

Imperial Oil Ltd.

2/03/1998 15:10

PAGE 4/5

RightFAX



MATERIAL SAFETY DATA SHEET

Date Prepared: September 23, 1998
Supersedes: November 02, 1995
MSDS Number: 11690

Cette fiche signalétique est aussi disponible en français

1. PRODUCT INFORMATION

Product Identifier: DOR GREASE ENVIRO - SPECIAL

Application and Use:
Lubricating grease

Product Description:

A grease, a mixture of lubricating oil, soap 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. (516) 338-2145
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: > 20.00 cSt at 40 deg C
Vapour Density: not available
Boiling Point: not available
Evaporation rate: < 0.1 (1-m n-butylacetate)
Solubility in water: negligible
Freezing/Pour Point: 100 deg C DROP
Odour Threshold: not available
Vapour Pressure: < 1 kPa at 20 deg C
Density: 0.88 g/cc
Appearance/odour: Clear amber liquid, mild 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.
High pressure greasing equipment is capable of injecting grease under the skin which may have severe health consequences.

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 > 2100 mg/kg (Rabbit)
Inhalation : LC50 > 3000 mg/m3 (Rat)

OCCUPATIONAL EXPOSURE LIMIT:

ACGIH recommends:
For oil mists, 5 mg/m3.

Local regulated limits may vary.

5. FIRST AID MEASURES

INHALATION:

In case of adverse exposure to vapours, mists and/or fumes formed at elevated temperatures, or by mechanical action, 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. Consult a physician immediately if the material is injected under the skin from the misuse of high pressure greasing equipment.

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. 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.

GILBERT 10F ges

EXTREME PRODUCTS & DRILLING SUPPLIES INC.
15640 MOUNTAINVIEW DRIVE
WHITE ROCK, DC V4F 2W9
TEL: (604) 535-4699 / FAX: (604) 535-3493

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: CALCIUM CHLORIDE FLAKE

PRODUCT USE: Drilling Mud Additive

CHEMICAL FAMILY: Calcium Chloride (77%)

USED ON
LAND HOLES
ONLY IN PERMAFROST
AREA

WORK PLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: D-2(B)

WORK PLACE HAZARD: Skin and Eye Irritant

TRANSPORTATION OF DANGEROUS GOODS (TDG)

TDG CLASSIFICATION: Not Dangerous Goods PACKAGE GROUP: Not Applicable

PRODUCT IDENTIFICATION NUMBER (PIN): Not Applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	CAS NUMBER	LD(50)	LC(50)
Calcium Chloride	>90%	10043-52-4	1090 mg/kg	Not Determined
Srondium Chloride	1	10476-85-1		Not Determined

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: [XX]SKIN [XX]EYE CONTACT []INHALATION []INGESTION

SKIN CONTACT: Prolonged or repeated contact with the dust may irritate the skin or cause burns especially if skin is moist or if material is confined to skin.

EYE CONTACT: Dusts may cause moderate to severe eye irritation with corneal injury that may be slow to heal.

INHALATION: Breathing dust may irritate the nose and throat and cause coughing and chest discomfort.

PAGE 2 - CALCIUM CHLORIDE FLAKE

INGESTION: Swallowing solids may cause gastrointestinal irritation or ulceration.
CHRONIC EFFECTS OF EXPOSURE: No specific information available.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None known.

SECTION IV: FIRST AID MEASURES

EYES: GET IMMEDIATE MEDICAL ATTENTION. Immediately flush eyes with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally.

SKIN: Immediately wash skin with lots of soap and water. Remove contaminated clothing and shoes; wash before reuse. Get medical attention if irritation persists after washing.

INHALATION: Remove to fresh air. Give artificial respiration if not breathing. GET IMMEDIATE MEDICAL ATTENTION.

INGESTION: If conscious, immediately induce vomiting. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR	: White to off-white pellets; odourless
SPECIFIC GRAVITY	: 2.2
BOILING POINT (°C)	: >204
MELTING POINT (°C)	: Not Applicable
SOLUBILITY IN WATER	: Very pH: Not Determined
PERCENT VOLATILE BY VOLUME	: Not Applicable
EVAPORATION RATE	: Not Applicable
VAPOUR PRESSURE (mm Hg)	: Not Applicable
VAPOUR DENSITY (Air = 1)	: Not Applicable

PAGE 3 - CALCIUM CYLORIDE FLAKE

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT : Not Applicable
FLAMMABLE LIMITS : Not Applicable
EXTINGUISHING MEDIA : This material is not combustible
SPECIAL FIRE FIGHTING PROCEDURES : Self-contained respirators required for fire fighting personnel
UNUSUAL FIRE AND EXPLOSION HAZARDS : None

SECTION VII: REACTIVITY DATA

STABILITY: Stable [XX] Unstable []

INCOMPATIBILITY (CONDITIONS TO AVOID) : Decomposes above 204 °C
HAZARDOUS DECOMPOSITION PRODUCTS : None
HAZARDOUS POLYMERIZATION: Will Not Occur [XX] May Occur []

VIII: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION : Approved dust respirator or mask
VENTILATION : Local mechanical exhaust
PROTECTIVE GLOVES : Rubber gloves
EYE PROTECTION : Chemical goggles
OTHER PROTECTIVE EQUIPMENT (Specify) : An eyewash and safety shower should be nearby and ready for use.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a cool, very dry place. Keep container tightly closed when not in use. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing.

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

Wear protective equipment. For small spills, sweep up and dispose of in approved waste containers. For large spills, shovel into approved waste containers.

PAGE 4 - CALCIUM CHLORIDE FLAKE

WASTE DISPOSAL METHOD

Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate regulatory agencies to ascertain proper disposal procedures.

SECTION IX: PREPARATION

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

DATE ISSUED : November 24, 1998 BY: Product Safety Committee

PAGE 4 - CALCIUM CHLORIDE FLAKE

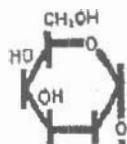
WASTE DISPOSAL METHOD

Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate regulatory agencies to ascertain proper disposal procedures.

SECTION IX: PREPARATION

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

DATE ISSUED : November 24, 1998 BY: Product Safety Committee



• Poly-Drill Drilling Systems

• 1824 - 104 Avenue, S.W.
• Calgary, Alberta, Canada
• T2W-OA8
• (403) 259-5112 FAX (403) 255-7185

MATERIAL SAFETY DATA SHEET/FICHE SIGNALÉTIQUE

Section 1—PRODUCT IDENTIFICATION

PRODUCT TRADE NAME(S): Poly Drill CLAY TREAT II

SECTION 2—COMPOSITION

SECTION 3—PHYSICAL DATA

Boiling Point: 100 C
Solubility in Water: Soluble
Density (g/ml): 1.1
Appearance and Odor: Red. Characteristic slight odor.

Specific Gravity (@ 25 Deg.C.): 1.09
pH: 5.0 - 7.0 (1.0% solution)
Physical State: Liquid

SECTION 4—FIRE AND EXPLOSION DATA

Flash Point: >93.3 C
Conditions of flammability: Will burn after drying
Hazardous combustion products: Oxides of carbon and nitrogen and products of incomplete combustion.
Upper and Lower flammable limits: Not available
Extinguishing media: Use water spray, foam, dry chemical, or carbon dioxide.

SECTION 5—REACTIVITY

Chemical stability: Stable under normal conditions.
Hazardous Polymerization: Will not occur.
Incompatible substances: Avoid strong oxidizing and reducing agents.
Hazardous decomposition products: Not available.

SECTION 6—HEALTH HAZARD DATA

TOXICITY RATING: Practically non-harmful.

Routes of Exposure and Effects:

SKIN: Slight irritant: prolonged contact may cause skin irritation or dermatitis in some individuals

EYE: No effects of exposure expected with the exception of possible irritation.

INHALATION: If misted, no effects of exposure are expected.

Exposure limits: Contains trace acrylamide (SKIN). Exposure limit, TWAEV=0.03 mg/m(ONT. Reg. 654/86).

Contains traces of isopropanol. Exposure limit, TWAEV=400ppm, STEV=500ppm(ONT. Reg. 654/86).

Carcinogenicity: This product contains traces of acrylamide. Acrylamide is listed by IARC(Group 2B) and ACGIH(Group A2) as a possible human carcinogen.

Teratogenicity: Not available.

Mutagenicity: Not available.

• • • • •

SECTION 7—EMERGENCY AND FIRST AID PROCEDURES

SKIN: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.
EYE: Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.
INHALATION: Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.
INGESTION: Do not induce vomiting. Call a physician immediately.

SECTION 8—HANDLING AND USE PRECTIONS

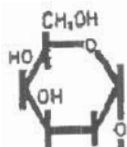
Storage requirements: keep container closed when no in use. Store in a cool dry location away from oxidizing and reducing agents.
Waste Disposal: product should be disposed of in accordance with applicable local, Provincial and Federal regulations.
Steps must be taken if product is released or spilled: clean spill areas thoroughly to avoid hazardous slippery conditions.

SECTION 9—INDUSTRIAL HYGIENE CONTROL MEASURES

Respiratory Protection: None normally required.
Ventilation: If mist and/or vapors are present, use air purifying respirator or self-contained breathing apparatus, but this is rarely required.
Eye Protection: Safety glasses, if personally preferred
Gloves: Generally not necessary. Personal preference.

SECTION 11—DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name: Drilling Mud
Hazard Class: Not hazardous
Hazardous Substances: None
Cautionary Labeling: None required



Poly-Drill Drilling Systems

1824 - 104 Avenue, S.W.
Calgary, Alberta, Canada
T2W-OA8
(403) 259-5112 FAX (403) 255-7185

MATERIAL SAFETY DATA SHEET / FICHE SIGNALÉTIQUE

Section 1—PRODUCT IDENTIFICATION

PRODUCT TRADE NAME(S): Poly Drill 133X/1330

PRODUCT DESCRIPTION: Latex
polyelectrolyte

SECTION 2—COMPOSITION

A liquid polymer: Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations.

SECTION 3—PHYSICAL DATA

Boiling Point: Not available
Solubility in Water: Solubility limited by solution viscosity.
Density (g/ml): 1.08 at 25 C
Appearance and Odor: Blue. Odor slight.

Specific Gravity (@ 25 Deg.C.): 1.09
pH: 8.1 (1.0% solution)
Physical State: Liquid

SECTION 4—FIRE AND EXPLOSION DATA

Flash Point (method used): (PMCC) >100 C
Conditions of flammability: Intense heat, open flame.
Hazardous combustion products: Products of incomplete hydrocarbon combustion.
Upper and Lower flammable limits: Not available
Extinguishing media: Use water spray, foam, dry chemical, or carbon dioxide.

SECTION 5—REACTIVITY

Chemical stability: Stable under normal conditions.
Hazardous Polymerization: Will not occur
Incompatible substances: Avoid strong oxidizing and reducing agents.
Hazardous decomposition products: Carbon monoxide, carbon dioxide, and products of incomplete hydrocarbon combustion.

SECTION 6—HEALTH HAZARD DATA

TOXICITY RATING: Practically non-harmful.

Routes of Exposure and Effects:

SKIN: Slight irritant: prolonged contact may cause skin irritation or dermatitis in some individuals

EYE: No effects of exposure expected with the exception of possible irritation.

INHALATION: If misted, no effects of exposure are expected.

Exposure limits: TLV-TWA: Mineral oil, mist 5 mg/m3

Carcinogenicity: None of the components of this product are listed as carcinogens by IARC and ACGIH

Sensitization of product: Not suspected to be a sensitizer.

Teratogenicity: Not available.

Mutagenicity: Not available.

SECTION 7—EMERGENCY AND FIRST AID PROCEDURES

SKIN: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.
EYE: Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.
INHALATION: Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.
INGESTION: Do not induce vomiting. Call a physician immediately.

SECTION 8—HANDLING AND USE PRECTIONS

Storage requirements: keep container closed when not in use. Store in a cool dry location away from oxidizing and reducing agents.

Waste Disposal: product should be disposed of in accordance with applicable local, Provincial and Federal regulations.
Steps must be taken if product is released or spilled: clean spill areas thoroughly to avoid hazardous slippery conditions.

SECTION 9—INDUSTRIAL HYGIENE CONTROL MEASURES

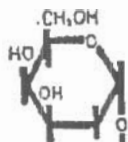
Respiratory Protection: None normally required.
Ventilation: If mist and/or vapors are present, use air purifying respirator or self-contained breathing apparatus, but this is rarely required.
Eye Protection: Safety glasses, if personally preferred
Gloves: Generally not necessary. Personal preference.

SECTION 10—TOXICOLOGICAL PROPERTIES

Environmental Effects: Not known to be harmful to aquatic life at low concentrations.
Freshwater aquatic toxicity rating: 96 hour LC50 Rainbow Trout = 160 mg/L
96 hour LC50 Salmon = 160 mg/L

SECTION 11—DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name: Drilling Mud
Hazard Class: Not hazardous
Hazardous Substances: None
Cautionary Labeling: None required



• Poly-Drill Drilling Systems

• 1824 - 104 Avenue, S.W.
• Calgary, Alberta, Canada
• T2W-OA8
• (403) 259-5112 FAX (403) 255-7185

MATERIAL SAFETY DATA SHEET/FICHE SIGNALÉTIQUE

Section 1—PRODUCT IDENTIFICATION

PRODUCT TRADE NAME(S): Poly Drill O.B.X.
TDG Classification: Non dangerous goods

WHMIS CLASSIFICATION: Non-regulated

SECTION 2—COMPOSITION

A liquid polymer: Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations.

SECTION 3—PHYSICAL DATA

Boiling Point: Not available

Solubility in Water: disperses in water(forms viscous, slippery solution).

Density (g/ml): Not available

Appearance and Odor: Brown. Odor slight.

Specific Gravity: 0.9 g/cm

pH: 3.8 (1% concentration)

Physical State: Liquid

SECTION 4—FIRE AND EXPLOSION DATA

Flash Point (method used): (PMCC) greater than 100 C.

Conditions of flammability: Very low risk.

Hazardous combustion products: None known.

Upper and Lower flammable limits: Not available.

Extinguishing media: Carbon dioxide, dry chemicals, foam, in preference to water spray

SECTION 5—REACTIVITY

Chemical stability: Stable under normal conditions.

Hazardous Polymerization: Will not occur.

Incompatible substances: Avoid strong oxidants such as liquid chlorine, concentrated oxygen, sodium or calcium hypochloride

Hazardous decomposition products: None known

SECTION 6—HEALTH HAZARD DATA

TOXICITY RATING: Practically non-harmful.

Routes of Exposure and Effects:

SKIN: Slight irritant: prolonged contact may cause skin irritation or dermatitis in some individuals

EYE: No effects of exposure expected with the exception of possible irritation.

INHALATION: Due to low volatility of mineral distillates a small inhalation hazard exists.

INGESTION: can cause nausea, vomiting, cramps, diarrhea

Chronic exposure limits: None

Sensitization of product: Not suspected to be a sensitizer.

Teratogenicity: Not available.

Mutagenicity: Not available.

Carcinogenicity: None of the components of this product are listed as carcinogens by IARC and ACGIH

.....

#10

SECTION 7—EMERGENCY AND FIRST AID PROCEDURES

SKIN: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.
EYE: Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.
INHALATION: Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.
INGESTION: Do not induce vomiting. Call a physician immediately.

SECTION 8—HANDLING AND USE PRECTIONS

Storage requirements: keep container closed when not in use. Store in a cool dry location away from oxidizing and reducing agents.
Waste Disposal: product should be disposed of in accordance with applicable local, Provincial and Federal regulations.
Steps must be taken if product is released or spilled: clean spill areas thoroughly to avoid hazardous slippery conditions.

SECTION 9—INDUSTRIAL HYGIENE CONTROL MEASURES

Respiratory Protection: None normally required.
Ventilation: If mist and/or vapors are present, use air purifying respirator or self-contained breathing apparatus, but this is rarely required.
Eye Protection: Safety glasses, if personally preferred.
Gloves: Generally not necessary. Personal preference.

SECTION 10—TOXICOLOGICAL PROPERTIES

Environmental Effects: Not known to be harmful to aquatic life at low concentrations.
Freshwater aquatic toxicity rating: 96 hour LC50 Rainbow Trout = 160 mg/L.
96 hour LC50 Salmon = 160 mg/L

SECTION 11—DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name: Drilling Mud
Hazard Class: Not hazardous
Hazardous Substances: None
Cautionary Labeling: None required