

## Poly-Drill Drilling Systems

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# MATERIAL SAFETY DATA SHEET/FICHE SIGNALÉTIQUE

## 1. PRODUCT IDENTIFICATION

PRODUCT TRADE NAME: **POLYFLOC**  
PRODUCT DESCRIPTION: LIQUID ANIONIC POLYMER  
CHEMICAL DESCRIPTION: Polymer, Surfactant(s), Water, Hydrocarbon solvent  
UPDATED: June 26, 2007

NFPA704M/HMIS RATING

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

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Based on our hazard evaluation, none of the substances in this product are hazardous.

## 3. HAZARDS IDENTIFICATION

### \*\*EMERGENCY OVERVIEW\*\*

CAUTION: May cause irritation with prolonged contact.

Do not get in eyes, on skin, on clothing. Do NOT take internally. Wear suitable protective clothing. Keep container tightly closed when not in use. **Water in contact with product will cause slippery floor conditions.** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash with soap and water.

Fire or intense heat may cause violent rupture of packaging. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions

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

PRIMARY ROUTE(S) OF EXPOSURE: Eye & Skin

HUMAN HEALTH HAZARDS – ACUTE:

EYE CONTACT:

Can cause mild to moderate irritation.

SKIN CONTACT:

Can cause mild, short-lasting irritation.

INGESTION:

Not a likely route of exposure. Harmful: may cause lung damage if swallowed.

**INHALATION:**

Not a likely route of exposure. See effects described under ingestion.

**SYMPTOMS OF EXPOSURE:**

**Acute:**

A review of available data does not identify any symptoms from exposure not previously mentioned.

**Chronic:**

Frequent or prolonged contact with product may defat and dry the skin, leading to discomfort and dermatitis.

**AGGRAVATION OF EXISTING CONDITIONS:**

A review of available data does not identify any worsening of existing conditions.

**HUMAN HEALTH HAZARDS – CHRONIC:**

No adverse effects expected other than those mentioned above.

#### **4. FIRST AID MEASURES**

**SKIN CONTACT:**

Remove contaminated clothing. 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 while holding eyelids open. If irritation persists, repeat flushing. Get medical attention.

**INHALATION:**

Remove to fresh air, treat symptomatically. If breathing becomes difficult, give oxygen and seek medical advice.

**INGESTION:**

Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

**NOTE TO PHYSICIAN:**

Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition. If swallowed, a jelly mass may form which in digestion, may cause blockage.

#### **5. FIRE FIGHTING MEASURES**

**FLASH POINT:** >100°C (PMCC)

**LOWER EXPLOSTION LIMIT:** No data available.

**UPPER EXPLOSTION LIMIT:** No data available.

**AUTOIGNITION TEMPERATURE:** No data available.

**EXTINGUISHING MEDIA:**

Foam, Dry powder, Carbon dioxide, other extinguishing agent suitable for Class B fires.

**UNSUITABLE EXTINGUISHING MEDIA:**

Do not use water unless flooding amounts are available.

**FIRE AND EXPLOSTION HAZARD:**

Fire or intense heat may cause violent rupture of packages. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. Water in contact with the product will cause slippery floor conditions.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:**

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

**SENSITIVITY TO MECHANICAL IMPACT:**

Not expected to be sensitive to mechanical impact.

**SENSITIVITY TO STATIC DISCHARGE:**

Not expected to be sensitive to static discharge.

## **6. ACCIDENTAL RELEASE MEASURES**

**PERSONAL PRECAUTIONS:**

Stop or reduce any leaks, if it safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

**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 in Section 13 (Disposal Considerations).

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.

## **7. HANDLING AND STORAGE**

**HANDLING:**

Do not take internally. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Avoid eye and skin contact.

**STORAGE CONDITIONS:**

Store separately from oxidizers. Store containers tightly closed.

**SUITABLE CONSTRUCTION MATERIAL:**

Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**OCCUPATIONAL EXPOSURE LIMITS:**

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

ACGIH/TLV:

Substance(s)

Oil Mist (Mineral)

TWA: 5mg/m<sup>3</sup>

OSHA/PEL:

Substance(s)

Oil Mist (Mineral)

TWA: 5mg/m<sup>3</sup>

ENGINEERING MEASURES:

General ventilation is recommended.

RESPIRATORY PROTECTION:

If significant mists, vapors or aerosols are generated an approved full-face respirator is recommended. Due to its low volatility and toxicity, the hazard potential associated with this material is relatively low. Respiratory protection is not normally needed.

HAND PROTECTION:

Nitrile gloves, PVC gloves.

SKIN PROTECTION:

Wear standard protective clothing.

EYE PROTECTION:

Wear chemical splash goggles.

HYGIENE RECOMMENDATIONS:

Keep an eye wash fountain available. Keep a safety shower available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Emulsion
APPEARANCE	Blue liquid
ODOR	Hydrocarbon
ODOR THRESHOLD	No data available
SPECIFIC GRAVITY	1.08 @ 25°C
DENSITY	1.08 g/cm <sup>3</sup>
SOLUBILITY IN WATER	Emulsifiable
pH (1.0% solution)	8.1
FREEZING POINT	-10 °C (14 °F)
BOILING POINT	No data available
VAPOR PRESSURE	No data available
EVAPORATION RATE	No data available
VAPOR DENSITY	No data available
VOC CONTENT	22.4%

Note: These physical properties are typical values for this product and are subject to change.

## 10. STABILITY AND REACTIVITY

**STABILITY:**

Stable under normal conditions.

**HAZARDOUS POLYMERIZATION:**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID:**

Extreme freezing temperatures.

**MATERIALS TO AVOID:**

Addition of water results in gelling. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Under fire conditions: Oxides of carbon, Oxides of nitrogen

**11. TOXICOLOGICAL PROPERTIES****SENSITIZATION:**

This product is not expected to be a sensitizer.

**CARCINOGENICITY:**

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).

**REPRODUCTIVE EFFECTS:**

No quantitative data available.

**TERATOGENICITY AND EMBRYOTOXICITY:**

No quantitative data available.

**MUTAGENICITY:**

No quantitative data available.

**OTHER TOXICITY INFORMATION:**

Toxicologically Synergistic Products: None known

**HUMAN HAZARD CHARACTERIZATION:**

Based on our hazard characterization, the potential human hazard is: LOW

**12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL EFFECTS:**

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

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.

**ACUTE FISH RESULTS**

Species	Exposure	LC50	Test Descriptor
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Rainbow Trout	96 hrs	> 1,000 mg/l	1% Aqueous Solution of product
Sheepshead Minnow	96 hrs	> 1,000 mg/l	1% Aqueous Solution of product

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

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.

#### ACUTE INVERTEBRATE RESULTS

Species	Exposure	LC50	Test Descriptor
Daphnia magna	48 hrs	280 mg/l	1% Aqueous Solution of product
Mysid Shrimp (Mysidopsis bahia)	96 hrs	400 mg/l	1% Aqueous Solution of product

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.

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.

#### Microtoxicity

The Microtox bioassay has been established as the reference test for mud additive toxicity testing.

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 product.

#### ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION:

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

### 13. DISPOSAL CONSIDERATIONS

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

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.

#### **14. TRANSPORT 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

#### **15. REGULATORY INFORMATION**

NATIONAL REGULATIONS, CANADA:

WORKPLACE HAZARDOUS MATERIAL INFORMATION SYSTEM (WHMIS):

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS CLASSIFICATION:

Not considered a WHMIS controlled product.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

NATIONAL POLLUTANT RELEASE INVENTORY (NPRI):

This product does not contain any substances listed in Schedule I of the NPRI at a concentration of one percent or more by weight.

NATIONAL REGULATIONS, UNITED STATES OF AMERICA:

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

Shipping Name: Liquid Drilling Additive

Hazard Class: Not hazardous

Cautionary Labeling: None required

#### **16. OTHER INFORMATION**

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individual handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations.