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MATERIAL SAFETY DATA SHEET**SECTION 1 — PRODUCT IDENTIFICATION AND USE**

PRODUCT IDENTIFIER LINSEED SOAP		PRODUCT IDENTIFICATION NUMBER (PIN)	
TYPE LUBRICANT - CLEANER			
MANUFACTURER NAME CANADA CHEESE WORKS LTD.		SUPPLIER'S NAME	
STREET ADDRESS 2929 MURRAY STREET		STREET ADDRESS	
CITY LYNNE HAVEN	PROVINCE B.C.	CITY	PROVINCE
POSTAL CODE V3H 1X3	EMERGENCY TELEPHONE NO. 937-1557	MUNICIPAL CODE	EMERGENCY TELEPHONE NO.

SECTION 2 — HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS NUMBER	LD ₅₀ OF INGREDIENT (SPERM SPECIES AND ROUTE)	LD ₅₀ OF INGREDIENT (RAT SPECIES)
POTASSIUM HYDROXIDE	6.6	1310-58-3	N/A	Oral rat 365mg/kg

SECTION 3 — PHYSICAL DATA

PHYSICAL STATE LIQUID	COLOUR AND APPEARANCE LIQUID	ODOR THRESHOLD (ODT) NOT AVAILABLE	
VAPOR PRESSURE (kPa) 9-9.5	VAPOR DENSITY (AIR=1) N/A	EVAPORATION RATE N/A	BOILING POINT (°C) N/A
DENSITY (G/CM ³) 1.026	REFRACTIVE INDEX N/A	FREEZING POINT (°C) N/A	

SECTION 4 — FIRE AND EXPLOSION DATA

FLAMMABILITY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	IF YES, UNDER WHICH CONDITIONS?
MODE OF EXTINCTION	
FLASHPOINT (°C) AND METHOD	UPPER FLAMMABLE LIMIT (L BY VOLUME)
AUTOMATIC FIRE TEMPERATURE (°C)	LOWER FLAMMABLE LIMIT (L BY VOLUME)
EXPLOSION DATA	HAZARDOUS COMBUSTION PRODUCTS
SENSITIVITY TO IMPACT	SENSITIVITY TO STATIC DISCHARGE

SECTION 5 — REACTIVITY DATA

STABILITY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	IF NO, UNDER WHICH CONDITIONS?
INCOMPATIBILITY WITH OTHER SUBSTANCES YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	WHICH ONE?
REACTIVITY, AND UNDER WHAT CONDITIONS	NOT AVAILABLE
HAZARDOUS DECOMPOSITION PRODUCTS	NOT AVAILABLE
	NOT AVAILABLE

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PRODUCT
IDENTIFIER

LINKED SOFT SOAP

SECTION 6 — TOXICOLOGICAL PROPERTIES

SOURCE OF ENTRY

SKIN CONTACT ☒SKIN ABSORPTION ☐EYE CONTACT ☒INHALATION ☐INGESTION ☒

EFFECTS OF ACUTE EXPOSURE TO PRODUCT

EYE OR SKIN IRRITATION MIGHT OCCUR

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT

NOT AVAILABLE

EXPOSURE LIMITS

IRRITANCY OF PRODUCT

SENSITIZATION TO PRODUCT

CANCEROGENICITY

NOT AVAILABLE

NOT AVAILABLE

NOT AVAILABLE

NOT AVAILABLE

TOXICOGENICITY

REPRODUCTIVE TOXICITY

MUTAGENICITY

SYNERGISTIC PRODUCTS

NOT AVAILABLE

NOT AVAILABLE

NOT AVAILABLE

NOT AVAILABLE

SECTION 7 — PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:

GLOVES (SPECIFY)

IMPERVIOUS GLOVES

RESPIRATOR (SPECIFY)

EYE (SPECIFY)

CHEMICAL GOGGLES

FOOTWEAR (SPECIFY)

RUBBER

CLOTHING (SPECIFY)

WATER RESISTANT

DIRECTION (SPECIFY)

ENGINEERING CONTROLS (SPECIFY, E.G. VENTILATION, ENCLOSED PROCESS)

NOT APPLICABLE

SPILL AND SPOT PROCEDURE

REMOVE SPILLED MATERIAL AND WASH SURFACE WITH WATER

WASTE DISPOSAL

IN ACCORDANCE WITH LOCAL, PROVINCIAL OR FEDERAL REGULATION

WORKING PROCEDURES AND EQUIPMENT

NOT APPLICABLE

STORAGE REQUIREMENTS

STORE IN A COOL PLACE

SPECIAL SHIPPING INFORMATION

NOT APPLICABLE

SECTION 8 — FIRST AID MEASURES

SPECIFIC MEASURES

EYES: IRRIGATE WITH LARGE AMOUNTS OF WATER.

SKIN: FLUSH WITH WATER AND WASH EXPOSED AREA WITH SOAP.

INGESTED: DILUTE WITH WATER. DO NOT INDUCE VOMITING. SEEK MEDICAL ATTENTION.

SECTION 9 — PREPARATION DATE OF MSDS

PREPARED BY (GROUP/DEPARTMENT, ETC.)

DENNIS RENTON

PRODUCT NUMBER

931-1557

DATE

January 1997

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: **KOPR KOTE**
CHEMICAL FAMILY: Oil, Copper, Graphite and Lead
WHMIS CLASSIFICATION: Not available
WORK PLACE HAZARD: Not available

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not available
PACKAGE GROUP: Not available
PRODUCT IDENTIFICATION NUMBER (PIN): Not available

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	OSHA PEL	ACGIH TLLV
Petroleum Oil	70M	64742-57-0 or 64742-62-7	Oil Mist TWA - 5 mg/M ³	Not applicable
Lead Powder	15M	7439-92-1	Air - 200 ug/M ³	Air - 0.15 mg/M ³

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: (Information not available)
[] Skin, [] Eye Contact, [] Inhalation, [] Ingestion

SKIN CONTACT: Not available.
EYE CONTACT: Not available.
INHALATION: Not available.
INGESTION: Not available.
SYMPTOMS OF EXPOSURE: Redness and irritation of skin.
EFFECTS OF OVEREXPOSURE: Repeated skin contact for persons hypersensitive to petroleum products can cause redness and irritation of skin.
MEDICAL CONDITIONS POTENTIALLY AGGRAVATED BY EXPOSURE: Unknown
MATERIAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: National Toxicology Program - No, IARC - No, OSHA - No

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Remove by wiping, or waterless hand cleaner, followed by washing.
EYE CONTACT: Wash with copious quantities of water.
INHALATION: Clear air passages, call a physician.
INGESTION: **DO NOT** induce vomiting; call a physician.
OTHER INSTRUCTIONS: Not applicable

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: Copper colored paste; petroleum odor.
DENSITY (SPECIFIC GRAVITY): 1.23
BOILING POINT: 441° C
MELTING POINT: Not applicable
WATER SOLUBILITY: None

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KOPR KOTE

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% VOLATILE BY VOLUME:	None
EVAPORATION RATE:	< 0.01
VAPOR PRESSURE: (mm Hg)	< 0.01
VAPOR DENSITY: (Air = 1)	> 5.0
pH:	Not available
VISCOSITY:	Not available

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	294° C (COC Method)
FLAMMABLE LIMIT:	LEL = 0.9% UEL = 7%
AUTO-IGNITION TEMPERATURE:	> 315° C
EXTINGUISHING MEDIA:	Use foam, dry chemical, water spray(fog), carbon dioxide CO ₂ , or vaporizing liquid type extinguishing agents.
SPECIAL FIRE FIGHTING PROCEDURES:	Use supplied-air breathing equipment for enclosed or confined spaces.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE []	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizing materials and copper reactive agents. Incompatible with 1-bromo-2propyne, NH ₄ NO ₃ , ClF ₃ , H ₂ O ₂ , NaN ₃ , Na ₂ C ₂ , Zr.
HAZARDOUS DECOMPOSITION PRODUCTS:	Hydrogen, carbon monoxide, aldehydes, smoke, toxic fumes and toxic copper and lead compounds.
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur []

SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:	None required.
VENTILATION:	No special ventilation required.
PROTECTIVE GLOVES:	None required.
EYE PROTECTION:	None required.
OTHER PROTECTIVE EQUIPMENT:	Persons with hypersensitive skin should use gloves.
PERMISSIBLE CONCENTRATIONS:	Not available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Normal precautions as with any petroleum product. Wash hands before eating.

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Scoop up excess, wipe with rags, pick up residue with diatomaceous earth to avoid walking hazard.

WASTE DISPOSAL METHOD:

Consult federal, provincial/state and local regulations for petroleum products.

SECTION IX: PREPARATION

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

DATE ISSUED: May 25, 1991

DATE REVISED: April 1, 2000

BY: Product Safety Committee

Material Safety Data Sheet / Fiche signalétique**WESTCOAST DRILLING SUPPLIES LTD.**

EMERGENCY 1-800-665-6645

8069 River Way, Delta, British Columbia,
Canada V4G 1L3
Ph. (604) 940-6050 Fax (604) 940-6080

SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **LUBTUB**
CHEMICAL FAMILY: Partial Sodium Salt of Polyacrylic Acid
WHMIS CLASSIFICATION: D-2(B)
WORK PLACE HAZARD: Skin and eye irritant.

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

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

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Partial sodium salt of polyacrylic acid	15 - 40%	Mixture	Not available	Not available

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:
[XXX] Skin, [XXX] Eye Contact, [] Inhalation, [XXX] Ingestion

SKIN CONTACT: No effects of exposure expected due to contact. Prolonged contact may cause skin irritation or dermatitis in some individuals.
EYE CONTACT: May cause watering of eyes and inflammation of conjunctiva.
INHALATION: If misted, may cause sneezing, slight irritation of nose and throat.
INGESTION: May cause nausea and vomiting.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.
EYE CONTACT: Immediately flush eyes with water for fifteen (15) minutes and call a physician.
INHALATION: Remove to fresh air. Give artificial respiration if not breathing preferably mouth to mouth. If breathing difficult give oxygen. Call a physician.
INGESTION: If conscious, induce vomiting by giving two glasses of water and sticking finger down throat. *Do not give anything by mouth to an unconscious or convulsing person. Call a physician.*

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: Clear to hazy, light amber liquid; Slight sweetish odor.
DENSITY (SPECIFIC GRAVITY): 1.2
BOILING POINT: Not available
MELTING POINT: Not available
WATER SOLUBILITY: Soluble
% VOLATILE BY VOLUME: Not available
EVAPORATION RATE: Not available
VAPOR PRESSURE: (mm Hg) Not available
VAPOR DENSITY: (Air = 1) Not available
pH: 7.0 - 9.0

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LUB TUB

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SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	> 100° C
FLAMMABLE LIMIT:	Not applicable
EXTINGUISHING MEDIA:	Water, water spray, foam, dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES:	Self contained respirators required for fire fighting personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE []	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizing agents and caustic solutions.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon dioxide; carbon monoxide.
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur []

SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION: If vapors or mist are present suggest approved NIOSH/MESA air purifying respirator.
VENTILATION:
PROTECTIVE GLOVES:
EYE PROTECTION:
OTHER PROTECTIVE EQUIPMENT:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

WASTE DISPOSAL METHOD:

SECTION IX: PREPARATION

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DATE ISSUED: November 10, 1990

DATE REVISED: April 1, 2000

BY: Product Safety Committee

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

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8089 River Way, Delta, British Columbia, Canada V4G 1L3

Phone: (604) 940-6050 - Fax: (604) 940-6080

Toll Free: 1-800-665-6645

BIG BEAR DIAMOND DRILL ROD GREASE

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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:	Neoprene
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.

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8069 River Way, Delta, British Columbia, Canada V4G 1L3

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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



Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing
	Not controlled	

Section 1. Chemical Product and Company Identification

Product Name		MULTIPURPOSE EP 1, EP 2		Code	850-410, 411 File # W224	
				DSL	Listed on DSL.	
Supplier		PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3		Print Date: 6/10/98.		
Synonym		None		<u>In case of</u> Petro-Canada: 403-296-3000 <u>Emergency</u> Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).		
Chemical Name		Not applicable.				
Chemical Family		Petroleum hydrocarbons.				
Chemical Formula		Not applicable.				
Manufacturer		PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3		Material Uses		This product is designed for trouble-free lubrication of a wide range of automotive and industrial equipment.

Section 2. Composition/Information on Ingredients

Name	CAS #	Exposure Limits (ACGIH)			% (V/V)
		TLV-TWA(8 h)	STEL	CEILING	
Severely hydrotreated neutral base oil and additives.	Not applicable	5 mg/m ³ (oil mist)	Not applicable	Not applicable	100

Section 3. Hazards Identification.

Potential Acute Health Effects	Non Irritating to skin but for prolonged use, protective gloves are recommended. Eye contact may cause transient irritation, but no permanent damage. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures, or mechanical actions which may produce vapours, mists or fumes, inhalation of this product may cause irritation of the breathing passages. Low toxicity on ingestion. For more information, refer to Section 11.
Potential Chronic Health Effects	Prolonged or repeated contact with this product may cause skin irritation or inflammation, characterized by dermatitis, and oil acne. For more information, refer to Section 11.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Do not use an eye ointment. Seek medical attention if irritation persists.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Get medical attention if redness or irritation occurs.
Inhalation	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform mouth-to-mouth resuscitation. Administer oxygen if available. Allow the victim to rest in a well ventilated area. Seek medical attention.

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MULTIPURPOSE EP 1, EP 2

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Hazardous Inhalation	No additional information.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Has laxative effect - rapidly eliminated. Physician assessment advised.
Hazardous Ingestion	No additional information.

Section 5. Fire-fighting Measures

The Product is:	Class IIIB - combustible (NFPA).
Auto-Ignition Temperature	315°C (599°F)
Flash Points	OPEN CUP: 232°C (449.6°F), ASTM D92, Cleveland.
Flammable Limits	Not available.
Products of Combustion	Carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), phosphorus oxides (PO _x), sulphur oxides (SO _x), sulphur compounds (H ₂ S), smoke and irritating fumes as products of incomplete combustion.
Fire Hazards in Presence of Various Substances	Low fire hazard. This material must be heated before ignition will occur.
Explosion Hazards in Presence of Various Substances	Do not cut, weld, heat, drill or pressurize empty container.
Fire Fighting Media and Instructions	NAERG96, GUIDE 171, Substances (low to moderate hazard). If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 meters (0.5 mile) in all directions. DO NOT extinguish a leaking gas flame unless leak can be stopped. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. SMALL FIRE: use DRY chemicals, foam, or CO ₂ . LARGE FIRE: use water spray, fog or foam. For small outdoor fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel.
Special Remarks on Fire Hazards	Flash points COC: 232, 263 ° C. (respectively).
Special Remarks on Explosion Hazards	No additional remark.

Section 6. Accidental Release Measures

Small Spill	Avoid contact. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or allow to cool and scrap up into closed metal containers. Contain spill. Check with applicable jurisdictions for specific disposal requirements of material and empty containers.
Large Spill	No additional remark.

Section 7. Handling and Storage

Handling	Keep away from sources of ignition. DO NOT reuse empty containers without commercial cleaning or reconditioning. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage	Store in tightly closed containers in cool, dry, isolated, well-ventilated area, and away from strong oxidizing agents.

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MULTIPURPOSE EP 1, EP 2

Page Number: 3

Section 8. Exposure Controls/Personal Protection

Engineering Controls	For normal application, special ventilation is not necessary. If user's operations generate fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection	Safety glasses. For direct contact of more than 2 hours -- VITON or NITRILE gloves are needed, otherwise, PVC gloves may be used. Wear long sleeved clothing to minimize skin contact. Respirator normally not necessary. If mist generated by heating, spraying, etc. wear an organic vapour respirator with a mist filter. All respirators must be NIOSH certified.
Personal Protection in Case of a Large Spill	No additional remarks
Exposure Limits	8-hour TLV-TWA of 5 mg/m ³ recommended by manufacturer based on ACGIH TLV for oil mists. Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Smooth, buttery paste.	Odor	Mild grease like.
Dropping Point	Not available.	Taste	Not available.
Penetration (@ 25°C)	332, 270 (unworked)	Color	Brown to dark brown.
Boiling Point	260°C (500°F)		
Melting Point	Not available.		
Specific Gravity	0.88 kg/L @ 15°C (Water = 1).		
Vapor Pressure	0.0010 kPa @ 20°C (0.0075 mmHg @ 68°F).		
Vapor Density	Not available.		
Volatility	Non to low volatile.		
Odor Threshold	Not available.		
Oil / Water Dist. Coeff.	Not available.		
Viscosity (@ 40 °C)	Not applicable.		
Solubility	Insoluble in cold water, soluble in non-polar hydrocarbon solvents.		

Section 10. Stability and Reactivity

Stability	The product is stable under normal conditions of storage.		
Instability Temperature	Not available.		
Conditions to Avoid	Avoid excessive heat.		
Incompatibility with Various Substances	Highly reactive with oxidizing agents, metals, acids.	Decomposition products:	CO _x , SO _x , NO _x , H ₂ S, oxides of antimony and zinc, smoke on combustion.
Corrosivity	Not applicable		
Special Remarks on Reactivity	Peroxides, chlorine, strong acids, etc.		
Special Remarks on Corrosivity	No additional remark		

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MULTIPURPOSE EP 1, EP 2

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Section 11. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation and ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): >5000 mg/kg (rat).
Chronic Effects on Humans	Prolonged or repeated contact with this product may cause skin irritation or inflammation, characterized by dermatitis, and oil acne. For more information, refer to Section 11.
Other Toxic Effects on Humans	Non irritating to skin but for prolonged use, protective gloves are recommended. Eye contact may cause transient irritation, but no permanent damage. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures, or mechanical actions which may produce vapours, mists or fumes, inhalation of this product may cause irritation of the breathing passages. Low toxicity on ingestion. For more information, refer to Section 11.
Special Remarks on Toxicity to Animals	Based on toxicity of severely hydrotreated paraffinic oil only.
Special Remarks on Chronic Effects on Humans	No additional remark.
Special Remarks on Other Toxic Effects on Humans	No additional remark.

Section 12. Ecological Information

Ecotoxicity	The product has the potential for degradation by bacteria over an extended period of time.
BOD5 and COD	Not available.
Products of Biodegradation	No studies were found.
Toxicity of the Products of Biodegradation	No studies were found.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Disposal	Consult your local or regional authorities. Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations.
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Section 14. Transport Information

TDG Classification	Not regulated.
Special Provisions for Transport	No additional remark.

Section 15. Regulatory Information and Pictograms

Other Regulations	<p>CEPA: This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on DSL. This product is not listed on NPRI or contains Reportable Quantity (RQ) Substances.</p> <p>USEPA: All components of this formulation are listed on TSCA. This product is not known to contain any of the carcinogens required to be listed under OSHA hazard communication standard, 29 CFR 1910.1200 (U.S.). Not listed on EPCRA or SARA Title III, Section 302/304/311/312 (40 CFR 355/370) for Extremely Hazardous Substances. Not listed on EPCRA or SARA Title III, Section 313 (40 CFR 372) for Toxic Chemicals. Not listed on CERCLA Hazardous Substances (RQ Chemicals) (40 CFR 302.4). Not listed on RCRA (40 CFR 261.33) for Hazardous Waste. Please note that the chemical identity of some or all of the ingredients that may be listed herein is confidential business information and is being withheld as permitted by 29 CFR 1910.1200 and</p>
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<p>various State Right to Know Laws.</p> <p>EU: All components of this formulation are listed on EINECS. Not listed as hazardous chemical in CHIP96-Approved Supply List (675/548/EEC). Not classified as R65 - Aspiration hazard, by the 22nd ATP (Adaptation to Technical Progress) of the European DSD.</p>										
Other Classifications	<p>WHMIS (Canada) Not controlled</p> <p>DSD/DPD (EEC) Not classified under the Dangerous Substances or Dangerous Preparations Directives.</p>									
WHMIS (Canada) (Pictograms)										
HMIS (U.S.A.)	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td>Health Hazard</td><td style="text-align: center;">0</td></tr> <tr><td>Fire Hazard</td><td style="text-align: center;">1</td></tr> <tr><td>Reactivity</td><td style="text-align: center;">0</td></tr> <tr><td>Personal Protection</td><td style="text-align: center;">2</td></tr> </table>	Health Hazard	0	Fire Hazard	1	Reactivity	0	Personal Protection	2	<p>NFPA (U.S.A.)</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">Health</div>  <div style="margin-left: 10px;">Fire Hazard Reactivity Specific hazard</div> </div>
Health Hazard	0									
Fire Hazard	1									
Reactivity	0									
Personal Protection	2									
DSD/DPD (Europe) (Pictograms)										
TDG (Canada) (pictograms)										
DOT (U.S.A.) (Pictograms)										
Protective Clothing (Pictograms)										

Section 16. Other Information	
References	Available upon request.
Other Special Considerations	No additional remark.
Prepared by May on 2/19/97.	<p>Data entry by May Chau.</p> <p>Print Date: 6/10/98.</p>
Information Contact	<p>Petro-Canada</p> <p>Product Safety Coordinator</p> <p>(403) 296-4410</p>
<p><i>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.</i></p>	



Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing	TDG (pictograms)
	Not controlled		

Section 1. Chemical Product and Company Identification

Product Name	DURON 10W-30, 15W-40 ENGINE OIL	Code	420-051-0, DUR13 420-053-0, DUR15
Synonym	None	Validated on	05/26/2000
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Emergency	Petro-Canada: 403-286-3000 Canutec Transportation: 813-998-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
Material Uses	Duron multigrades are universal crankcase lubricants developed for mixed commercial fleets. They are suitable for diesel, gasoline, propane and compressed natural gas engines, power/hifi transmissions and hydraulic systems, with particular emphasis on winter operation.		

Section 2. Composition and Information on Ingredients

Name			Exposure Limits (ACGIH)		
Name	CAS #	% (W/W)	TLV-TWA (8 h)	STEL	CEILING
Severely hydrotreated paraffinic oil and additives.	Mixture	100	5 mg/m ³ (oil mist)	10 mg/m ³ (oil mist)	Not established
Manufacturer Recommendation	8-hour TLV-TWA of 5 mg/m ³ recommended by manufacturer based on ACGIH TLV for oil mists. Consult local authorities for acceptable exposure limits.				
Other Exposure Limits Consult local, state, provincial or territory authorities for acceptable exposure limits.					

Section 3. Hazards Identification

Potential Health Effects	Non irritating to slight transient irritation to skin and eyes, but no permanent damage. Relatively non-toxic via ingestion. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures, or mechanical actions which may produce vapours or mists. Inhalation of product may cause irritation of the breathing passages. For more information, refer to Section 11.
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Section 4. First Aid Measures

Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.
Inhalation	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.
Note to Physician	Not available

Section 5. Fire-fighting Measures

Flammability	Combustible liquid (NFPA).	Flammable Limits	Not available.
Flash Points	Open Cup: ≥205°C (>401°F), ASTM D92, Cleveland.	Auto-ignition Temperature	Fire Point: ≥240°C (464°F)
Fire Hazards in Presence of Various Substances	Low fire hazard. This material must be heated before ignition will occur. Avoid contact with strong oxidizing agents, including peroxides, chlorine and strong acids.	Explosion Hazards in Presence of Various Substances	Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire.
Products of Combustion	Releases of COx, NOx, SOx, smoke and irritating vapours when heated to decomposition.		
Fire Fighting Media and Instructions	NAERG95, GUIDE 171, Substances (low to moderate hazard). If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. SMALL FIRE: use DRY chemical, foam, water spray or CO2. LARGE FIRE: use water spray, fog or foam. For small outdoor fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel.		