5.3 Basic Steps — Chain of Command

1. *Immediately* notify **974134 NWT LTD.**. You may then be instructed to directly contact the *NWT 24 HOUR SPILL LINE and/or the DIAND 24Hour Line* at: NWT Spill Line Tel. 1-867-920-8130, Fax. 1-867-873-6924. Diand Tel. 1-867-975 4298

2. ***A Spill Report Form (Appendix 2)*** is filled out as completely as possible before or after contacting the 24 Hour Spill Line.

3. Other members of the team are notified as deemed necessary.

5.4 Other contacts for spill response/assistance

Environment Canada:

Dave Tilden:	Yellowknife:	867-669-4728

Indian and Northern Affairs

Land Use Inspection:	Keb Dahl:	867-669-2757
Water Licence Inspection	Philip DePiso:	867-360 6338
Fisheries and Oceans Canada	Ron Allen:	867-669-6641
GNWT Environmental Protection Service	Ken Hall:	867-876-7654

6.0 Taking Action

6.1 Before the Fact: Preventative Measures

The following actions illustrate the proactive approach of **974134 NWT LTD.** to environmental care. In addition, these actions minimize the potential for spills during fuel handling, transfer and storage:

1. Fuel transfer hoses with cam lock mechanisms are used.

2. Carefully monitor fuel content in the receiving vessel during transfer.

3. Clean up drips and minor spills immediately.

4. Regularly inspect drums, tanks and hoses for leaks or potential to leak.

6. Train personnel, especially those who will be operators, in proper fuel handling and spill response procedures.

6.2 After the Fact: Mitigative Measures

1. First steps to take when a spill occurs:
   a) Ensure your own safety and that of others around you, beginning with those nearest to the scene.
   b) Control danger to human life, if necessary.

c) Identify the source of the spill.
d) Notify your supervisor.
e) Assess whether or not the spill can be readily stopped.
f) Contain or stop the spill at the source, if possible, by following these actions:

If filling is in progress, STOP AT ONCE.
Close or shut off valves.
Place plastic sheeting at the foot of the tank, barrel, or piece of equipment to prevent seepage into the ground or runoff of fuel
Use absorbent materials (sheets, pads, booms) to absorb and contain the fuel spill.
Use a patch kit to seal leaks, if practical to do so.

2. Secondary steps to take:

Determine status of the spill event.
If necessary, pump fuel from a damaged and/or leaking tank or drum into a refuge container.
Notify the 24-hour Spill Report Line, and receive further instructions from the appropriate contact agencies listed in *Section 5.4.* (e.g. disposal of contaminated soil or ice/snow in sealed containers for removal from site, etc.).
Complete and Fax a copy of the Spill Report Form *(Appendix 3).*
Notify permitting authorities.
If possible, resume cleanup and containment.

6.3 Fuel Spills on Land

"Land" may be defined as soil, gravel, sand, rock, and vegetation. Advice on spill containment and cleanup may be obtained from the 24-Hour Spill Line.

6.3.1 Procedure for Spills on Rock

For hydrocarbon spills on rock outcrops, boulder fields, etc.:

1) First responder or his designate obtains plastic tarp(s) and absorbent sheeting on-site.
2) A berm of peat, native soil or snow is constructed down slope of the seepage or spill.
3) the tarp is placed in such a way that the fuel can pool for collection and removal (e.g. at the foot of the berm). If there is a large volume of spilled product, pump the liquid into spare empty drums for sealing and disposal.
4) Absorbent sheeting is placed on the rock to soak up spilled oil, fuel, etc.
5) Multi Sorb (crushed lava rock) can be used to scrub the rock surface.
6) Saturated material is disposed of in an empty drum, which is then labeled and sealed. Alternatively, the pads may be wrung out into the empty drum(s), the drums marked and then secured for eventual disposal.
7) Depending on the nature and volume of the spill, the 24-Hour Spill Line may be contacted after Step 4 or Step 5.

6.3.2 Procedure for Spills on Land

1) First responder or his designate obtains plastic tarp(s), absorbent sheeting, Multi Sorb or other ultra-dry absorbent and any other necessary spill containment equipment, pump, hoses, etc.
2) A berm of peat, native soil or snow is constructed down slope of the seepage or spill.
3) The tarp is placed in such a way that the fuel can pool for collection and removal (e.g.

at the foot of the berm). If there is a large volume of spilled product, pump the liquid into spare empty drums, and dispose of product as advised by the 24-Hour Spill Line.

4) Petroleum-product sheen on vegetation may be controlled by applying a thin dusting of Multi Sorb or other ultra-dry absorbent to the groundcover.
5) Contact the 24-Hour Spill Line, Receive instructions from the appropriate contact agencies listed in Section 5.4 regarding collection of the contaminated soil or vegetation, its removal and site cleanup/restoration.

6.4 Fuel Spills on Water

6.4.1 Procedure for Spills on Water

It is important to immediately limit the extent of spills. The following is the procedure to be implemented when an incident occurs:

1) If the spill is small, deploy hydrophobic (water repellent) absorbent pads on the water. Hydrophobic pads readily absorb hydrocarbons. Alternatively, an ultra-dry absorbent designed for use on water-based spills may be deployed.
2) If the spill is larger, ready several empty drums to act as refuge containers for the spill.
3) Deploy *containment* booms on the water surface to "fence in" the spill area gradually and to prevent it from spreading. Keep in mind those environmental factors such as high winds and wave action can adversely affect attempts at spill cleanup.
4) *Absorbent* booms can then be deployed to encircle and then absorb any hydrocarbon spillage that may have escaped the *containment* boom.
5) Once a boom has been secured, a skimmer may be brought on-scene to aid in capture of the hydrocarbon; once captured, the product should be pumped to the empty fuel drums and held for disposal.
6) As soon as possible either during or after the incident, contact the 24-Hour Spill Line. (This will ensure government agencies are informed).

6.5 Fuel spills on Snow and Ice

By its nature, snow is an absorbent, and fuel spilled on snow is collected with relative ease, either by shovel, in the case of small-range spills, and by loader, in the case of more extensive spills.

6.5.1 Procedure for Spills on Snow

1) Assess the nature of the spill. Necessary equipment might include shovels, plastic tarp(s), empty drums, and wheeled equipment.
2) Shovel or scrape contaminated snow and deposit in empty refuge drums. If the spill is more extensive, build peat-bale berms or compacted snow berms with plastic over top, around the affected area.
3) Either during or immediately after the accident, notify the 24-Hour Spill Line. Receive instructions on the preferred disposal method (e.g. storage in sealed drums, incineration or deposit in a designated lined containment area on land) from the appropriate contact agencies listed in *Section 5.4.*

6.5.2 Procedure for spills on Ice

Spills on ice are handled in similar fashion as those on snow. However, as ice presents the added danger of immediate access to water, care must be taken to respond quickly to such spills. Should fuel seep or flow through cracks or breaks in the ice, despite all precautions, assistance should be sought immediately.

1) Construct a compacted-snow berm around the edge of the spill area.
2) Although hard ice will retard or prevent fuel entry to the receiving waters below, all contaminated snow and ice, as well as objects embedded in the ice (such as gravel or frozen absorbent pads) must be scraped from the ice surface and disposed of in an appropriated manner.
3) Contact the 24-Hour Spill Line. Receive disposal instructions (e.g. sealing in drums, burn off, etc.) from the appropriate contact agencies listed in *Section 5.4.*

6.6 Procedure for Chemical Spills

1) Assess the hazard of the spilled material. REFER TO THE MSDS SHEETS NOW. Members of the emergency response team who might be susceptible in certain situations, (such as asthmatics, where fumes or airborne particles are evident), should be replaced with alternates.
2) Assemble the necessary safety equipment before response (e.g. latex or other protective gloves, goggles, or safety glasses, masks or breathers, etc.)
3) Apply absorbents to soak up liquids.
4) Place plastic sheeting over solid chemicals, such as dusts and powders, to prevent their disbursement by wind or investigation by birds or other mammals.
5) Neutralize acids or caustics. Place spilled material and contaminated cleanup supplies in an empty refuge drum and seal for disposal.
6) Contact the 24-Hour Spill Line. Receive instructions on disposal methods and designated locations from the appropriate contact agencies listed in *Section 5.4.*

6.7 Procedure for Loss of External Load

The loss of external loads of fuel, oil, or chemicals from aircraft almost certainly results in complete and catastrophic failure of the container that once held the product. Immediate response is imperative.

1) Mark the loss target with GPS coordinates and relay to camp or base ASAP. Include quantity and type of load loss.
2) Base or camp will contact 24-Hour Spill Line, and receive direction and instruction.
3) Administer the appropriate procedure for Spills on Land, Water, Snow, or Ice.

7.0 Spill Equipment

Complete spill kits, oil absorbent kits, are kept on hand at all camps.

8.0 Training and Practice Drills

8.1 Training

All members of the Response Team will be familiar with the spill response resources at hand, this Contingency Plan, and appropriate spill response methods. Involvement of other employees may be required, from time to time.

This familiarity will be acquired through:

1) Initial or refresher training, as appropriate, provided once per season.

2) Regular inventory updates are provided in list form to all team members. Information to be reported includes listing of all resources, number of items, their location, condition, date of last inspection and any special comments (such as expiry dates, under whose authority they may be accessed and special handling instructions).

8.2 Practice Drills

974134 NWT Ltd. is aware that without practice, no Contingency Plan has value.

At least one practice drill will be held per season to give personnel a chance to practice emergency response skills. Each practice will be evaluated and a report prepared with the objective of learning where gaps and deficiencies (either in skills or physical resources) exist, and in what areas more practice is required.

Appendix #1

Manual Distribution

Title

Company President

Geologists

Safety Officer

Aylmer Camps

An amendment instruction sheet shall be included that lists and identifies pages in the manual to be added or replaced.

Amendment No.	Amendment Date	Date Entered	Entered By

Appendix #2

Northwest Territories

NWT SPILL REPORT

(Oil, Gas, Hazardous Chemicals or other Materials)

24 - Hour Report Line
Phone: (867) 920-8130
Fax: (867) 873-6924

A Report date and time	B Date and time of spill (if known)	C ☐ Original report ☐ Update no. ____	Spill number

D Location and map coordinates (if known) and direction (if moving)

E Party responsible for spill

F Product(s) spilled and estimated quantities (provide metric volumes/weights if possible)

G Cause of spill

H Is spill terminated? ☐ yes ☐ no	I If spill is continuing, give estimated rate	J Is further spillage possible? ☐ yes ☐ no	K Extent of contaminated area (in square metres if possible)

L Factors affecting spill or recovery (weather conditions, terrain, snow cover, etc.)	M Containment (natural depression, dikes, etc.)

N Action, if any, taken or proposed to contain, recover, clean up or dispose of product(s) and contaminated materials

O Do you require assistance? ☐ no ☐ yes, describe:	P Possible hazards to persons, property, or environment; eg: fire, drinking water, fish or wildlife

Q Comments and/or recommendations

FOR SPILL LINE USE ONLY

Lead Agency

Spill significance

Lead Agency contact and time

.....

.....

.....

Is this file now closed? ☐ yes ☐ no

Reported by	Position, Employer, Location	Telephone
Reported to	Position, Employer, Location	Telephone

NWT 1752/0202

Drilling Additives and Associated Material Safety Data Sheets

974134 NWT Ltd.

July 2003

Attn: Johanna Luck

POLY-DRILL CLAY TREAT II

Poly-Drill Drilling Systems

Poly-Drill Clay Treat II is a specialized product designed specifically for use as a replacement for bagged potassium chloride(KcL). Clay Treat II does not contain potassium, but is composed of a sophisticated mildly cationic complex that functions much like KcL to control shale and clay activity. A 2% KcL solution contains 9,700 ppm of chloride ions, while the equivalent of Clay Treat II contains only 165 ppm of chloride ions. This significantly reduces chloride concentration and greatly lessens the environmental risks associated with the use of KcL fluids.

* Provides excellent shale and clay control without the mixing problems associated with large volumes of bagged KcL.

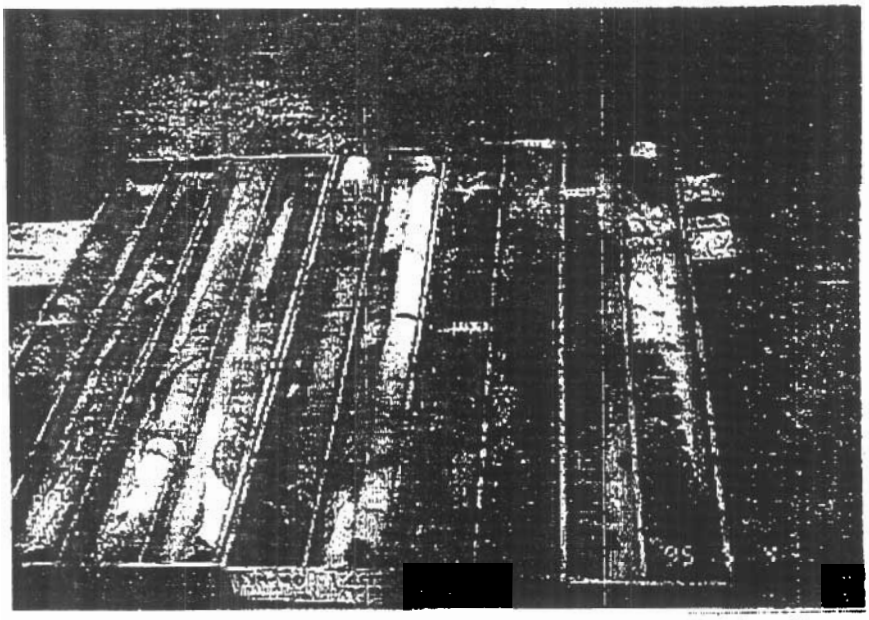
* Compatible with all polymer systems and cross-linked gels such as Poly-Drill 1330, 133X, O.B.X., and maybe used in water, brine or acid systems.

* Will not affect pH and being a non-surface active it does not adversely affect formation.

* Can be easily utilized in "on the fly systems" to eliminate pre-mixing and leftover brine disposal problems.

* Highly effective in preventing wellbore shale erosion.

* Typically applied at a concentration of 0.5 to 10 gallons per 1,000 gallons of fluid(GPT) depending on the percent of KcL being replaced, where 2 % potassium chloride functional equivalent is desired, Clay Treat II is added to fresh water at a concentration of 2 gallons per 1,000 gallons of water.



Clay Treat II has been very successful in continuous coring of kimberlite diamond samples, uranium deposits and fault seams

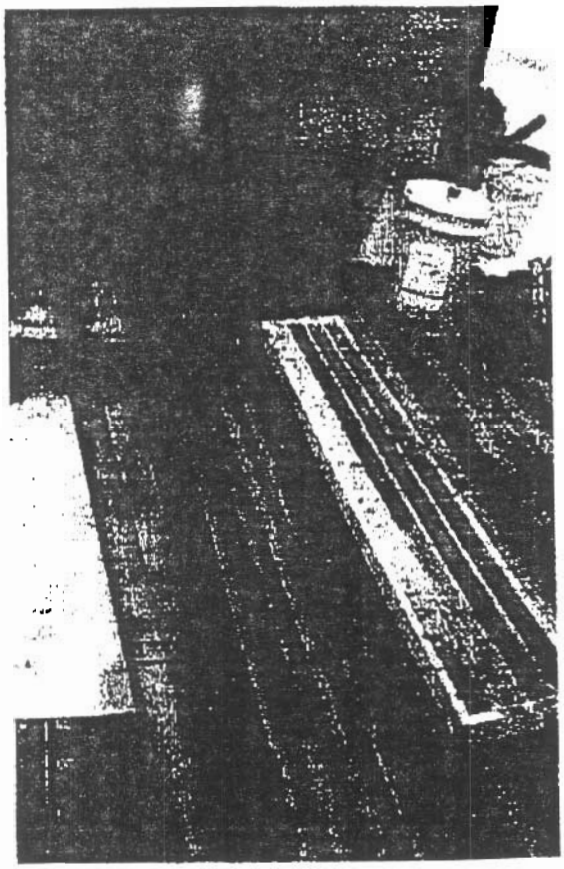
Poly-Drill Drilling Systems

POLY-DRILL O.B.X. AND 133X

Overburden and Core Drilling Fluid System

Poly-Drill O.B.X. & 133X are a second generation polymer drilling system that overcomes the shearing problems of emulsion polymers such as Easy Mud, 120L and Matex 1200. They act as cross-linked liquid viscosifiers used for cutting removal in drilling applications.

- Non-shearing clay stabilizing and core recovery system that maintains viscosity under shear.
- Includes a lubricate that reduces rod vibration and improves tube filling in broken ground.
- Maintains hole stability and hole cleaning for overburden as well as sand seams.
- Films metal surfaces to provide excellent lubrication of down hole equipment, water swivels, pressure pumps and mixing equipment.
- Assists in bore hole stabilization.
- Helps alleviate solids accumulation within drilling fluids by aiding an Enviro-Pak filtration system.
- Safe for the environment.



- Mix 1 quart of O.B.X. per 150 gallons of water while mixing tank is filling for over burden and sand, when tank is near full, then add equal amount of 133X.
- Greater viscosity can be achieved by increasing each product.
- The O.B.X. must be added to the mixing tank first.
- This cross-linked system can achieve a funnel viscosity of 45 to 50 seconds.

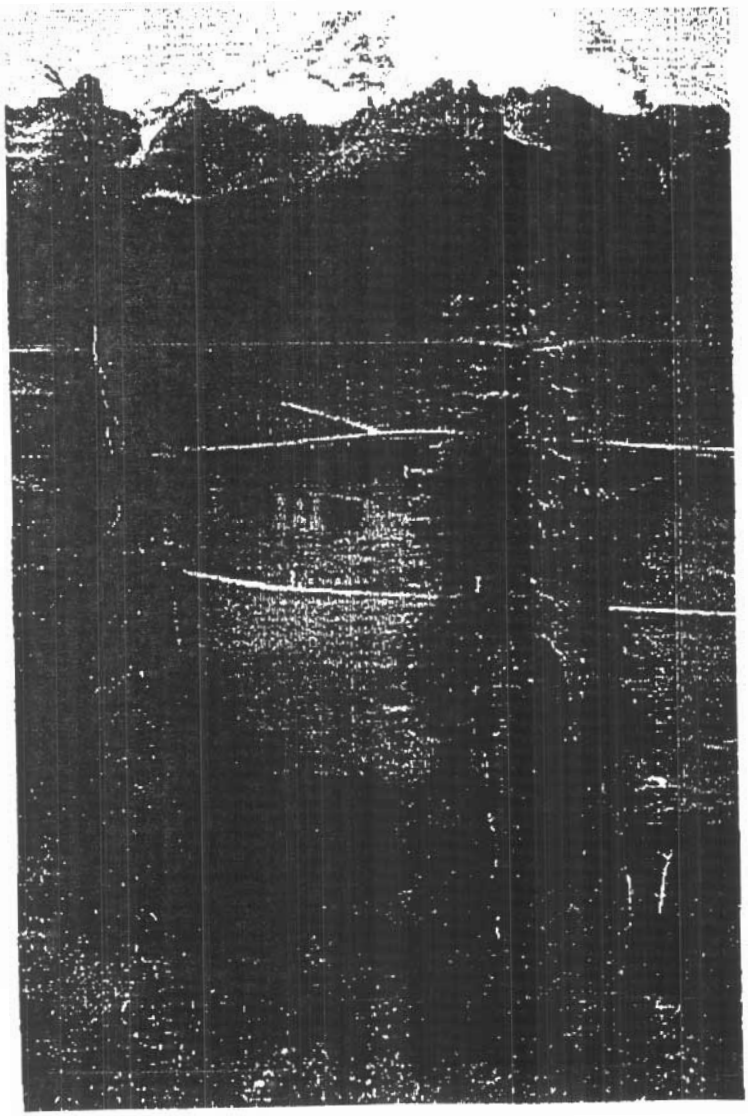
*Packaged in 5 gallon plastic pails (20 Liters).

POLY-DRILL DRILLING 1824 - 104 Ave., S.W. Calgary, Alberta T2W-OA8 (403) 259-5112

Poly-Drill Drilling Systems

A partial list of projects where Poly-Drill's drilling fluids and filtration equipment have been used in core drilling:

Kennecott Incorporated - Lac De Grace, Northwest Territories - diamond exploration
Kennsington Resources - Price Albert, Saskatchewan - diamond exploration
Inco Incorporated - Thompson, Manitoba - nickel exploration in preditities
Cominco - Grand Rapids, Manitoba - base metal exploration in fractured faulted limestone
Falconbridge - Thompson, Manitba - base metal exploration in fault seams
Newmont Mining - Peru - gold exploration in fractured faulted mountain drilling
Santa-Fe Gold - Winnimucca, Nevada - gold exploration in faulted clay shale seams
Unranerz Exploration - Key Lake, Saskatchewan - uranium exploration in sand formations

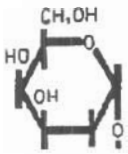


APPLICATION DATA

For specific application assignments contact Poly-Drill Drilling Systems for an engineering report on model type, chemical program and pump requirement.

Please contact Poly-Drill at:
Telephone: **(403) 259-5112**
Fax: (403)255-7185
Or write to **Poly-Drill Drilling Systems Ltd.**
1824-104 Avenue, S.W.
Calgary, Alberta T2W-OA8

Bob Whipple - President
Kim Whipple - Vice President
Kelly Whipple - Operations



Poly-Drill Drilling Systems
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(403) 259-5112 FAX (403) 255-7185

MATERIAL SAFETY DATA SHEET/FICHE SIGNALETIQUE

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.
Teratongenicity: 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: Don 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

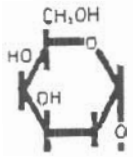
Respiratory Protection: None normally required.
Ventilation: If mist and/or vapors are present, use air purifying respirator of self-contained breathing apparatus, but this is rarely required.
Eye Protection: Safety glasses, if personally preferred
Gloves: Generally not necessary. Personal preference.

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-0A8
(403) 259-5112 FAX (403) 255-7185

MATERIAL SAFETY DATA SHEET/FICHE SIGNALETIQUE

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.
Teratongenicity: Not available.
Mutagenicity: Not available.
Carcinogenicity: None of the components of this product are listed as carcinogens by IARC and ACGIH

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: Don 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

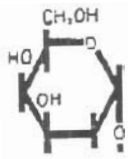
Respiratory Protection: None normally required.
Ventilation: If mist and/or vapors are present, use air purifying respirator of self-contained breathing apparatus, but this is rarely required.
Eye Protection: Safety glasses, if personally preferred
Gloves: Generally not necessary. Personal preference.

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 SIGNALETIQUE

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.
Teratongenicity: 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: Don 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 of 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

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 by 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.
8069 River Way, Delta, British Columbia, Canada V4G 1L3
Phone: (604) 940-6050 · Fax: (604) 940-6080
Toll Free: 1 800 665-6845

BIG BEAR 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:	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

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.

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