

**WESTCOAST DRILLING SUPPLIES LTD.**#6 - 2351 SIMPSON ROAD
RICHMOND, B.C. V6X 2R2TEL: (604) 278-4954
FAX: (604) 278-4914

Serving the Drilling Industry

EMERGENCY PHONE NO.: (604) 278-4954

MATERIAL SAFETY DATA SHEET**SECTION I: IDENTIFICATION OF PRODUCT**

PRODUCT NAME: 550 X POLYMER

CHEMICAL FAMILY: Copolymer of Acrylamide and Sodium Acrylate

PRODUCT USE: Drilling Mud Additive

WHMIS CLASSIFICATION: Not a Controlled Product under WHMIS

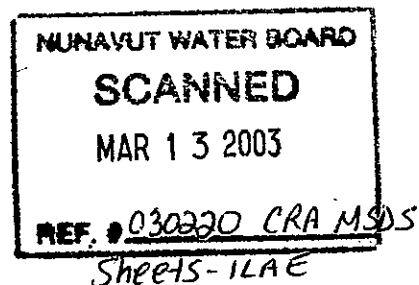
WORK PLACE HAZARD: Not Applicable

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not Applicable

PACKAGE GROUP: Not Applicable

PRODUCT IDENTIFICATION NUMBER (PIN): Not Applicable

**SECTION II: HAZARDOUS INGREDIENTS**

<u>INGREDIENT</u>	<u>PERCENTAGE</u>	<u>CAS NUMBER</u>	<u>LD(50)</u>	<u>LC(50)</u>
No Hazardous Ingredients				

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:

☐ skin, ☐ eye contact, ☒ inhalation, ☐ ingestion

SKIN CONTACT: Prolonged contact may cause skin irritation or dermatitis in some individuals.

EYE CONTACT: May Cause irritation.

INHALATION: May cause sneezing, slight irritation of nose and throat.

INGESTION: Not available

EFFECTS OF ACUTE EXPOSURE: Not available

EFFECTS OF CHRONIC EXPOSURE: Not available

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550 X POLYMER

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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 15 minutes and call a physician.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

INGESTION: Do not induce vomiting. If conscious, dilute by giving two glasses of water. Call a physician immediately.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	White granular solid; faint odour
DENSITY (SPECIFIC GRAVITY):	0.80
BOILING POINT:	Decomposes
MELTING POINT:	Not Applicable
WATER SOLUBILITY:	Soluble
% VOLATILE BY VOLUME:	Not Applicable
EVAPORATION RATE:	Not Applicable
VAPOUR PRESSURE: (MM Hg)	Very Low
VAPOUR DENSITY: (Air = 1)	Not Applicable

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Not Applicable

FLAMMABLE LIMIT: Not Applicable

EXTINGUISHING MEDIA: Dry chemical, foam, CO₂

SPECIAL FIRE FIGHTING PROCEDURES: Use self-contained respirators for fire fighting personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Oxides of carbon and nitrogen and products of incomplete combustion.

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE: []

INCOMPATIBILITY (CONDITIONS TO AVOID): Strong oxidizing agents and caustic solutions.

HAZARDOUS DECOMPOSITION PRODUCTS: Not Applicable

HAZARDOUS POLYMERIZATION: Will not occur [xxx] May occur []

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550 X POLYMER

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SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION: Suggest NIOSH/MESA approved dust mask.

VENTILATION: Ten (10) changes per hour suggested.

PROTECTIVE GLOVES: Suggest plastic or rubber.

EYE PROTECTION: Suggest goggles.

OTHER PROTECTIVE EQUIPMENT: Suggest rubber apron.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Avoid prolonged or frequent contact when handling material. Do not inhale dust or breathe vapour. Keep container closed when not in use. Store in a cool and dry location away from oxidizing and reducing agents.

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK

Ventilate area. Wear rubber boots, gloves and a self-contained breathing apparatus if ventilation is not adequate. Collect into a waste container. Avoid raising dust. Wash spill site after material pick-up. Water solutions are very slippery. May constitute a hazard following a spill.

WASTE DISPOSAL METHOD

Dispose of waste according to 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: January 1, 1991

Date Revised:

By: Product Safety Committee

AMENDMENT

HAZARDOUS INGREDIENTS (550 X)

MATERIAL OR COMPONENT	WT%	HAZARD DATA
COPOLYACRYLAMIDE/SODIUM ACRYLATE		NOT CONSIDERED HAZARDOUS

ENVIRONMENTAL

DEGRADABILITY/AQUATIC TOXICITY: N. D.

OCTANOL/WATER PARTITION COEFFICIENT: N. D.

WASTE DISPOSAL METHODS: INCINERATION AND/OR DISPOSAL IN CHEMICAL
LANDFILL. DISPOSER MUST COMPLY WITH
FEDERAL STATE AND LOCAL DISPOSAL OR
DISCHARGE LAWS.

RCRA STATUS OF UNUSED MATERIAL IF DISCARDED: NOT A "HAZARDOUS
WASTE"

HAZARDOUS WASTE NUMBER: N. A.

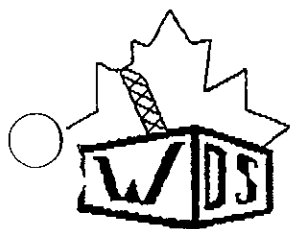
REPORTABLE QUANTITY: EPA 40 CFR (CERCLA 102): N. A.

THRESHOLD PLANNING QUANTITY: EPA 40 CFR 355 (SERA 301-304): N. A.

TOXIC CHEMICAL RELEASE REPORTING: EPA 40 CFR 372 (SERA 311-313):
N. A.

EPA HAZARD CLASSIFICATION CODE: ACUTE - YES CHRONIC - NO
FIRE - NO PRESSURE - NO
REACTIVE - NO

HMIS AND NFPA RATINGS:	HMIS	NFPA
HEALTH	1	1
FLAMMABILITY	0	0
REACTIVITY	1	1
SPECIAL	N.A.	N.A.

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*Serving the Drilling Industry***MATERIAL SAFETY DATA SHEET****SECTION I: IDENTIFICATION OF PRODUCT**

PRODUCT NAME: LINSEED SOAP

CHEMICAL FAMILY: Lubricating grease

WHMIS CLASSIFICATION: Not Regulated

WORK PLACE HAZARD: Not Applicable

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not Available

PACKAGE GROUP: Not Applicable

PRODUCT IDENTIFICATION NUMBER (PIN): Not Applicable (Petroleum Lubricating Grease)

SECTION II: HAZARDOUS INGREDIENTS

<u>INGREDIENT</u>	<u>PERCENTAGE</u>	<u>CAS NUMBER</u>	<u>LD(50)</u>	<u>LC(50)</u>
Linseed Soap	100%	Mixture		

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: Information not available

[] skin, [] eye contact, [xxx] inhalation, [] ingestion

SKIN CONTACT: Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis.

EYE CONTACT: Not available

INHALATION: Inhalation of oil mist or vapours from hot grease may cause irritation of the upper respiratory tract. Long term intensive exposure may cause benign lung fibrosis.

INGESTION: Not Available.

CHRONIC OVEREXPOSURE: Not Determined.

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LINSEED SOAP

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IRRITATION INDEX: SKIN: Not Available

SYMPTOMS OF EXPOSURE: Not Available

EXPOSURE INFORMATION: Oil mist (particulate): 5 mg/M³ (TLV/TWA) ACGIH 88/89
10 mg/m³ (TLV/STEL) ACGIH 88/89

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Remove contaminated clothing. Wash contaminated skin with mild soap and water. Wipe excess from skin.

EYE CONTACT: Flush eyes with water for at least fifteen (15) minutes.

INHALATION: Remove victim from further exposure. Additional first aid treatment is not ordinarily required.

INGESTION: Do not induce vomiting. Obtain medical attention immediately.

OTHER INSTRUCTIONS: None.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	Semi-solid brown coloured grease; slight hydrocarbon odour
DENSITY (SPECIFIC GRAVITY):	1.0
BOILING POINT:	100 Degree C
MELTING POINT:	Not Available
WATER SOLUBILITY:	Miscible
% VOLATILE BY VOLUME:	Not Available
EVAPORATION RATE:	Not Available
VAPOUR PRESSURE: (MM Hg)	Not Available
VAPOUR DENSITY: (Air = 1)	Not Available
Ph:	9.5
VISCOSITY:	Not Available

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 222°C FLAMMABLE LIMIT: Not Available

AUTO IGNITION TEMP: 343°C

EXTINGUISHING MEDIA: Dry Chemical, Carbon Dioxide CO₂, Foam, Water fog.

SPECIAL FIRE FIGHTING PROCEDURES: No special procedures - Avoid inhalation of smoke. Caution, spilled material is slippery. Use water to cool fire-exposed containers.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None currently known.

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LINSEED SOAP

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SECTION VII: REACTIVITY DATA

STABLE: [yes] INSTABLE: []

INCOMPATIBILITY (CONDITIONS TO AVOID): Not Available

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide; carbon dioxide and dense smoke are produced on combustion. Avoid excessive heat, formation of vapours or mists.

HAZARDOUS POLYMERIZATION: Will not occur [] May occur [] Not Available

SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION: Under conditions of high heat use an air purifying respirator (mechanical filter with accompanying organic vapour cartridge)

VENTILATION: Highly recommended for all indoor situations to control fugitive emissions. Concentrations in air should be maintained below the recommended threshold limit value if unprotected personnel are involved.

LOCAL: If oil mist is present or if exposure is exceeded.

MAKE-UP AIR: Should always be supplied to balance air exhausted (either generally or locally).

PROTECTIVE GLOVES: Impervious gloves (viton, nitrile, PVC, neoprene) should be worn at all times when handling this product.

EYE PROTECTION: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.

OTHER PROTECTIVE EQUIPMENT: Impervious clothing (apron, coveralls) should be worn in confined workspaces or where the risk of skin exposure is much higher.

PERMISSIBLE CONCENTRATIONS: Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Store in a cool, dry, well ventilated area, away from heat and ignition sources, Avoid excessive heat, formation of oil mist, breathing of vapours and mist of hot oil and prolonged or repeated contact with skin. Launder contaminated clothing prior to reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated.

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK

Spilled material is slippery. Isolate hazard area and restrict access. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Contain a land spill by diking. For large spills remove by mechanical means and place in containers. Clean area with appropriate cleaner.

Do not allow product or run off from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities.



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MATERIAL SAFETY DATA SHEET

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

<u>INGREDIENT</u>	<u>PERCENTAGE</u>	<u>CAS NUMBER</u>	<u>LD(50)</u>	<u>LC(50)</u>
Severely hydrotreated naphthenic oils	< 75.00%	64742-52-5	> 3 g/kg (Dermal Rabbit)	Not Determined
Barium soap	< 35.00%	68201-19-4	> 5 g/kg (Oral Rat)	Not Determined

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:

☒ 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 minimally irritating if not in excess of permissible concentrations; see section VIII.

INGESTION: Not Available.

CHRONIC OVEREXPOSURE: Not Determined.

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BIG BEAR DIAMOND DRILL ROD GREASE P.2/3

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 ODOUR:	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
EVAPORATION RATE:	Not Determined
VAPOUR PRESSURE: (MM Hg)	Not Determined (low)
VAPOUR 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 CO₂. 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 vapours and to provide protection for persons attempting to stop the leak. See Hazardous Decomposition Products, Section VII.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

WESTCOAST DRILLING SUPPLIES LTD. BIG BEAR DIAMOND DRILL ROD GREASE^{3/3}**SECTION VII: REACTIVITY DATA**STABLE: ☒ [X]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 goggles or face shield optional.

OTHER PROTECTIVE EQUIPMENT: Standard work clothing and work shoes.

PERMISSIBLE CONCENTRATIONS: AIR: 5 mg/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.

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

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Date issued: Sept. 17, 1993 By: Product Safety Committee

Date Revised: