PROPERTIES

SKIN CONTACT

prolonged or repeated contact can cause dermatitis

EYE CONTACT

can cause mild to severe irritation if not washed off rapidly

INHALATION

not considered as a risk at ambient temperature, low toxicity

SKIN ABSORPTION

prolonged or repeated contact can cause dermatitis

INGESTION

none

EFFECTS OF ACUTE EXPOSURE TO PRODUCT

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT

EXPOSURE LIMITS

admissible 8 hours [5.0 mg/m³]

IRRITANCY AND CORROSIVENESS

no

SENSITIZATION TO PRODUCT

none

CARCINOGENICITY

none

REPRODUCTIVE TOXICITY

none

TERATOGENICITY

no

MUTAGENICITY

no

TOXICOLOGICAL SYNERGISTIC PRODUCTS

none

SECTION VII - PREVENTIVE MEASURES

PROTECTIVE EQUIPMENT TO BE USED

rubber gloves

ENGINEERING CONTROLS TO BE USED

none

PROCEDURES TO FOLLOW IN CASE OF LEAK OR SPILL

absorb with porous and chemically inert products

WASTE DISPOSAL

according to local rules

HANDLING PROCEDURES AND EQUIPMENT

normal uses and observe security measures

STORAGE REQUIREMENTS

SPECIAL SHIPPING INFORMATION

none

MSDS NUMBER 1500A

SECTION VIII - FIRST AID MEASURES

INHALATION	not applicable
EYE CONTACT	copious water flush
SKIN CONTACT	soap wash and water flush
INGESTION	DO NOT INDUCE VOMITING, call a physician immediately
EMERGENCY	QUEBEC ANTI-POISON CENTER AT 1-800-463-5060

SECTION IX - PREPARATION INFORMATION

The information contained in this document are given as a guide for the product maintenance and were written in good faith by competent technical personnel. These informations should not be considered as complete because other aspects of maintenance and uses could be observed. In no case, Produits Lubri-Delta Inc. could be held responsible for damages, losses and injuries resulting of the use of this product and no warranty whatsoever, tacit or express is awarded by PRODUITS LUBRI-DELTA INC.

This material safety data sheet is in effect for three (3) years

PRODUITS LUBRI-DELTA INC.
2215, boulevard Industriel
Chomedey, Laval QC H7S 1P8

Laurent Millette



MATERIAL SAFETY DATA SHEET

Date Prepared: December 04, 2003
Supersedes: December 03, 2003
MSDS Number: 05844

1. PRODUCT INFORMATION

Product Identifier: ESSO CHAINOIL WINTER

Application and Use:
Lubricating oil

Product Description:

A mixture of refined petroleum lubricant basestocks,
and additives.

REGULATORY CLASSIFICATION

WHMIS:

Not a controlled product

CEPA: CANADIAN ENVIRONMENTAL PROTECTION ACT

All components of this product are either on the Domestic
Substances List (DSL) or are exempt.

TDG INFORMATION (RAIL/ROAD):

Not Regulated in Canada.

Please be aware that other regulations may apply.

TELEPHONE NUMBERS

Emergency 24 hr. (519) 339-2145
Technical Info. (800) 268-3183

MANUFACTURER/SUPPLIER:

IMPERIAL OIL
Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3
(416) 968-4441

2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a) (i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

NAME	%	CAS #
Not applicable		

3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid
 Specific gravity: not available
 Viscosity: 40.00 cSt at 40 deg C
 Vapour Density: not available
 Boiling Point: 285 to 615 deg C
 Evaporation rate: < 0.1 (1= n-butylacetate)
 Solubility in water: negligible
 Freezing/Pour Point: -27 deg C ASTM D97
 Odour Threshold: not available
 Vapour Pressure: <0.1 kPa at 20 deg C
 Density: 0.87 g/cc at 15 deg C
 Appearance/odour: Red coloured oil, petroleum odour

4. HEALTH HAZARD INFORMATION

NATURE OF HAZARD

INHALATION:

Negligible hazard at normal temperatures (up to 38 deg C).
 Elevated temperatures or mechanical action may form vapours, mists or fumes which may be irritating to the eyes, nose, throat and lungs.
 Avoid breathing vapours or mists.

EYE CONTACT:

Slightly irritating, but will not injure eye tissue.

SKIN CONTACT:

Low toxicity.
 Frequent or prolonged contact may irritate the skin.

INGESTION:

Low toxicity.

ACUTE TOXICITY DATA:

Based on animal testing data from similar materials and products, the acute toxicity of this product is expected to be:

Oral : LD50 > 5000 mg/kg (Rat)
Dermal : LD50 > 3160 mg/kg (Rabbit)
Inhalation : LC50 > 5000 mg/m3 (Rat)

OCCUPATIONAL EXPOSURE LIMIT:

ACGIH recommends:

For oil mists, 5 mg/m3.

Local regulated limits may vary.

5. FIRST AID MEASURES

INHALATION:

Vapour pressure of this material is low and as such inhalation under normal conditions is usually not a problem. If overexposed to oil mist, remove from further exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water. Use soap if available. Remove severely contaminated clothing (including shoes) and launder before reuse. If irritation persists, seek medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

6. PREVENTIVE AND CORRECTIVE MEASURES

PERSONAL PROTECTION:

The selection of personal protective equipment varies, depending upon conditions of use.

In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves.

Where only incidental contact is likely, wear safety glasses with side shields. No other special precautions are necessary provided skin/eye contact is avoided.

Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means

of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

HANDLING, STORAGE AND SHIPPING:

Keep containers closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material. Do not handle or store near an open flame, sources of heat, or sources of ignition. Empty containers may contain product residue. Do not pressurize cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

LAND SPILL:

Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard. Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Recover by pumping or by using a suitable absorbant. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

WATER SPILL:

Remove from surface by skimming or with suitable absorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in unconfined waters. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

7. FIRE AND EXPLOSION HAZARD

Flashpoint and method: >180 deg C COC ASTM D92

Autoignition: 315 deg C Flammable Limits: LEL: NA UEL: NA

GENERAL HAZARDS:

Low Hazard; liquids may burn upon heating to temperatures at or above the

flash point.
Toxic gases will form upon combustion.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off fuel to fire.
Use foam, dry chemical or water spray to extinguish fire.
Respiratory and eye protection required for fire fighting personnel.
Avoid spraying water directly into storage containers due to danger of boilover.
A self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA may not be required.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, carbon monoxide, carbon dioxide and traces of oxides of sulphur

8. REACTIVITY DATA

STABILITY:

This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents

HAZARDOUS DECOMPOSITION:

none

9. NOTES

REVISION SUMMARY:

Since 3 December 2003, this MSDS has been revised in Section(s):

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10. PREPARATION

Date Prepared: December 04, 2003
Prepared by: Lubricants & Specialties
IMPERIAL OIL
Products Division
111 St Clair Avenue West