

**WESTCOAST DRILLING SUPPLIES LTD.**

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

Phone: (604) 940-6050 - Fax: (604) 940-6060

Toll Free: 1-800-665-6645

LINSEED SOAP

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% VOLATILE BY VOLUME:	Not available
EVAPORATION RATE:	Not available
VAPOR PRESSURE: (mm Hg)	Not available
VAPOR 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 CO ₂ , 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.

SECTION VII: REACTIVITY DATA

STABLE [XXX] 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 vapors 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 vapor 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.



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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 vapors 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 to 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.

WASTE DISPOSAL METHOD:

Reclaim or dispose of at a licensed waste disposal company.

SECTION IX: PREPARATION

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

DATE ISSUED: May 28, 1991

DATE REVISED: April 1, 2000

BY: Product Safety Committee

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **LUBTUB**
CHEMICAL FAMILY: Sodium polyacrylate
PRODUCT USE: Drilling fluid additive
WHMIS CLASSIFICATION: D2B
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

INGREDIENTS	PERCENT(%)	CAS#	LD ₅₀ (oral rat)	LD ₅₀ (dermal rabbit)	LC ₅₀ (inhalation rat)
Sodium salt of polyacrylic	15-40	9003-04-7	not determined	not determined	not determined

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY	[XXX] Skin	[XXX] Eye Contact	[XXX] Inhalation	[XXX] Ingestion
THRESHOLD LIMIT VALUE	Not determined			
SKIN CONTACT	Prolonged contact may cause skin irritation or dermatitis in some individuals.			
EYE CONTACT	May cause watering of eyes and inflammation of conjunctiva			
INGESTION	May cause nausea and vomiting.			
INHALATION	If misted, may cause sneezing, slight irritation of nose and throat.			

SECTION IV: TOXICOLOGICAL INFORMATION

CARCINOGENICITY	not determined
REPRODUCTIVE TOXICITY	not determined
TERATOGENICITY	not determined
MUTAGENICITY	not determined
DEVELOPMENTAL TOXICITY	not determined

Material Safety Data / Fiche signalétique

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SECTION V: FIRST AID MEASURES

SKIN CONTACT:	Wash exposed area with soap and water. If irritation or abnormalities persist, seek medical attention.
EYE CONTACT:	Immediately flush eyes with water for 15 minutes and seek medical attention. Contact lenses should not be worn when working with this material.
INGESTION:	If victim is conscious and alert induce vomiting by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Seek medical attention.
INHALATION:	Remove to fresh air, if not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

SECTION VI: PHYSICAL DATA

APPEARANCE	Clear to hazy light amber liquid
ODOR	Sweet odour
SPECIFIC GRAVITY	1.1
BOILING POINT (°C)	not determined
MELTING POINT (°C)	not determined
SOLUBILITY IN WATER	Miscible
PERCENT VOLATILE BY VOLUME	not determined
EVAPORATION RATE	not determined
VAPOR PRESURE (mm Hg)	not determined
VAPOR DENSITY (Air = 1)	not determined
pH	6 - 8

SECTION VII: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	>100 °C (TCC)
FLAMMABLE LIMITS	not determined
EXTINGUISHING MEDIA	CO ₂ , Foam, dry chemical, water spray
SPECIAL FIRE FIGHTING PROCEDURES	Use full protective equipment and self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS	Though the product is not flammable, evaporation of sufficient quantities of material could render the product combustible.

SECTION VIII: REACTIVITY DATA

STABILITY	[XXX] Stable	[] Unstable
INCOMPATIBILITY (Conditions to avoid)	Strong oxidizers	
CONDITIONS OF REACTIVITY	None known	
HAZARDOUS DECOMPOSITION PRODUCTS	CO _x and smoke on combustion	
HAZARDOUS POLYMERIZATION	[XXX] Will not occur	[] May occur

Material Safety Data / Fiche signalétique

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SECTION IX: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	Use NIOSH approved cartridge respirator when exposure is likely to be excessive.
VENTILATION	General mechanical
PROTECTIVE GLOVES	Chemically resistant
EYE PROTECTION	Safety glasses
OTHER PROTECTIVE EQUIPMENT (Specify)	None known

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

(Use appropriate safety equipment.) Small spills, soak up with absorbent material.
Large spills, dike to contain spill to prevent water pollution.
Recover diked material, return recovered material to plant.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid ingestion.
Practice reasonable caution and personal cleanliness.
Avoid skin and eye contact.
Store in a cool well ventilated area.

WASTE DISPOSAL METHOD

Absorb spilled material with absorbent compound, incinerated/dispose to conform with local disposal regulations.

SECTION X: PREPARATION

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESSED OR IMPLIED IS MADE.

DATE ISSUED: November 10, 1990
SUPERSEDES: April 1997
BY: Product Safety Committee

DATE REVISED: April 1, 2000
DATE REVISED: January 2002

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **WDS-120L** ✓
PRODUCT USE: Drilling Mud Additives
CHEMICAL FAMILY: Copolymer of acrylamide with sodium acrylate
WHMIS CLASSIFICATION: B3, D2B
WORK PLACE HAZARD: Combustible liquid, skin and eye irritant

TRANSPORTATION OF DANGEROUS GOODS

SHIPPING NAME: not regulated
CLASSIFICATION: not applicable
PACKAGE GROUP: not applicable
PRODUCT IDENTIFICATION NUMBER (Pin): not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT %	CAS NUMBER	LD ₅₀ (oral rat)	LD ₅₀ (dermal rabbit)	LC ₅₀ (inhalator rat)
Mineral Spirits	30-60	64742-47-8	>5 g/kg	>3 g/kg	not determined
Alkyl Phenol Ethoxylate	3-7	68412-54-4	3000 mg/kg	2830 mg/kg	not determined

SECTION III: TOXICOLOGICAL INFORMATION

CARINOGENICITY: not determined
REPRODUCTIVE TOXICITY: not determined
TERATOGENICITY: not determined
MUTAGENICITY: not determined
DEVELOPMENTAL TOXICITY: not determined

SECTION IV: HEALTH HAZARDS

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

THRESHOLD LIMIT VALUE: : not determined

SKIN CONTACT: : Contact may cause irritation, redness, swelling or dermatitis

EYE CONTACT: : Will casue painful burning or stinging of eyes and lids, watering of eyes and inflammation of conjunctiva.

INGESTION: : May cause nausea and vomiting.

INHALATON: : Inhalation not likely.

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WDS-120L

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SECTION V: 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.

INGESTION

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

INHALATION

: Remove to fresh air.
If conscious, dilute by giving two glasses of water.
Call a physician immediately.

SECTION VI: PHYSICAL DATA

APPEARANCE

Off white liquid

ODOUR

Mineral oil smell

SPECIFIC GRAVITY

1.07

BOILING POINT (°C)

not determined

MELTING POINT (°C)

not determined

SOLUBILITY IN WATER

Soluble

PERCENT VOLATILE BY VOLUME

not determined

EVAPORATION RATE

not determined

VAPOR PRESSURE (mm Hg)

not determined

VAPOR DENSITY (Air = 1)

not determined

pH

6 - 9 (0.6% in water)

SECTION VII: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT

65°C (TCC)

FLAMMABLE LIMITS

not determined

EXTINGUISHING MEDIA

Water spray, foam, dry chemical, carbon dioxide

SPECIAL FIRE FIGHTING PROCEDURES

Self-contained respirators required for fire fighting personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Water will cause extreme slipperiness.

Sensitivity to static charge.

WDS-120L

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SECTION VIII: REACTIVITY DATA

STABILITY:	[XXX] Stable	[] Unstable
INCOMPATIBILITY (Conditions to Avoid)	Strong oxidizing and reducing agents.	
CONDITIONS OF REACTIVITY	Not known	
HAZARDOUS DECOMPOSITION PRODUCTS	CO _x , smoke on combustion	
HAZARDOUS POLYMERIZATION	[XXX] Will not occur	[] Will occur

SECTION IX: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	In the absence of proper ventilation a NIOSH approved organic vapour respirator is recommended
VENTILATION	General mechanical, 10 changes per hour
PROTECTIVE GLOVES	Chemically resistant
EYE PROTECTION	Safety glasses
OTHER PROTECTIVE EQUIPMENT (Specify)	None known

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

(Use appropriate safety equipment.) Small spills, soak up with absorbent material
Large spills, dike to contain spill to prevent water pollution.
Recover diked material, return recovered material to plant.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid ingestion.
Practice reasonable caution and personal cleanliness.
Avoid skin and eye contact.
Store in a cool well ventilated area.

WASTE DISPOSAL METHOD

Absorb spilled material with absorbent compound, incinerate/dispose to conform with local disposal regulations.

SECTION X: PREPARATION

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DATE ISSUED: July 2001
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BY: Product Safety Committee

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DATE REVISED: January 2002

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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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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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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

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BY: Product Safety Committee

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME:	CAL-SEAL (EA-2)
CHEMICAL FAMILY:	Calcium Sulphate
PRODUCT USE:	Cementing
WHMIS CLASSIFICATION:	Not a controlled product under WHMIS
WORK PLACE HAZARD:	Not applicable

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
Calcium Sulphate Hemihydrate	>60%	10124-36-4	Not determined	Not determined

SECTION III: TOXICOLOGICAL PROPERTIES

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

SKIN CONTACT:	May cause mild allergic skin reaction in susceptible individuals.
EYE CONTACT:	Dust may irritate eyes
INHALATION:	Dust may irritate upper respiratory passages.
INGESTION:	Not available
EFFECTS OF CHRONIC EXPOSURE:	Prolonged or repeated skin contact may cause severe irritation or burns especially if skin is moist or if material is confined.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Immediately flush skin with water for at least fifteen (15) minutes. Remove contaminated clothing and footwear; wash before re-use. Seek medical attention. Wash dust if irritating to the eyes, skin and respiratory system.

EYE CONTACT: Immediately flush eyes with plenty of water for at least fifteen (15) minutes occasionally lifting the eyelids. Seek immediate medical attention.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is difficult, give oxygen. Get immediate medical attention.

INGESTION: If swallowed, *do not induce vomiting*. Give up to one (1) quart of water or milk to dilute. Seek immediate medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR:	White solid; powder; odorless
DENSITY (SPECIFIC GRAVITY):	2.700
BOILING POINT:	Not applicable
MELTING POINT:	Not applicable
WATER SOLUBILITY:	0.2% at 20° C
% VOLATILE BY VOLUME:	Not applicable
EVAPORATION RATE:	Not applicable
VAPOR PRESSURE (mm/Hg):	Not applicable
VAPOR DENSITY (Air=1):	Not applicable
pH:	10.4