EMERGENCY RESPONSE PROCEDURES FOR SPILL REPORTING

JOB SITE SPECIFIC OR DURING TRANSPORTATION

WESTERN CANADA REGION - NUNAVUT

1. Assess and stop the spill/leak, if possible.

2. Take immediate steps to contain and minimize the effects of the spill. (i.e. Containment/spill kits)

3. Report the spill/leak to your supervisor (Foreman, Senior Geologist, Project Geologist) as soon as possible. If your supervisor is unavailable, contact any of the following. Work through the list.

Robin Adair	Graham Ascough	Matt Rees
Al Huard	Al Smith	Mike Savell

(If nobody available, go to step #4)

CAMP GPS CO-ORDINATES: 93° 34.0' West 76° 25.2' North

LOCAL RCMP DETACHMENT PHONE #: 867 252-3817

LOCAL EXPEDITOR PHONE #: 867 252-3737

LOCAL FLIGHT BASE PHONE #: 867 252-3981

4. Upon notification of spill, supervisors are to contact:

   a) **ENVIRONMENTAL SPILL REPORTING** (24 hours): 867-920-8130
   LOCAL DISTRICT ENVIRONMENTAL DETACHMENT:

24 Hour Spill Line (all of NWT)	867-920-8130
(Fax)	867-873-6924
Hazardous Substance Specialist (Yellowknife only-Harvey Gaukel)	867-873-7654
Indian Northern Affairs/Canada (Waters-Greg Cooke-will be contacted by spill line)	867-669-2656

If unavailable or after hours, contact Canadian Coast Guard (Federal Waters): 800-265-0237

West Arctic (Without Nunavut) (Hay River-Terry Cooke)	867-874-5559
East Arctic (Contact Ottawa)	613-990-5600
Search & Rescue (24 hrs)	800-267-7270

5. Field procedures as follows: **KEEP GOOD RECORDS**

   a) When did it happen? (time/date)
   b) What product was spilled and approx. how much?
   c) Whom did you contact/notify and when?
   d) What actions were taken to contain the spill/leak?
   e) What corrective actions were advised to be taken by authorities notified?
   f) List of witnesses.
   g) Description/diagram of spill site. i.e.) amount involved, area involved, vegetation, slope of land, runoff direction, distance to water source. (do not speculate)

6. What to report: **GIVE THE FACTS ONLY, DON'T SPECULATE**

   a) Time of spill, time spill was discovered and by whom.
   b) Type of product spilled and an approximate amount.
   c) Has the spill been stopped and contained?
   d) Known events/factors that may have influenced the spill.
   e) Location and description/diagram of spill site. i.e.) amount involved, area involved, vegetation, slope of land, runoff direction, distance to water source. (do not speculate)
   f) Actions taken to stop/contain the spill.
   g) Actions advised by authorities notified.
   h) Damage assessment/potential.
   i) List of witnesses (names) and their job titles. (record witness information ASAP and verify)
   j) List of supervisors/authorities advised of spill/leak. (get names whenever possible)
   k) Your name, job title and telephone number (business and residential)

7. Complete and submit an environmental incident investigation form. Have witnesses review your report for discrepancies. Sign off your report and if possible have witnesses initialize.

NB: As a precautionary step, ensure that all fuels/propanes when transported are done in an upright manner and securely fastened to the mode of transport. Consult with regulation/government authorities as to amounts allowed. Also ensure proper containment facilities and or kits are in place at your work site.

TELEPHONE LIST

Noranda office (T Bay)	807-623-4339
Adair, Robin	807-767-7605
	(Cell 474-8158)
Ascough, Graham	807-767-4941
Huard, Allan	807-345-7872
Rees, Matt	807-768-2249
Smith, Al	807-767-5696

WCB (Health & Safety-Mining)	800-661-0792
Min. of Labor/WCB (reception)	867-920-3841
(Emergency-weekends only)	867-873-0123
(Chief Inspector-work-Mr. Wong)	867-669-4408
(Chief Inspector-home)	867-873-3367
(Inspector Peter Bengts-home)	867-920-4257
(Inspector Michael Horne-home)	867-873-4591
Poison Control (YK Reg. Hosp.)	867-669-4111
(Emergency Ward)	
NWT Fire Management	800-661-0800
(Duty Officer-Fire Season/24 hr)	867-920-6115
(Administration-Lanch Schmidt)	867-920-6114

poly-drill.com

home
filtering drill water
on-site gallery
drilling fluids
the oil patch
technical data
history
equipment
contacts

Material Safety Data Sheet/Fiche Signaletique

Poly-Drill O.B.X.

Section 1--Product Identification

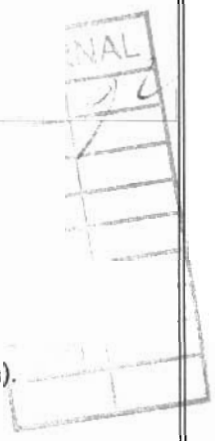
Product Trade Name(s): Poly-Drill O.B.X.

WHMIS CLASSIFICATION: Non-regulated

TDG Classification: Non dangerous goods

SECTION 2—COMPOSITION

A liquid polymer containing guar gum, mineral oil, vegetable oil, acrylamide copolymer and a surfactant: Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations.



SECTION 3—PHYSICAL DATA

Boiling Point: Not available

Specific Gravity: 0.9 g/cm

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

pH: 3.8 (1% concentration)

Density (g/ml): Not available

Physical State: Liquid

Appearance and Odor: Brown. Odor slight.

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

G50 Microtox Analysis prepared by HydroQual Laboratories, Calgary, AB--97/6/26 Test#970978:

Test Description	EC20	EC50	Pass/Fail
MTX	>91	>91	Pass

SECTION 11—DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name: Drilling Mud

Hazard Class: Not hazardous

Hazardous Substances: None

Cautionary Labeling: None required

HOME

poly-drill.com

MATERIAL SAFETY DATA SHEET/FICHE SIGNALETIQUE

Section 1—PRODUCT IDENTIFICATION

PRODUCT TRADE NAME(S): **Poly-Drill 133-X**

PRODUCT DESCRIPTION: LIQUID ANIONIC POLYMER

CHEMICAL DESCRIPTION: Polymer, Surfactant(s), Water, Hydrocarbon solvent

UPDATED: June 01, 2001

NFPA704M/WHMIS RATING

HEALTH: 0/0	0/1	FLAMMABILITY:	1/1	REACTIVITY:
0=Insignificant	1=Slight	2=Moderate	3=High	4=Extreme

SECTION 2—COMPOSITION

A liquid polymer: Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations. None of the substances in this product are hazardous.

SECTION 3—PHYSICAL DATA

Flash Point: >100°C (PMCC)

Specific Gravity (@ 25°C.): 1.08

Solubility in Water: Emulsifiable

pH: 8.1 (1.0% solution)

Freeze Point: -10 °C (14 Degrees F)

Density (g/ml): 1.08 at 25 °C

Physical State: Liquid

Appearance: Blue liquid

Odor: Hydrocarbon

Note: These physical properties are typical values for this product.

SECTION 4--FIRE AND EXPLOSION DATA

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. Chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

THERMAL DECOMPOSTION PRODUCTS: In the event of combustion CO, oxides of carbon (COx), oxides of nitrogen (NOx) may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 5—FIRE FIGHTING MEASURES

FLASH POINT: >100°C (PMCC)

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For larger fires, use water spray or fog, thoroughly drenching the burning material.

UNSUITABLE EXTINGUISHING MEDIA: Do not use water unless flooding amounts are available.

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve oxides of nitrogen (NOx) under fire conditions.

SECTION 6—HEALTH HAZARD DATA

EMERGENCY OVERVIEW:

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes and clothing. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

PRIMARY ROUTE(S) OF EXPOSURE: Eye & Skin

EYE CONTACT: Can cause mild to moderate irritation

SKIN CONTACT: Can cause mild, short-lasting irritation

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

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.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water. Call for medical assistance immediately.

SECTION 8—HANDLING, ACCIDENTAL RELEASE MEASURES & DISPOSAL CONSIDERATIONS

Storage: Keep container tightly closed when not in use.

DISPOSAL:

In Ontario, the waste class under Regulation 347 is: 233L

SMALL SPILLS:

Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area.

LARGE SPILLS:

Contain liquid using absorbent material, by digging trenches or by dyking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated.

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage.

ENVIRONMENTAL PRECAUTIONS

This product should NOT be directly discharged into lakes, ponds, streams, waterways or public water supplies.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state, provincial and federal regulations.

SECTION 9—INDUSTRIAL HYGIENE CONTROL MEASURES

OCCUPATIONAL EXPOSURE LIMITS:

This product does not contain any substance that has an established exposure limit.

Respiratory Protection: None normally required.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

Ventilation: General ventilation is recommended.

Eye Protection: Safety glasses, if personally preferred

Gloves: Generally not necessary. Personal preference. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton, and butyl (compatibility studies have not been performed).

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 10—TOXICOLOGICAL PROPERTIES

SENSITIZATION:

This product is not expected to be a sensitizer.

A "LC50-96" Pass/Fail Bioassay test. This test determines the lethality of a fluid on young aquatic organisms . The fluid fails if 50% or more of the animals are dead after 96 hours in the fluid.

i. 96 hour static acute LC50 to Rainbow Trout = Greater than 1,000 mg/L

96 hour no observed effect concentration = 125 mg/L based on no mortality or abnormal effects

ii. 96 hour static acute LC50 to Sheepshead Minnow = Greater than 1,000 mg/L

96 hour no observed effect concentration = 1,000 mg/L (highest concentration tested) based on no mortality or abnormal effects.

iii. 96 hour static acute LC50 to Mysid Shrimp = 400 mg/L

96 hour no observed effect concentration = 180 mg/L based on no mortality or abnormal effects.

iv. 96 hour static acute LC50 to Daphnia Magna - 400 mg/L

96 hour no observed effect concentration = 56 mg/L (lowest concentration tested) based on no mortality or abnormal effects.

Microtoxicity

Test Method: Luminescent Bacteria, IC50@ 15 min

Reference: Appendix 1: Microtox Bioassay Procedure, Drilling Waste Management, Guide G50. 1993. Alberta Energy and Utilities Board, Calgary, AB, Canada.

Sample: Poly Drill 1330, sample #97324-1 for test #970723, 97/05/09 by D. Lintott

Preparation: Sample was diluted to 2 g/L, which formed thick, slightly cloudy liquid. The sample was then centrifuged for 1 hour.

Test Results:

SAMPLE	TREATMENT	%CTL	IC20%	IC50%	RESULT
97324-1	None	N/A	14 (9-22)	>91	PASS

The following results are for a 1% aqueous solution of a similar product.

CARCINOGENCITY:

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Government Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION:

Based on our Hazard Characterization, the potential human hazard is: LOW

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION:

Based on our Hazard Characterization, the potential environmental hazard is: LOW.

SECTION 11—DEPARTMENT OF TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES:

PRODUCT IS **NOT** REGULATED DURING TRANSPORTATION

Shipping Name: Drilling Mud

Hazard Class: Not hazardous

Cautionary Labeling: None required

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

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