# APPENDIX 3: MSDS Sheets

# Material Safety Data / 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: **550X® POLYMER**

CHEMICAL FAMILY: Anionic water soluble polymer
PRODUCT USE: Drilling mud additive
WHMIS CLASSIFICATION: Not WHMIS regulated

**TRANSPORTATION OF DANGEROUS GOODS (TDGR)**

CLASSIFICTION: Not applicable
PACKAGE GROUP: Not applicable
UN NUMBER (PIN) Not applicable

## SECTION II: HAZARDOUS INGREDIENTS

| INGREDIENT | PERCENTAGE | CAS NUMBER | LD50 | LC50 |
|---|---|---|---|---|
| No hazardous ingredients | | | | |

## SECTION III: HEALTH HAZARDS

ROUTES OF ENTRY
[XXX] Skin [XXX] Eye Contact [XXX} Inhalation [XXX} Ingestion

THRESHOLD LIMIT VALVE: Not determined
SKIN CONTACT: No effects of exposure expected due to contact. Prolonged contact may cause slight skin irritation or dermatitis in some individuals.
EYE CONTACT: No effects of exposure expected with the exception of mechanical irritation.
INGESTION: No adverse effects expected. Product may swell in throat causing choking.
INHALATION: May cause sneezing, slight irritation of nose and throat.

## SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Wash with soap and water as a precaution. In case of persistent skin irritation, consult a physician.
EYE CONTACT: Rinse thoroughly with plenty of water, also under the eyelid. In case of persistent eye irritation, consult a physician.
INGESTION: The product is not considered toxic based on studies on laboratory animals. Do not induce vomiting, give 2-3 glasses of water.
INHALATION: Move to fresh air. If not breathing give artificial respiration. Seek medical attention.

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## 550X® POLYMER



### SECTION V: PHYSICAL DATA

| | |
|---|---|
| APPEARANCE | White granular solid |
| ODOR | None |
| SPECIFIC GRAVITY | not determined |
| BOILING POINT (°C) | Not applicable |
| MELTING POINT (°C) | Not determined |
| SOLUBILITY IN WATER | Forms a gel |
| PERCENT VOLATILE BY VOLUME | Not determined |
| EVAPORATION RATE | Not determined |
| VAPOR PRESSURE (mm Hg) | Not determined |
| VAPOR DENSITY (Air=1) | Not determined |
| pH | 4 – 9 @ 5g/L |

### SECTION VI: FIRE AND EXPLOSION HAZARD DATA

| | |
|---|---|
| FLASH POINT | not applicable |
| FLAMMABLE LIMITS | Not determined |
| EXTINGUISHING MEDIA | Not determined |
| SPECIAL FIRE FIGHTING PROCEDURES | Aqueous solutions or powders that become wet render surfaces extremely slippery. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | No special equipment required. |

### SECTION VII: REACTIVITY DATA

| | |
|---|---|
| STABILITY | [XXX} Stable [ ] Unstable |
| INCOMPATIBILITY (Conditions to avoid) | Oxidizing agents |
| CONDITIONS OF REACTIVITY | Not known |
| HAZARDOUS DECOMPOSTION PRODUCTS | $NO_X$, $CO_X$ |
| HAZARDOUS POLYMERIZATION | [XXX] Will not occur [ ] May occur |

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## 550X® POLYMER



### SECTION VIII: PREVENTIVE MEASURES

#### SPECIAL PROTECTION INFORMATION

| | |
|---|---|
| RESPIRATORY PROTECTION | Dust masks are recommended where concentration of total dust is more than 10 mg/m$^3$ |
| VENTILATION | General mechanical |
| PROTECTIVE GLOVES | Chemically resistant |
| EYE PROTECTION | Safety glasses with side shields |
| OTHER PROTECTIVE EQUIPMENT (Specify) | Not known |

#### ACCIDENTAL RELEASE MEASURES

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

Do not flush with water. Clean up promptly by sweeping or vacuum
Keep in suitable and closed containers for disposal.
After cleaning, flush away trace with water.

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Wash hands before breaks and at the end of the day. Keep in a cool dry place (0 – 30 °C)

#### WASTE DISPOSAL METHOD

Can be land filled or incinerated, when in compliance with local, provincial and federal regulations.

### SECTION IX: PREPARATION

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

DATE ISSUED: August, 2001 DATE REVISED: January 2005

BY: Product Safety Committees

PETRO-CANADA

## Material Safety Data Sheet

| WHMIS (Pictograms) | WHMIS (Classification) | Protective Clothing | TDG (pictograms) |
|---|---|---|---|
|  | B-2, D-2A, D-2B |  |  |

### *Section 1. Chemical Product and Company Identification*

| | | | |
|---|---|---|---|
| **Product Name** | **JET B AVIATION TURBINE FUEL** | **Code** | W219<br>SAP: 150, 151, 152 |
| **Synonym** | Jet B; Jet B DI; JP-4; Jet F-40; NATO F-40; Turbine Fuel, Aviation, Wide Cut Type (CAN/CGSB-3.22). | **Validated on** | **2/8/2005.** |
| **Manufacturer** | PETRO-CANADA<br>P.O. Box 2844<br>Calgary, Alberta<br>T2P 3E3 | **In case of Emergency** | Petro-Canada:<br>403-296-3000<br>Canutec Transportation:<br>613-996-6666<br>Poison Control Centre:<br>Consult local telephone directory for emergency number(s). |
| **Material Uses** | Used as aviation turbine fuel. May contain a fuel system icing inhibitor. | | |

### *Section 2. Composition and Information on Ingredients*

| Name | CAS # | % (W/W) | *Exposure Limits (ACGIH)* TLV-TWA(8 h) | STEL | CEILING |
|---|---|---|---|---|---|
| Complex mixture of petroleum hydrocarbons (C6-C14). | 64741-41-9 | >99 | Not established | Not established | Not established |
| Benzene | 71-43-2 | <0.5 | 0.5 ppm | 2.5 ppm | Not established |
| Fuel System Icing Inhibitor (FSII) (if added*):<br>Diethylene Glycol Monomethyl Ether | 111-77-3 | ≤0.15 | Not established | Not established | Not established |
| Anti-static, antioxidant, corrosion inhibitor and metal deactivator additives.<br>* Please note that Jet B DI, JP-4, Jet F-40 and NATO F-40 all contain Fuel System Icing Inhibitor (FSII).corrosion inhibitor | Not applicable | <0.1 | Not applicable | Not applicable | Not applicable |

| | |
|---|---|
| **Manufacturer Recommendation** | Not applicable |
| **Other Exposure Limits** | Consult local, state, provincial or territory authorities for acceptable exposure limits. |

### *Section 3. Hazards Identification.*

| | |
|---|---|
| **Potential Health Effects** | Flammable liquid. Exercise caution when handling this material. Skin and eye contact can cause irritation. Inhalation of vapours can cause irritation of the respiratory tract and CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconciousness and possibly death. Aspiration into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure. May cause cancer. May cause teratogenicity/embryotoxicity. For more information refer to Section 11 of this MSDS. |

### *Section 4. First Aid Measures*

| | |
|---|---|
| **Eye Contact** | Quickly and gently blot or brush away chemical. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the chemical is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. |
| **Skin Contact** | Quickly and gently, blot or brush away excess chemical. Wash gently and thoroughly with warm water and non-abrasive soap for 5 minutes or until chemical is removed. |
| **Inhalation** | Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice.<br>DO NOT allow victim to move about unnecessarily. Immediately transport victim to an emergency care facility. |

| *JET B AVIATION TURBINE FUEL* | *Page Number: 2* |
|---|---|
| **Ingestion** | NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 240 to 300 mL (8 to 10 oz) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. |
| **Note to Physician** | Not available |

| *Section 5. Fire-fighting Measures* | | | |
|---|---|---|---|
| **Flammability** | Flammable liquid (NFPA). | **Flammable Limits** | LOWER: 1.3% UPPER: 8% (NFPA) |
| **Flash Points** | CLOSED CUP: -31ºC (-24°F) (NFPA) | **Auto-Ignition Temperature** | 240°C (464°F) (NFPA) |
| **Fire Hazards in Presence of Various Substances** | Flammable in presence of open flames, sparks, and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. May accumulate in confined spaces. | **Explosion Hazards in Presence of Various Substances** | Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire. |
| **Products of Combustion** | Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), aldehydes, ketones, smoke and irritating vapours as products of incomplete combustion. | | |
| **Fire Fighting Media and Instructions** | NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible).<br>CAUTION: This product has a very low flash point: Use of water spray when fighting fire may be inefficient.<br><br>If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions.<br><br>SMALL FIRES: Dry chemical, CO2, water spray or regular foam.<br>LARGE FIRES: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk.<br>Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.<br><br>Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting devices or any discolouration of tank. ALWAYS stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. | | |

| *Section 6. Accidental Release Measures* | |
|---|---|
| **Material Release or Spill** | IN THE EVENT OF A LARGE SPILL CONSIDER THE FOLLOWING CONTROL MEASURES: Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. Evacuate non-essential personnel. Extinguish all ignition sources. Ventilate area. Stop leak if safe to do so. Avoid contact with spilled material. Do not allow spilled material to enter sewer systems as vapours may accumulate and may cause an explosion/fire hazard. If spilled in a confined space, ensure appropriate confined space entry protocols are followed. Ensure clean-up personnel wear appropriate personal protective equipment. Use appropriate inert absorbent material to absorb spilled product. Do not use paper or other flammable materials to absorb product. Collect used absorbent for later disposal. Avoid breathing vapours or mists of material. Notify appropriate authorities immediately. |

| *Section 7. Handling and Storage* | |
|---|---|
| **Handling** | FLAMMABLE MATERIAL. Handle with care. Avoid contact with any sources of ignition, flames, heat, and sparks. Wear proper personal protective equipment (See Section 8). Ensure all equipment is grounded/bonded. Avoid confined spaces and areas with poor ventilation. Avoid inhalation of product vapours or mists. Empty containers may contain product residue. Do not pressurize, cut, heat, or weld empty containers. Do not reuse containers without commercial cleaning and/or reconditioning. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. |
| **Storage** | Store away from heat and sources of ignition. Store away from incompatible and reactive materials (See section 5 and 10). Ensure the storage containers are grounded/bonded. Keep container tightly closed. Store in dry, cool, well-ventilated area. |

| JET B AVIATION TURBINE FUEL | Page Number: 3 |
|---|---|

### Section 8. Exposure Controls/Personal Protection

| | |
|---|---|
| **Engineering Controls** | For normal application, special ventilation is not necessary. If user's operations generate vapours or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station. |
| **Personal Protection** - ***The selection of personal protective equipment varies, depending upon conditions of use.*** | |
| **Eyes** | As a minimum, safety glasses with side shields should be worn when handling this material. |
| **Body** | If this material may come into contact with the body during handling and use, we recommend wearing appropriate protective clothing to prevent contact with the skin. (Contact your PPE provider for more information). |
| **Respiratory** | A NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister with a dust, fume of mist filter (R, or P series) may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection. |
| **Hands** | If this material may come in contact with the hands during handling and use, we recommend wearing gloves of the following material(s): neoprene, polyvinyl alcohol (PVA), and fluoro-elastomer. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. |
| **Feet** | Wear appropriate footwear to prevent product from coming in contact with feet and skin. |

### Section 9. Physical and Chemical Properties

| | | | |
|---|---|---|---|
| **Physical State and Appearance** | Clear liquid. | **Viscosity** | Not available (similar to gasoline) |
| **Colour** | Clear and colourless. | **Pour Point** | Freezing Point: <-51°C (<-60°F) for Jet B/Jet B DI; <-58°C (<-72°F) for Jet Fuel F-40. |
| **Odour** | Gasoline like. | **Softening Point** | Not applicable. |
| **Odour Threshold** | Not available | **Dropping Point** | Not applicable. |
| **Boiling Point** | 50 to 270°C (122 to 518°F) | **Penetration** | Not applicable. |
| **Density** | 0.75 to 0.80 kg/L @ 15°C (59°F). | **Oil / Water Dist. Coefficient** | Not available |
| **Vapour Density** | 3.5 (Air = 1) | **Ionicity (in water)** | Not available |
| **Vapour Pressure** | 21 kPa (158 mmHg) @ 37.8°C (100°F). | **Dispersion Properties** | Not available |
| **Volatility** | Volatile. | **Solubility** | Insoluble in water. Partially miscible in some alcohols. Miscible in other petroleum solvents. |

### Section 10. Stability and Reactivity

| | | | |
|---|---|---|---|
| **Corrosivity** | Not available | | |
| **Stability** | The product is stable under normal handling and storage conditions. | **Hazardous Polymerization** | Will not occur under normal working conditions. |
| **Incompatible Substances / Conditions to Avoid** | Can react with strong oxidizing agents, uranium hexafluoride, diborane. Incompatible with halogens and halogen compounds. | **Decomposition Products** | May release COx, NOx, SOx, aldehydes, ketones, smoke and irritating vapours when heated to decomposition. |

### Section 11. Toxicological Information

| | |
|---|---|
| **Routes of Entry** | Skin contact, eye contact, inhalation and ingestion. |
| **Acute Lethality** | Acute toxicity information is not available for the product as a whole, therefore, data for some of the ingredients is provided below: |

**Based on toxicity of similar product.**
Acute oral toxicity (LD50): >5000 mg/kg (rat).
Acute dermal toxicity (LD50): >5000 mg/kg (rabbit).
Acute inhalation toxicity (LC50): >5000 mg/m³/4h (rat).

| JET B AVIATION TURBINE FUEL | Page Number: 4 |
|---|---|
| | **Benzene**<br>Acute oral toxicity (LD50): 930 mg/kg (rat).<br>Acute dermal toxicity (LD50): >9400 mg/kg (rabbit).<br>Acute inhalation toxicity (LC50): 13200 ppm/4h (rat).<br><br>**Diethylene Glycol Monomethyl Ether**<br>Acute oral toxicity (LD50): 4140-5180 mg/kg (rat).<br>Acute dermal toxicity (LD50): >2000 mg/kg (rabbit).<br>Acute inhalation toxicity (LC50): >50000 mg/m³/4h (rat). |
| **Chronic or Other Toxic Effects** | |
| Dermal Route: | Skin contact can cause irritation. Prolonged or repeated contact may defat and dry skin, and cause dermatitis. |
| Inhalation Route: | Ingestion of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. |
| Oral Route: | Ingestion of this product may lead to aspiration of the liquid, especially if vomiting occurs. This may result in chemical pneumonitis (inflammation of the lungs) and/or pulmonary edema (an accumulation of fluid in the lungs). |
| Eye Irritation/Inflammation: | Short-term exposure is expected to cause only slight irritation, if any. |
| Immunotoxicity: | Not available |
| Skin Sensitization: | Contact with this product is not expected to cause skin sensitization, based upon the available data and the known hazards of the components. |
| Respiratory Tract Sensitization: | Contact with this product is not expected to cause respiratory tract sensitization, based upon the available data and the known hazards of the components. |
| Mutagenic: | Benzene is tumorigenic by RTECS criteria. |
| Reproductive Toxicity: | This product is not known to contain any components at >= 0.1% that have been shown to cause reproductive toxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a reproductive toxin. |
| Teratogenicity/Embryotoxicity: | This product contains a component(s) at >= 0.1% that has been shown to cause teratogenicity and/or embryotoxicity in laboratory tests. Therefore, this product is considered to be a teratogen/embryotoxin [Diethylene Glycol Monomethyl Ether]. |
| Carcinogenicity (ACGIH): | ACGIH A1: confirmed human carcinogen. [Benzene] |
| Carcinogenicity (IARC): | IARC Group 1: carcinogenic to Humans. [Benzene] |
| Carcinogenicity (NTP): | NTP Group 1: known to be a carcinogen. [Benzene] |
| Carcinogenicity (IRIS): | EPA/IRIS Class A: human carcinogen. |
| Carcinogenicity (OSHA): | Benzene is an OSHA known carcinogen. |
| **Other Considerations** | No additional remark. |

| *Section 12. Ecological Information* | | | |
|---|---|---|---|
| **Environmental Fate** | Not available | **Persistance/ Bioaccumulation Potential** | Not available |
| **BOD5 and COD** | Not available | **Products of Biodegradation** | Not available |
| **Additional Remarks** | No additional remark. | | |

| *Section 13. Disposal Considerations* | |
|---|---|
| **Waste Disposal** | Spent/ used/ waste product may meet the requirements of a hazardous waste. Consult your local or regional authorities. Ensure that waste management processes are in compliance with government requirements and local disposal regulations. |

| *Section 14. Transport Information* | | | |
|---|---|---|---|
| **TDG Classification** | FUEL, AVIATION, TURBINE ENGINE, 3, UN1863, PGII (CL-TDG) | **Special Provisions for Transport** | See Transportation of Dangerous Goods Regulations. |

*JET B AVIATION TURBINE FUEL* *Page Number: 5*

## *Section 15. Regulatory Information*

**Other Regulations**

This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List).

All components of this formulation are listed on the US EPA-TSCA Inventory.

All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).

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

Please contact Product Safety for more information.

**DSD/DPD (Europe)** Not evaluated.

**HCS (U.S.A.)**

CLASS: Contains material which may cause cancer.
CLASS: Flammable liquid having a flash point lower than 37.8°C (100°F).
CLASS: Toxic.
CLASS: Irritating substance.
CLASS: Target organ effects.

**ADR (Europe) (Pictograms)** NOT EVALUATED FOR EUROPEAN TRANSPORT / NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.

**DOT (U.S.A) (Pictograms)**

**HMIS (U.S.A.)**

| | |
|---|---|
| Health Hazard | 2* |
| Fire Hazard | 3 |
| Reactivity | 0 |
| Personal Protection | H |

**NFPA (U.S.A.)**

Health 2 — 3 Fire Hazard — 0 Reactivity — Specific hazard

Rating: 0 Insignificant; 1 Slight; 2 Moderate; 3 High; 4 Extreme

## *Section 16. Other Information*

**References** Available upon request.
* Marque de commerce de Petro-Canada - Trademark

**Glossary**

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - Agreement on Dangerous goods by Road (Europe)
ASTM - American Society for Testing and Materials
BOD5 - Biological Oxygen Demand in 5 days
CAN/CGA B149.2 Propane Installation Code
CAS - Chemical Abstract Services
CEPA - Canadian Environmental Protection Act
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
CFR - Code of Federal Regulations
CHIP - Chemicals Hazard Information and Packaging Approved Supply List
CNS - Central Nervous System
COD5 - Chemical Oxygen Demand in 5 days
CPR - Controlled Products Regulations
DOT - Department of Transport
DSCL - Dangerous Substances Classification and Labeling (Europe)
DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)
DSL - Domestic Substance List
EEC/EU - European Economic Community/European Union
EINECS - European Inventory of Existing Commercial Chemical Substances
EPA - Environmental Protection Agency
EPCRA - Emergency Planning and Community Right to Know Act
FDA - Food and Drug Administration
FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
HCS - Hazard Communication Standard
HMIS - Hazardous Material Information System
IARC - International Agency for Research on Cancer
IRIS - Integrated Risk Information System
LD50/LC50 - Lethal Dose/Concentration kill 50%
LDLo/LCLo - Lowest Published Lethal Dose/Concentration
NAERG'96 - North American Emergency Response Guide Book (1996)
NFPA - National Fire Prevention Association
NIOSH - National Institute for Occupational Safety & Health
NPRI - National Pollutant Release Inventory
NSNR - New Substances Notification Regulations (Canada)
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
RTECS - Registry of Toxic Effects of Chemical Substances
SARA - Superfund Amendments and Reorganization Act
SD - Single Dose
STEL - Short Term Exposure Limit (15 minutes)
TDG - Transportation Dangerous Goods (Canada)
TDLo/TCLo - Lowest Published Toxic Dose/Concentration
TLm - Median Tolerance Limit
TLV-TWA - Threshold Limit Value-Time Weighted Average
TSCA - Toxic Substances Control Act
USEPA - United States Environmental Protection Agency
USP - United States Pharmacopoeia
WHMIS - Workplace Hazardous Material Information System

**For Copy of MSDS**

**Prepared by Product Safety - JDW on 2/8/2005.**

| *JET B AVIATION TURBINE FUEL* | *Page Number: 6* |
|---|---|
| Internet: www.petro-canada.ca/msds<br><br>Fuels & Solvents:<br>Western Canada, Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228<br>Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385<br><br>For Product Safety Information: (905) 804-4752 | Data entry by Product Safety - JDW. |

*To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*

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www.simplybio.com

# MATERIAL SAFETY DATA SHEET
## PRODUCT
# OT8

## 1. DESCRIPTION / PROPERTIES (nature, reactivity):

A unique biological cleaner designed to remove residues of oils, greases and other hydrocarbon products by enhanced bacterial degradation. Aqueous suspension of selected natural bacteria, nutrients and cleaning agents. Cleans off hydrocarbon residues by bacterial oxidation to carbon dioxide and water, with no adverse environmental impact or harmful residues. Application rate is approximately 0.5 – 2.5 square metres per litre depending on surface porosity.

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

| HAZARDOUS COMPONENT | CAS NO | EINECS | % CONCENTRATION | HAZARD | RISK PHRASES | WEL |
|---|---|---|---|---|---|---|
| Orange terpene | 8028-48-6 | 232-433-8 | 10 → 30% | $X_n$ | R10,38,65,52/53 | - |
| Dipropylene glycol mono methyl ether | 34590-94-8 | 252-104-2 | 0 → 5% | - | | WEL |
| Isopropylamine dodecyl benzene sulphonate | 26264-05-1 | 247-556-2 | 5 → 10% | $X_i$ | R41, 38 | - |
| Alcohol ethoxylate | * | * | 0 → 5% | $X_n$ | R22, 41 | - |

* Proprietary status pending

## 3. HAZARD INDENTIFICATION

a) **Fire/Explosion Hazard (stability, flammability, combustion products):**
Product is not classified as combustible or flammable.

b) **Health Hazard (inhalation, ingestion, contact with skin or eyes):**
Irritating to skin and eyes. Avoid contact with skin and in particular, with the eyes. Low risk from inhalation but avoid excessive inhalation of vapour e.g. on heating etc. Low order of acute oral toxicity but do not ingest.

c) **Environmental Hazard:**
Not classified as hazardous to the environment.

## 4. FIRST AID MEASURES

**INHALATION** - Low risk in normal usage. Remove to fresh air. Rest and keep warm. If symptoms of distress persist seek medical attention.

**SKIN CONTACT** - Wash affected area thoroughly with clean water. Remove contaminated clothing and launder before re-use.

**EYE CONTACT** - Irrigate with plenty of clean water. Obtain medical advice.

**INGESTION** - Do not swallow, wash out mouth with water. If swallowed drink water and obtain medical attention. Do not induce vomiting.

## 5. FIRE FIGHTING MEASURES

**Suitable extinguishing media:**
If involved in a fire, use extinguishing media appropriate to the source of the fire.
**Protection for fire fighters:**
Wear self-contained breathing apparatus. Wear protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**
Mark out contaminated area with signs and prevent access to unauthorised personnel.
**Environmental Precautions:**
Prevent discharge of large quantities to drain or water courses.
**Clean up Procedures:**
Disperse small spillages with large excess of water. Large spillages - contain, absorb and pick up, place in sealed containers for disposal via licensed contractor. Wash down traces with excess of water.

## 7. HANDLING AND STORAGE

**Handling:**
After handling wash hands and face with soap and water.
**Storage:**
May be stored for periods over six months in plastic containers as supplied. Avoid temperatures above 45 °C and protect from frost.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

WEL (2-methoxymethylethoxy)propanol 8hr TWA 50ppm / 308mg/m$^3$ (EH40 2005)
Under normal conditions of use this limit is unlikely to be exceeded.

| | |
|---|---|
| **Engineering Controls:** | Provide eyewash station. Ensure good natural ventilation. |
| **Personal Protection:** | **Hand:** Use protective gloves made of neoprene or nitrile. |
| | **Eyes:** Wear safety glasses. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Density at 20°C | : | 0.95 – 0.97 |
| Vapour Pressure at 20°C | : | Essentially Water Vapour |
| Solubility in Water | : | Disperses |
| pH | : | 6.0 - 7.5 |
| Flash Point | : | N/A |

## 10. STABILITY AND REACTIVITY

**Stability:** Stable.
**Materials to avoid:** No known adverse reactions.
**Hazardous decomposition products:** No typical hazardous decomposition products known .

## 11. TOXICOLOGICAL INFORMATION

**Health Effects:**

| | |
|---|---|
| **Respiratory:** | Not likely to occur. |
| **Skin:** | Irritating to skin on prolonged or repeated skin contact. |
| **Eyes:** | Irritating to eyes. |
| **Ingestion:** | Low acute toxicity. May cause irritation to mucous membranes in mouth, throat, stomach and intestinal canal. |

OT-8

**Toxicological Data:**

For individual components:

| Component | Acute Toxicity |
|---|---|
| Dipropylene glycol mono methyl ether | LD50 oral (rat): 5000mg/kg |
| Orange terpenes | LD50 oral (rat): 4400mg/kg |
| Isopropylamine dodecyl benzene sulphonate | LD50 oral (rat): >2000mg/kg |
| Alcohol ethoxylate | Oral: 200< LD50<2000mg./kg<br>Dermal: LD50>2000mg/kg<br>Inhalation: LC50>5mg/L |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

For individual components:

| Component | Acute Toxicity |
|---|---|
| Orange terpenes | EC50 Daphnia magna 48h 12.3mg/L |
| Alcohol ethoxylate | Fish: 1< LC50<10mg./L<br>Daphnia: 1< LC50<10mg./L<br>Algae: 1< LC50<10mg./L |

**Degradability:**

All components are readily biodegradable.

**Bioaccumulation:**

No bioaccumulation is expected. The product is biodegradable and water-soluble.

## 13. DISPOSAL CONSIDERATION

Disperse small spillages with large excess of water. Return unwanted material to the supplier.

## 14. TRANSPORT INFORMATION

Not classified as hazardous for transport.

## 15. REGULATORY INFORMATION

Irritant $X_i$

R36/38 Irritating to skin and eyes.

S02 Keep out of the reach of children.
S26 In case of contact with the eyes rinse immediately with plenty of water and seek medical advice.
S37 Wear suitable gloves.

**Regulatory Information:**

**UK Regulatory References:** The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002.
EH40/2005 Workplace Exposure Limits 2005.

**EC Directives:** Dangerous Preparations Directive (1999/45/EC).
Safety Data Sheets Directive (2001/58/EC).

**Approved Code of Practice:** The Compilation of Safety Data Sheets.

## 16. OTHER INFORMATION

**PLEASE NOTE:**

The above information is based on the present state of our knowledge at the time of publication. It is given in good faith, no warranty is implied with respect to quality or specification of product. The user must satisfy himself that the product is entirely suitable.

**Signature:** _____ **Date: 9th August 2005**

Date: 09.08.05 File: A42-822 Rev: 0 Page 3 of 3

FROM :Poly-Drill FAX NO. :4032557185 May. 04 2005 12:00PM P2

**Poly-Drill Drilling Systems**
1824 - 104 Avenue, S.W.
Calgary, Alberta, Canada T2W-0A8
(403) 259-5112 FAX (403) 255-7185
email: polydril@telus.net
www.poly-drill.com

**poly-drill.com**

## MATERIAL SAFETY DATA SHEET/FICHE SIGNALETIQUE

### 1. PRODUCT IDENTIFICATION

PRODUCT TRADE NAME: Poly-Drill 133-X
PRODUCT DESCRIPTION: LIQUID ANIONIC POLYMER
CHEMICAL DESCRIPTION: Polymer, Surfactant(s), Water, Hydrocarbon solvent
UPDATED: March 15, 2004

NFPA704M/HMIS RATING

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

### 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.

### 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.

### 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.

### 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.

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.

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.

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.

FROM :Poly-Drill FAX NO. :4032557185 May. 04 2005 12:01PM P4

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.

**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.

**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.

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.
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.*
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**

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.

FROM :Poly-Drill FAX NO. :4032557185 May. 04 2005 12:01PM P5

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.

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.

**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 TRANSPORATION

Shipping Name: Liquid Drilling Additive
Hazard Class: Not hazardous
Cautionary Labeling: None required

**14. OTHER INFORMATION**

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

# Material Safety Data Sheet

**MSDS ID NO.:** 0133SPE012
**Revision date:** 01/30/2004

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product name:** SSA Propane
**Synonyms:** Liquified Petroleum Gas, SSA; LPG, SSA; Propane, SSA; SSA Liquified Petroleum Gas
**Chemical Family:** Aliphatic Hydrocarbon
**Formula:** CH3CH2CH3

**Supplier:**
Speedway/Superamerica LLC
P O BOX 1500
ENON OH 45501

**Other information:** 419-421-3070
**Emergency telephone number:** 877-627-5463

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

*Propane is an aliphatic petroleum hydrocarbon. Ethyl mercaptan (15-25 ppm) is added as an odorant. The odor threshold of the mercaptan is 1 ppb.*

**Product information**

| Name | CAS Number | Weight % | ACGIH Exposure Limits: | OSHA - Vacated PELs - Time Weighted Ave | Other: |
|---|---|---|---|---|---|
| SSA Propane | 74-98-6 | 100 | = 2500 ppm TWA | = 1000 ppm TWA<br>= 1800 mg/m³ TWA | |

**Component Information**

| Name | CAS Number | Weight % | ACGIH Exposure Limits: | OSHA - Vacated PELs - Time Weighted Ave | Other: |
|---|---|---|---|---|---|
| Propane | 74-98-6 | 90-100 | = 2500 ppm TWA | = 1000 ppm TWA<br>= 1800 mg/m³ TWA | |
| Propylene | 115-07-1 | 1-5 | | | ACGIH Simple asphyxiant |
| Ethane | 74-84-0 | 000.5000 - 003.0000 | | | ACGIH Simple asphyxiant |
| Butane & Heavier | Mixture | 0-2.5 | | | |
| Sulfur | 7704-34-9 | < 000.0100 | | | |

**Notes:** The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

*PROPANE IS A COLORLESS GAS OR LIQUID STENCHED WITH A FOUL SULFUR SMELLING ODORANT. IT IS SHIPPED OR TRANSPORTED AS A LIQUIFIED GAS UNDER PRESSURE. THIS PRODUCT IS EXTREMELY FLAMMABLE AND EXPLOSIVE. AT HIGH CONCENTRATIONS THIS PRODUCT IS A SIMPLE ASPHYXIANT, WHICH DISPLACES OXYGEN FROM THE BREATHNG ATMOSPHERE. MAY CAUSE SKIN AND EYE BURNS UPON LIQUID CONTACT. LARGE RELEASES CAN CREATE A FLAMMABLE VAPOR CLOUD.*

**OSHA WARNING LABEL:**

**DANGER!**
**EXTREMELY FLAMMABLE.**
**LIQUID AND GAS UNDER PRESSURE.**
**LIQUID CAN CAUSE FROST BURNS.**

**CONSUMER WARNING LABEL:**

**A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.**

**Inhalation:** Product is an anesthetic at high concentrations, producing dizziness, headache, incoordination and narcosis; extremely high concentrations can cause asphyxiation and death by displacement of oxygen from the breathing atmosphere.

**Ingestion:** Ingestion not likely.

**Skin contact:** Vapor is generally non-irritating to skin. Direct contact with liquified product can cause "cold burn" or frostbite.

**Eye contact:** Vapor is generally non-irritating to eyes. Direct contact with liquified product can cause "cold burn" or frostbite.

**Carcinogenic Evaluation:**

**Product information**

| Name | IARC: | NTP: | ACGIH - Carcinogens: | OSHA - Select Carcinogens: |
|---|---|---|---|---|
| SSA Propane 74-98-6 | NE | | | |

**Notes:** The International Agency for Research on Cancer (IARC) has not evaluated this product.

**Component Information**

| Name | IARC: | NTP: | ACGIH - Carcinogens: | OSHA - Select Carcinogens: |
|---|---|---|---|---|
| Propylene 115-07-1 | | | A4 - Not Classifiable as a Human Carcinogen | |

**Notes:** The International Agency for Research on Cancer (IARC) has concluded that propylene is not classifiable as to its carcinogenicity to humans (Group 3).

## 4. FIRST AID MEASURES

**Inhalation:** *If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not* breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician.

**Skin contact:** If liquified product has caused a "frost burn", remove contaminated clothing. Thaw frostbitten areas slowly with lukewarm water or by wrapping affected areas with blankets. Do not rub affected areas. Let circulation reestablish itself naturally, exercising area if possible. Call a physician.

| | |
|---|---|
| **Ingestion:** | Ingestion not likely If swallowed, immediately call a physician. |
| **Eye contact:** | *Liquid: Flush with large amounts of tepid water for at least 15 minutes. Immediately* call a physician.<br>Gas: Call a physician if symptoms or irritation occur. |
| **Medical conditions aggravated by exposure:** | Inhalation of high vapor concentrations of components of this product in animals has produced cardiac sensitization. Such sensitization may cause changes in heart *rhythms. This latter effect was shown to be enhanced by oxygen deficiency or the* injection of adrenalin-like agents. |

[redacted]

| | |
|---|---|
| **Suitable extinguishing media:** | *For small fires, Class B fire extinguishing media such as* CO2, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFT/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment. |
| **Specific hazards:** | This product has been determined to be a flammable gas/liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. For additional fire related information see NFPA 30 or North American Emergency Response Guide 115. |
| ***Special protective equipment for firefighters:*** | Bleve's (boiling liquid expanding vapor explosions) can occur when a liquid in a pressurized container in close proximity to a fire reaches a temperature well above its boiling point. Its effect could lead to a catastrophic failure of the vessel resulting in flying equipment fragments, a shock wave and a fireball causing serious damage and death. *Isolate hazard area. If safe to do so, stop the flow of gas* and allow fire to burn out. Extinguishing the flame before shutting off the supply can cause the formation of explosive mixtures. In some cases it may be preferred to allow the flame to continue to burn. Use extreme caution when fighting liquefied petroleum gas fires. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid use of solid water streams. Contact with water and liquified product can cause increased vaporization. |

| | |
|---|---|
| **Flash point:** | *-156 F* |
| **Autoignition temperature:** | 871 F |
| **Flammable limits in air - lower (%):** | 2.1 |
| **Flammable limits in air - upper (%):** | 9.5 |

**NFPA rating:**
Health: 1
Flammability: 4
Reactivity: 0
Other: -

**HMIS classification:**
Health: 1
Flammability: 4
Reactivity: 0
Special: *See Section 8 for guidance in selection of personal protective equipment.

[redacted]

| | |
|---|---|
| **Personal precautions:** | Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Leaking containers should be moved outdoors or to well-ventilated area and contents *transferred to a suitable container. Product vapor is heavier than air and can collect* in low areas that are without sufficient ventilation. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. |

## 7. HANDLING AND STORAGE

**Handling:**

Product is stored as a liquid but used in the gaseous state. Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Avoid overpressurizing or overfilling cylinders. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**PERSONAL PROTECTIVE EQUIPMENT**

| | |
|---|---|
| **Engineering measures:** | Local or general exhaust required in an enclosed area or with inadequate ventilation. |
| **Respiratory protection:** | Use atmosphere supplying respirators in the event of oxygen deficiency, when material produces vapors that exceed permissible limits or when excessive vapors are generated. Observe respirator protection factor criteria cited in ANSI Z88.2. Self-contained breathing apparatus should be used for fire fighting. |
| **Skin and body protection:** | Wear insulated gloves to prevent skin contact and frostbite. |
| **Eye protection:** | Use goggles or face-shield if there is a potential for splashing. |
| **Hygiene measures:** | Use mechanical ventilation equipment that is explosion-proof. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance:** | Colorless Liquified Gas |
| **Physical state (Solid/Liquid/Gas):** | Liquid |
| **Substance type (Pure/Mixture):** | Pure |
| **Color:** | Colorless |
| **Odor:** | Rotten-egg. |
| **Molecular weight:** | Not determined. |
| **pH:** | No data available. |
| **Boiling point/range:** | -43.7 F |
| **Melting point/range:** | -305.8 F |
| **Decomposition temperature:** | Not applicable. |
| **Specific gravity:** | .51 Liquid |
| **Density:** | 4.4 lbs/gal @ 32 F |
| **Bulk density:** | No data available. |
| **Vapor density:** | 1.56 |
| **Vapor pressure:** | 7600 mm Hg @ 80 F<br>147 PSI @ 80 F |
| **Evaporation rate:** | No data available. |
| **Solubility:** | Moderate 6.5% |
| **Solubility in other solvents:** | No data available. |
| **Partition coefficient (n-octanol/water):** | No data available. |
| ***VOC content(%):*** | No data available. |
| **Viscosity:** | No data available. |

## 10. STABILITY AND REACTIVITY

**Stability:** The material is stable at 70 F, 760 mm pressure.

| | |
|---|---|
| **Polymerization:** | Will not occur. |
| **Hazardous decomposition products:** | Combustion produces carbon monoxide. |
| **Materials to avoid:** | Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine. |
| **Conditions to avoid:** | Sources of heat or ignition. |

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:**

**Product information**

| Name | CAS Number | Inhalation: | Dermal: | Oral: |
|---|---|---|---|---|
| SSA Propane | 74-98-6 | >4000,000 ppm for 6 hr [Rat] | n/a | n/a |

Some of the major components of this product are considered to be simple asphyxiant gases without significant potential for systemic toxicity. At high concentrations these gases act as asphyxiants by diluting and displacing oxygen. Symptoms of persons exposed to oxygen deficient atmospheres include headache, dizziness, incoordination, cyanosis and narcosis. Extremely high concentrations can produce unconsciousness followed by death.

At extremely high concentrations and excessive exposure conditions components of this product may produce cardiac sensitization.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects:** Liquid product is not toxic to aquatic life or waterfowl. The aquatic 96 hour TLM for propane is >100 ppm.

## 13. DISPOSAL CONSIDERATIONS

**Cleanup Considerations:** This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "ignitable" hazardous waste (D001). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations. Bleeding off small amounts of this product into the atmosphere or controlled incineration of large amounts are potential disposal methods provided all regulatory requirements are met.

## 14. TRANSPORT INFORMATION

**49 CFR 172.101:**

**DOT:**

**Transport Information:** This material when transported via US commerce would be regulated by DOT Regulations.

| | |
|---|---|
| **Proper shipping name:** | Propane |
| **UN/Identification No:** | UN 1978 |
| **Hazard Class:** | 2.1 |

| | |
|---|---|
| **Packing group:** | Not applicable. |
| **DOT reportable quantity (lbs):** | Not applicable. |

**TDG (Canada):**

| | |
|---|---|
| **Proper shipping name:** | Propane |
| **UN/Identification No:** | UN 1978 |
| **Hazard Class:** | 2.1 |
| **Packing group:** | Not applicable. |
| **Regulated substances:** | Not applicable. |

## REGULATORY INFORMATION

**Federal Regulatory Information:**

| | |
|---|---|
| US TSCA Chemical Inventory Section 8(b): | This product and/or its components are listed on the TSCA Chemical Inventory. |
| OSHA Hazard Communication Standard: | This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard. |

**EPA Superfund Amendment & Reauthorization Act (SARA):**

**SARA Section 302:** This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

| Name | CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs |
|---|---|
| Propane | NA |
| Propylene | NA |
| Ethane | NA |
| Butane & Heavier | NA |
| Sulfur | NA |

**SARA Section 304:** This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

| Name | CERCLA/SARA - Hazardous Substances and their Reportable Quantities |
|---|---|
| Propane | NA |
| Propylene | NA |
| Ethane | NA |
| Butane & Heavier | NA |
| Sulfur | NA |

**SARA Section 311/312:** The following EPA hazard categories apply to this product:

Acute Health Hazard.
Fire Hazard.
Sudden Release Of Pressure.

**SARA Section 313:** This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

| Name | CERCLA/SARA 313 Emission reporting: |
|---|---|
| Propane | None |
| Propylene | = 1.0 percent de minimis concentration |
| Ethane | None |
| Butane & Heavier | None |
| Sulfur | None |

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:

| | |
|---|---|
| **Propane** | |
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | sn 1594 |
| Pennsylvania Right-To-Know: | Present |
| Massachusetts Right-To Know: | Present |
| Florida substance List: | Not Listed. |
| Rhode Island Right-To-Know: | Toxic, Flammable |
| Michigan critical materials register list: | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | flammable - fourth degree |
| New Jersey - Environmental Hazardous Substances List: | SN 1594 |
| Illinois - Toxic Air Contaminants | Not Listed |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |
| **Propylene** | |
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | sn 1609 |
| Pennsylvania Right-To-Know: | environmental hazard |
| Massachusetts Right-To Know: | Present |
| Florida substance List: | Not Listed. |
| Rhode Island Right-To-Know: | Toxic, Flammable |
| Michigan critical materials register list: | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances. | flammable - fourth degree |
| New Jersey - Environmental Hazardous Substances List: | SN 1609 |
| Illinois - Toxic Air Contaminants | Not Listed |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |
| **Ethane** | |
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | sn 0834 |
| Pennsylvania Right-To-Know: | Present |
| Massachusetts Right-To Know: | Present |
| Florida substance List: | Not Listed. |
| Rhode Island Right-To-Know: | Toxic |
| Michigan critical materials register list: | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | flammable - fourth degree |

| | |
|---|---|
| New Jersey - Environmental Hazardous Substances List: | SN 0834; NJ uses UN1035 for reporting purposes |
| Illinois - Toxic Air Contaminants | Not Listed |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |
| **Butane & Heavier** | |
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | Not Listed. |
| Pennsylvania Right-To-Know: | Not Listed. |
| Massachusetts Right-To Know: | Not Listed. |
| Florida substance List: | Not Listed. |
| Rhode Island Right-To-Know: | Not Listed |
| Michigan critical materials register list: | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | Not Listed |
| New Jersey - Environmental Hazardous Substances List: | Not Listed |
| Illinois - Toxic Air Contaminants | Not Listed |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |
| **Sulfur** | |
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | sn 1757 |
| Pennsylvania Right-To-Know: | [present] |
| Massachusetts Right-To Know: | Present |
| Florida substance List: | Not Listed. |
| Rhode Island Right-To-Know: | Flammable |
| Michigan critical materials register list: | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances. | Not Listed |
| New Jersey - Environmental Hazardous Substances List: | Not Listed |
| Illinois - Toxic Air Contaminants | Not Listed |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |

**Canadian Regulatory Information:**

Canada DSL/NDSL Inventory. This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDSL).

| Name | Canada - WHMIS: Classifications of Substances: | Canada - WHMIS: Ingredient Disclosure: |
|---|---|---|
| Propane | A; B1 | |
| Propylene | A; B1 | |
| Ethane | A; B1 | |
| Sulfur | B4 | |

MSDS ID NO.: 0133SPE012 Product name: SSA Propane Page 8 of 9

## 16. OTHER INFORMATION

**Additional Information:** No data available.

**Prepared by:** Craig M. Parker Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Speedway SuperAmerica (SSA) does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. SSA assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

**End of Safety Data Sheet**

## MATERIAL SAFETY DATA SHEET

### SECTION I: IDENTIFICATION OF PRODUCT

| | | | |
|---|---|---|---|
| COMPANY: | **Diversity Technologies Corp.** | DATE: | Dec. 19, 2005 |
| | **8750 – 53rd Ave.** | PHONE: | 604-940-6050 |
| | **Edmonton, AB T6E 5G2** | FAX: | 604-940-6080 |
| PRODUCT NAME: | **BIG BEAR ROD GREASE** | | |
| PRODUCT USE: | Anti-seize compound | | |
| CHEMICAL FAMILY: | Mixture | CAS #: | Mixture |

### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: Not WHMIS regulated.
WORKPLACE HAZARD: Not hazardous under normal conditions of use.

### TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: Not TDG regulated.
TDG CLASSIFICATION: Not applicable.
UN NUMBER (PIN): Not applicable.
PACKING GROUP: Not applicable.

### SECTION II: HAZARDOUS INGREDIENTS

| INGREDIENT | % (w/w) | CAS NUMBER | $LD_{50}$ Oral-Rat | $LC_{50}$ Inhal-Rat | ACGIH-TLV |
|---|---|---|---|---|---|
| Mineral oil | 70-80 | 64742-52-5 | Not available | Not available | Not available |
| Barium soap | 20-30 | 68201-19-4 | Not available | Not available | Not available |

### SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY: [XX] EYE CONTACT [XX] SKIN [ ] INHALATION [XX] INGESTION
EYE CONTACT: May cause slight transient irritation.
SKIN CONTACT: May cause slight transient irritation.
INGESTION: No effects known.
INHALATION: Not a likely source of contact during normal use.
CARCINOGENICITY: None of the ingredients in the compound are listed by NTP, IARC or OSHA as being carcinogenic.
TERATOGENICITY: No information available.

---

**Diversity Technologies Corp. is the parent company of**
**Canamara-United Supply, Hollimex Products, The Drilling Depot and**
**Westcoast Drilling Supplies**

| | |
|---|---|
| REPRODUCTIVE TOXICITY: | No information available. |
| MUTAGENICITY: | No ingredients listed as mutagenic. |
| SYNERGISTIC PRODUCTS: | No information available. |

## SECTION IV: FIRST AID MEASURES

| | |
|---|---|
| SKIN CONTACT: | Remove by wiping, or with a waterless hand cleaner. Wash with soap and water. Remove and launder contaminated clothing before re-use. |
| EYE CONTACT: | Immediately flush with gently flowing warm water until all residual material is removed. Remove contact lenses if present. Hold eyelids open to ensure thorough flushing. If irritation persists, obtain medical attention. |
| INGESTION: | Do not induce vomiting. Rinse mouth. Obtain immediate medical attention. Never give anything by mouth to an unconscious or convulsing victim. |
| INHALATION: | Move to fresh air. Apply oxygen or artificial respiration as required. If breathing difficulties or distress continues, obtain medical attention. |

## SECTION V: PHYSICAL DATA

| | | |
|---|---|---|
| APPEARANCE AND ODOUR: | Brown paste; bland odour | |
| SPECIFIC GRAVITY: | 0.90 @ 16°C | |
| BOILING POINT (°C): | 371 | |
| MELTING POINT (°C): | 204 | |
| SOLUBILITY IN WATER: | Insoluble | pH: Not available |
| PERCENT VOLATILE BY VOLUME: | Not available | |
| EVAPORATION RATE: | Not available | |
| VAPOUR PRESSURE : | Not available | |
| VAPOUR DENSITY (air = 1): | Not available | |
| BULK DENSITY: | Not applicable | |

## SECTION VI: FIRE AND EXPLOSION HAZARD DATA

| | |
|---|---|
| FLASH POINT: | 188°C |
| FLAMMABLE LIMITS: | Not available |
| EXTINGIUSHING MEDIA: | Dry chemical, $CO_2$, foam or water spray. |
| SPECIAL FIRE FIGHTING PROCEDURES: | Self-contained breathing apparatus required for fire fighting personnel. Remove containers from fire area, or cool with water spray, if possible. |

| | |
|---|---|
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | This product may burn under fire conditions. |

**SECTION VII: REACTIVITY DATA**

| | |
|---|---|
| STABILITY: | STABLE [XX] UNSTABLE [ ] |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Strong oxidizers. Avoid heat, sparks and open flames. |
| CONDITIONS OF REACTIVITY: | Contact with incompatibles or ignition sources. |
| HAZARDOUS DECOMPOSITION PRODUCTS: | May release $CO_x$, smoke and irritating vapours when heated to decomposition. |
| HAZARDOUS POLYMERIZATION: | WILL NOT OCCUR [XX] MAY OCCUR [ ] |

**SECTION VIII: PREVENTATIVE MEASURES**

SPECIAL PROTECTION INFORMATION

| | |
|---|---|
| RESPIRATORY PROTECTION: | Not required under normal conditions of use. |
| VENTILATION: | Not required under normal conditions of use. |
| PROTECTIVE GLOVES: | Suggest neoprene or viton. |
| EYE PROTECTION: | Safety glasses with side-shields if required. |
| OTHER PROTECTIVE EQUIPMENT (Specify): | Protective clothing as required to prevent contact. Ensure eyewash station and emergency shower are available. |

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Avoid contact with skin and eyes. Avoid ingestion. Wash thoroughly before eating, drinking or smoking. Store in cool, dry area away from incompatibles and sources of ignition. Use caution when opening unvented containers. Use in well ventilated area. Store unused material in original container.

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

Use appropriate safety equipment. Eliminate ignition sources. Scoop up excess, then wipe down the affected area and pick up residual with diatomaceous earth to prevent slipping hazard. Place contaminated material and clean up materials in approved containers for disposal.

**WASTE DISPOSAL METHOD**

Dispose/incinerate in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Dispose of, or recycle, empty containers in accordance with local regulations.

**SECTION IX: PREPARATION**

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

| | | | |
|---|---|---|---|
| DATE ISSUED: | December 20, 2005 | BY: | Product safety committee |
| SUPERSEDES: | March 31, 2003 | PHONE: | 780-440-4923 |

# NOCO Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 1 Chemical Product and Company Information

| | |
|---|---|
| SUPPLIER'S NAME | NOCO ENERGY CORP |
| SUPPLIER'S ADDRESS | 700 Grand Island Blvd., Tonawanda, NY 14150 |
| SUPPLIER NUMBER | 1-800-500-6626 |
| SUPPLIER IDENTIFIER | Conventional Gasoline |
| EMERGENCY PHONE NUMBER | 1-800-424-9300 Chemtrec |
| SYNONYM | 87 Octane, 89 Octane, 93 Octane |
| PRODUCT USE | Motor Fuel |

### Section 2 Composition/Information on Ingredients

| Component | CAS No. | Amount (Vol%) |
|---|---|---|
| LIGHT PETROLEUM DISTILLATE | 8006-61-9 | 0 - 99.9 |
| TOLUENE | 108-88-3 | 0 - 30 |
| XYLENE | 1330-20-7 | 0 - 25 |
| CYCLOHEXANE | 110-82-7 | 0 - 9 |
| ETHYL BENZENE | 100-41-4 | 0 - 5 |
| N-HEXANE | 110-54-3 | 0 - 5 |
| NAPHTHALENE | 91-20-3 | 0 - 5 |
| 1,2,4-TRIMETHYLBENZENE | 95-63-6 | 0 - 5 |
| BENZENE | 71-43-2 | 0.1 - 4.9 |
| CUMENE | 98-82-8 | 0 - 1 |

EXPOSURE GUIDELINES

| | CAS No. | Governing Body | Exposure Limits | | |
|---|---|---|---|---|---|
| BENZENE | 71-43-2 | ACGIH | STEL | 2.5 | ppm |
| BENZENE | 71-43-2 | OSHA | STEL | 5 | ppm |
| BENZENE | 71-43-2 | ACGIH | TWA | 0.5 | ppm |
| BENZENE | 71-43-2 | OSHA | TWA | 1 | ppm |
| CUMENE | 98-82-8 | ACGIH | TWA | 50 | ppm |
| CUMENE | 98-82-8 | OSHA | TWA | 50 | ppm |
| CYCLOHEXANE | 110-82-7 | ACGIH | TWA | 100 | ppm |
| CYCLOHEXANE | 110-82-7 | OSHA | TWA | 300 | ppm |
| ETHYL BENZENE | 100-41-4 | ACGIH | STEL | 125 | ppm |
| ETHYL BENZENE | 100-41-4 | ACGIH | TWA | 100 | ppm |
| ETHYL BENZENE | 100-41-4 | OSHA | TWA | 100 | ppm |
| N-HEXANE | 110-54-3 | ACGIH | TWA | 50 | ppm |
| N-HEXANE | 110-54-3 | OSHA | TWA | 500 | ppm |
| NAPHTHALENE | 91-20-3 | ACGIH | STEL | 15 | ppm |
| NAPHTHALENE | 91-20-3 | ACGIH | TWA | 10 | ppm |
| NAPHTHALENE | 91-20-3 | OSHA | TWA | 10 | ppm |
| TOLUENE | 108-88-3 | OSHA | C | 300 | ppm |
| TOLUENE | 108-88-3 | NIOSH | STEL | 150 | ppm |
| TOLUENE | 108-88-3 | ACGIH | TWA | 50 | ppm |
| TOLUENE | 108-88-3 | OSHA | TWA | 200 | ppm |
| XYLENE | 1330-20-7 | ACGIH | STEL | 150 | ppm |
| XYLENE | 1330-20-7 | ACGIH | TWA | 100 | ppm |
| XYLENE | 1330-20-7 | OSHA | TWA | 100 | ppm |
| LIGHT PETROLEUM DISTILLATE | 8006-61-9 | ACGIH | STEL | 500 | ppm |
| LIGHT PETROLEUM DISTILLATE | 8006-61-9 | ACGIH | TWA | 300 | ppm |

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# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 3 Fire and Explosion Hazard of Product

| | |
|---|---|
| CONDITIONS OF FLAMMABILITY | Danger! Extremely flammable liquid! Vapors may explode! |
| MEANS OF EXTINCTION | Use dry chemical, foam or carbon dioxide to extinguish fire. Use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers. |
| FLASHPOINT & METHOD OF DETERMINATION | -37.00°C (-35°F) TCC |
| UPPER EXPLOSION LIMIT (% BY VOL.) | 7.6 |
| LOWER EXPLOSION LIMIT (% BY VOL.) | 1.4 |
| AUTO-IGNITION TEMPERATURE | 444.00°C (833°F) |
| HAZARDOUS COMBUSTION PRODUCTS | Smoke or combustion. |
| EXPLOSION DATA | Irritating or toxic substances may be emitted upon thermal decomposition. Dangerous when exposed to heat or explosion hazard. Runoff to sewer may cause fire or explosion. Containers may explode in heat of fire. |
| SENSITIVITY TO STATIC DISCHARGE | N/A. |

**Hazards Ratings:**
*Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme*

| | Health | Fire | Reactivity | PPI |
|---|---|---|---|---|
| NFPA | 1 | 3 | 0 | |
| HMIS | 2 | 3 | 0 | X |

### Section 4 First Aid Measures

SPECIFIC FIRST AID PROCEDURES

| | |
|---|---|
| SKIN CONTACT | Remove contaminated clothing immediately. Wash area of contact thoroughly with soap and water. Get medical attention if irritation persists. High pressure injections are serious medical emergencies. Get immediate medical attention. |
| INGESTION | DO NOT INDUCE VOMITING BECAUSE OF DANGER OF ASPIRATING LIQUID INTO LUNGS. Get immediate medical attention. If spontaneous vomiting occurs, monitor for breathing difficulty. |
| INHALATION | Remove affected person from source of exposure. If not breathing ensure open airway and institute CPR. If breathing is difficult, administer oxygen if available. Get medical attention. |
| EYE CONTACT | Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from eyeball to ensure thorough rinsing. Get medical attention if irritation persists. |

### Section 5 Fire Fighting Measures

- EXTINGUISHING MEDIA
  The following media may be used to extinguish a fire involving this material: Water spray: Regular foam: Dry chemical: Carbon dioxide:
- FIRE FIGHTING INSTRUCTIONS
  Use water spray to cool fire exposed tanks and containers. Wear structural fire fighting gear. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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NOCO **Material Safety Data Sheet**

## REGULAR UNLEADED GASOLINE

### Section 5 Fire Fighting Measures (continued)

FLAMMABLE PROPERTIES

| | Typical | Minimum | Maximum | Text Result | Units | Method |
|---|---|---|---|---|---|---|
| *Flash Point* | | | | -40 ESTIMATED | F | N/A |
| *Autoignition Temperature* | | | | 750 ESTIMATED | F | N/A |
| *Lower Explosion Limit* | 1.5 | | | | % | N/A |
| *Upper Explosion Limit* | 7.6 | | | | % | N/A |

### Section 6 Accidental Release Measures

ACTIVATE FACILITY SPILL CONTINGENCY or EMERGENCY PLAN

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction: stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater. Professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if it is safe to do so. Protect bodies of water by diking, absorbents or absorbent boom. Do not flush down sewer or drainage system. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or area/equipment that require protection.

Take up with sand or other absorbent materials. Carefully shovel or sweep up into a waste container for reclamation or disposal – use caution because flammable vapors may accumulate in closed containers.

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see section 8)

### Section 7 Handling and Storage

- HANDLING
  Use only in a well-ventilated area. Ground and bond containers when transferring material. NFPA class IA storage. Flash point is less than 73 degrees F and boiling point is less than 100 degrees F. Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling. Never siphon by mouth.
- STORAGE
  Keep away from heat, sparks, and flame. Keep container closed when not in use. Consult NFPA and / or OSHA codes for additional information.

### Section 8 Exposure Controls and Personal Protection

Consult With a Health and Safety Professional for Specific Selections

- ENGINEERING CONTROLS
  Use with adequate ventilation. Use explosion-proof ventilation equipment.
- PERSONAL PROTECTION
  - EYE PROTECTION
    Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

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NOCO **Material Safety Data Sheet**

## REGULAR UNLEADED GASOLINE

### Section 8 Exposure Controls and Personal Protection (continued)

- **GLOVES or HAND PROTECTION**
  The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Viton;
- **RESPIRATORY PROTECTION**
  Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.
- **OTHER**
  Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required. The following materials are acceptable for use as protective clothing: Polyvinyl alcohol (PVA); Polyethylene; Neoprene; Nitrile; Viton; Polyurethane; Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse. For non-fire emergencies, positive pressure SCBA and structural firefighter's protective clothing will provide only limited protection.

### Section 9 Physical /Chemical Properties

| | |
|---|---|
| PHYSICAL STATE | Not determined |
| ODOUR AND APPEARANCE | Clear liquid with a strong hydrocarbon odor |
| ODOUR THRESHOLD | Not Determined |
| SPECIFIC GRAVITY | 0.72 - 0.74 @ 60°F |
| VAPOUR PRESSURE | 760.00 MM HG @ 100°F |
| VAPOUR DENSITY (air=1) | 1.2 as Vapor |
| EVAPORATION RATE | (Water = 1); >1 |
| BOILING POINT | 13.0°C (55°F) |
| FREEZING POINT | Not determined |
| pH | Not determined |
| COEFFICIENT OF WATER/OIL DISTRIBUTION | Negligible |
| % VOLATILE | 100 % by weight |

### Section 10 Stability and Reactivity Data

| | |
|---|---|
| CHEMICAL STABILITY | Stable |
| INCOMPATIBLE MATERIALS | Avoid contact with strong oxidizers. |
| CONDITIONS TO AVOID | Avoid heat, sparks, and open flame |
| CONDITIONS OF REACTIVITY | Stable under normal conditions. |
| HAZARDOUS DECOMPOSITION PRODUCTS | Combustion may produce CO, $CO^2$ and reactive hydrocarbons |

### Section 11 Toxicological Information

- **POTENTIAL HEALTH EFFECTS**
  - **PRE-EXISTING MEDICAL CONDITIONS**
    The following diseases or disorders may be aggravated by exposure to this product: Skin; Eye; Blood forming organs; Nervous system; Respiratory system: Lung (asthma like conditions); Cardiovascular system;

NOCO **Material Safety Data Sheet**

## REGULAR UNLEADED GASOLINE

### Section 11 Toxicological Information (continued)

- **INHALATION**
  High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness and even death). Excessive exposure to mists or vapors generated by heat may cause irritation to eyes, nose, throat, lungs and respiratory tract. Repeated excessive exposures may cause blood disorders such as anemia and leukemia. Contains a material that has been related to cancer in humans.

  **LC50 (mg/l):** no data
  **LC50 (mg/m3):** no data
  **LC50 (ppm):** no data

- **SKIN**
  Moderately irritating to the skin. Skin absorption of material may produce systemic toxicity. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

  **Draize Skin Score:** *4.3* *Out of 8.0*
  **LD50 (mg/kg):** no data

- **EYES**
  *Moderately irritating to the eyes.*
- **INGESTION**
  Product may be harmful or fatal if swallowed. Pulmonary aspiration hazard. After ingestion, may enter lungs and produce damage. Irritating to mouth, throat, and stomach.

  ***LD50 (g/kg):*** *no data*

### Section 12 Ecological Information

Keep out of sewers, drainage areas, and waterways. Report spills and releases under Federal and State regulations.

### Section 13 Disposal Considerations

This substance, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however it could be hazardous if it is considered toxic, corrosive, ignitable, or reactive according to Federal definitions.

### Section 14 Transportation Information

| | |
|---|---|
| SPECIAL SHIPPING INFORMATION | Ground lines and equipment used during transfer to reduce the possibility of static soaked-initiated fire or explosion |
| HAZARD CLASS | 3, flammable liquid |
| DOT SHIPPING NAME | Gasoline |
| DOT IDENTIFICATION NUMBER | UN 1203 |
| PACKING GROUP | PG II |

### Section 15 Regulatory Information

**US FEDERAL, STATE, and LOCAL REGULATORY INFORMATION**
This product and it's constituents listed herein are on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and or local reporting requirements. This product and/or it's constituents may also be subject to other federal, state, or local regulations. Consult the regulations applicable to your facility/operation.

**CLEAN WATER ACT (OIL SPILLS)**
Any spill or release of this product to navigable waters or adjoining shorelines sufficient to cause any visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Resource Center (1-800-424-8802) or, if not practical, the U.S.

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NOCO **Material Safety Data Sheet**

## REGULAR UNLEADED GASOLINE

*Section 15 Regulatory Information (continued)*

Coast Guard with follow-up to the National Response Center as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTON 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)
The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g. SARA Section 304 as well as the Clean Water Act, if the spill occurs on navigable waters) may still apply.

SARA SECTION 311/312 – HAZARD CLASSES

| ACUTE HEALTH | CHRONIC HEALTH | FIRE | SUDDEN RELEASE OF PRESSURE | REACTIVE |
|---|---|---|---|---|
| X | X | X | --- | --- |

| Regulatory List | Component | CAS No. |
|---|---|---|
| ACGIH - Occupational Exposure Limits - Carcinogens | BENZENE | 71-43-2 |
| ACGIH - Occupational Exposure Limits - Carcinogens | ETHYL BENZENE | 100-41-4 |
| ACGIH - Occupational Exposure Limits - Carcinogens | NAPHTHALENE | 91-20-3 |
| ACGIH - Occupational Exposure Limits - Carcinogens | TOLUENE | 108-88-3 |
| ACGIH - Occupational Exposure Limits - Carcinogens | XYLENE | 1330-20-7 |
| ACGIH - Occupational Exposure Limits - TWAs | BENZENE | 71-43-2 |
| ACGIH - Occupational Exposure Limits - TWAs | CUMENE | 98-82-8 |
| ACGIH - Occupational Exposure Limits - TWAs | CYCLOHEXANE | 110-82-7 |
| ACGIH - Occupational Exposure Limits - TWAs | ETHYL BENZENE | 100-41-4 |
| ACGIH - Occupational Exposure Limits - TWAs | N-HEXANE | 110-54-3 |
| ACGIH - Occupational Exposure Limits - TWAs | NAPHTHALENE | 91-20-3 |
| ACGIH - Occupational Exposure Limits - TWAs | TOLUENE | 108-88-3 |
| ACGIH - Occupational Exposure Limits - TWAs | XYLENE | 1330-20-7 |
| ACGIH - Short Term Exposure Limits | BENZENE | 71-43-2 |
| ACGIH - Short Term Exposure Limits | ETHYL BENZENE | 100-41-4 |
| ACGIH - Short Term Exposure Limits | LIGHT PETROLEUM DISTILLATE | 8006-61-9 |
| ACGIH - Short Term Exposure Limits | NAPHTHALENE | 91-20-3 |
| ACGIH - Short Term Exposure Limits | XYLENE | 1330-20-7 |
| ACGIH - Skin Absorption Designation | BENZENE | 71-43-2 |
| ACGIH - Skin Absorption Designation | N-HEXANE | 110-54-3 |
| ACGIH - Skin Absorption Designation | NAPHTHALENE | 91-20-3 |
| ACGIH - Skin Absorption Designation | TOLUENE | 108-88-3 |
| CAA (Clean Air Act) - HON Rule - Organic HAPs | BENZENE | 71-43-2 |
| CAA (Clean Air Act) - HON Rule - Organic HAPs | CUMENE | 98-82-8 |
| CAA (Clean Air Act) - HON Rule - Organic HAPs | ETHYL BENZENE | 100-41-4 |
| CAA (Clean Air Act) - HON Rule - Organic HAPs | N-HEXANE | 110-54-3 |
| CAA (Clean Air Act) - HON Rule - Organic HAPs | NAPHTHALENE | 91-20-3 |
| CAA (Clean Air Act) - HON Rule - Organic HAPs | TOLUENE | 108-88-3 |
| CAA (Clean Air Act) - HON Rule - Organic HAPs | XYLENE | 1330-20-7 |
| CAA (Clean Air Act) - HON Rule - SOCMI Chemicals | BENZENE | 71-43-2 |
| CAA (Clean Air Act) - HON Rule - SOCMI Chemicals | CUMENE | 98-82-8 |
| CAA (Clean Air Act) - HON Rule - SOCMI Chemicals | CYCLOHEXANE | 110-82-7 |
| CAA (Clean Air Act) - HON Rule - SOCMI Chemicals | ETHYL BENZENE | 100-41-4 |
| CAA (Clean Air Act) - HON Rule - SOCMI Chemicals | N-HEXANE | 110-54-3 |
| CAA (Clean Air Act) - HON Rule - SOCMI Chemicals | NAPHTHALENE | 91-20-3 |
| CAA (Clean Air Act) - HON Rule - SOCMI Chemicals | TOLUENE | 108-88-3 |
| CAA (Clean Air Act) - HON Rule - SOCMI Chemicals | XYLENE | 1330-20-7 |

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NOCO **Material Safety Data Sheet**

## REGULAR UNLEADED GASOLINE

**Section 15 Regulatory Information (continued)**

| | | |
|---|---|---|
| CAA - 1990 Hazardous Air Pollutants | BENZENE | 71-43-2 |
| CAA - 1990 Hazardous Air Pollutants | CUMENE | 98-82-8 |
| CAA - 1990 Hazardous Air Pollutants | ETHYL BENZENE | 100-41-4 |
| CAA - 1990 Hazardous Air Pollutants | N-HEXANE | 110-54-3 |
| CAA - 1990 Hazardous Air Pollutants | NAPHTHALENE | 91-20-3 |
| CAA - 1990 Hazardous Air Pollutants | TOLUENE | 108-88-3 |
| CAA - 1990 Hazardous Air Pollutants | XYLENE | 1330-20-7 |
| Canada - WHMIS - Ingredient Disclosure | 1,2,4-TRIMETHYLBENZENE | 95-63-6 |
| Canada - WHMIS - Ingredient Disclosure | BENZENE | 71-43-2 |
| Canada - WHMIS - Ingredient Disclosure | CUMENE | 98-82-8 |
| Canada - WHMIS - Ingredient Disclosure | CYCLOHEXANE | 110-82-7 |
| Canada - WHMIS - Ingredient Disclosure | ETHYL BENZENE | 100-41-4 |
| Canada - WHMIS - Ingredient Disclosure | LIGHT PETROLEUM DISTILLATE | 8006-61-9 |
| Canada - WHMIS - Ingredient Disclosure | N-HEXANE | 110-54-3 |
| Canada - WHMIS - Ingredient Disclosure | NAPHTHALENE | 91-20-3 |
| Canada - WHMIS - Ingredient Disclosure | TOLUENE | 108-88-3 |
| CERCLA/SARA - Haz Substances and their RQs | BENZENE | 71-43-2 |
| CERCLA/SARA - Haz Substances and their RQs | BENZENE | 71-43-2 |
| CERCLA/SARA - Haz Substances and their RQs | CUMENE | 98-82-8 |
| CERCLA/SARA - Haz Substances and their RQs | CUMENE | 98-82-8 |
| CERCLA/SARA - Haz Substances and their RQs | CYCLOHEXANE | 110-82-7 |
| CERCLA/SARA - Haz Substances and their RQs | CYCLOHEXANE | 110-82-7 |
| CERCLA/SARA - Haz Substances and their RQs | ETHYL BENZENE | 100-41-4 |
| CERCLA/SARA - Haz Substances and their RQs | ETHYL BENZENE | 100-41-4 |
| CERCLA/SARA - Haz Substances and their RQs | N-HEXANE | 110-54-3 |
| CERCLA/SARA - Haz Substances and their RQs | N-HEXANE | 110-54-3 |
| CERCLA/SARA - Haz Substances and their RQs | NAPHTHALENE | 91-20-3 |
| CERCLA/SARA - Haz Substances and their RQs | NAPHTHALENE | 91-20-3 |
| CERCLA/SARA - Haz Substances and their RQs | TOLUENE | 108-88-3 |
| CERCLA/SARA - Haz Substances and their RQs | TOLUENE | 108-88-3 |
| CERCLA/SARA - Haz Substances and their RQs | XYLENE | 1330-20-7 |
| CERCLA/SARA - Haz Substances and their RQs | XYLENE | 1330-20-7 |
| CERCLA/SARA - Section 313 - Emission Reporting | 1,2,4-TRIMETHYLBENZENE | 95-63-6 |
| CERCLA/SARA - Section 313 - Emission Reporting | BENZENE | 71-43-2 |
| CERCLA/SARA - Section 313 - Emission Reporting | CUMENE | 98-82-8 |
| CERCLA/SARA - Section 313 - Emission Reporting | CYCLOHEXANE | 110-82-7 |
| CERCLA/SARA - Section 313 - Emission Reporting | ETHYL BENZENE | 100-41-4 |
| CERCLA/SARA - Section 313 - Emission Reporting | N-HEXANE | 110-54-3 |
| CERCLA/SARA - Section 313 - Emission Reporting | NAPHTHALENE | 91-20-3 |
| CERCLA/SARA - Section 313 - Emission Reporting | TOLUENE | 108-88-3 |
| CERCLA/SARA - Section 313 - Emission Reporting | XYLENE | 1330-20-7 |
| CWA (Clean Water Act) - Hazardous Substances | BENZENE | 71-43-2 |
| CWA (Clean Water Act) - Hazardous Substances | CYCLOHEXANE | 110-82-7 |
| CWA (Clean Water Act) - Hazardous Substances | ETHYL BENZENE | 100-41-4 |
| CWA (Clean Water Act) - Hazardous Substances | NAPHTHALENE | 91-20-3 |
| CWA (Clean Water Act) - Hazardous Substances | TOLUENE | 108-88-3 |
| CWA (Clean Water Act) - Hazardous Substances | XYLENE | 1330-20-7 |
| CWA (Clean Water Act) - Priority Pollutants | BENZENE | 71-43-2 |
| CWA (Clean Water Act) - Priority Pollutants | ETHYL BENZENE | 100-41-4 |
| CWA (Clean Water Act) - Priority Pollutants | NAPHTHALENE | 91-20-3 |
| CWA (Clean Water Act) - Priority Pollutants | TOLUENE | 108-88-3 |

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## REGULAR UNLEADED GASOLINE

Section 15 Regulatory Information (continued)

| | | |
|---|---|---|
| CWA (Clean Water Act) - Toxic Pollutants | BENZENE | 71-43-2 |
| CWA (Clean Water Act) - Toxic Pollutants | ETHYL BENZENE | 100-41-4 |
| CWA (Clean Water Act) - Toxic Pollutants | NAPHTHALENE | 91-20-3 |
| CWA (Clean Water Act) - Toxic Pollutants | TOLUENE | 108-88-3 |
| IARC - Group 1 (carcinogenic to humans) | BENZENE | 71-43-2 |
| IARC - Group 2B (Possibly carcinogenic to humans) | ETHYL BENZENE | 100-41-4 |
| IARC - Group 2B (Possibly carcinogenic to humans) | LIGHT PETROLEUM DISTILLATE | 8006-61-9 |
| IARC - Group 2B (Possibly carcinogenic to humans) | NAPHTHALENE | 91-20-3 |
| IARC - Group 3 (not classifiable) | TOLUENE | 108-88-3 |
| IARC - Group 3 (not classifiable) | XYLENE | 1330-20-7 |
| Inventory - Canada - Domestic Substances List | 1,2,4-TRIMETHYLBENZENE | 95-63-6 |
| Inventory - Canada - Domestic Substances List | BENZENE | 71-43-2 |
| Inventory - Canada - Domestic Substances List | CUMENE | 98-82-8 |
| Inventory - Canada - Domestic Substances List | CYCLOHEXANE | 110-82-7 |
| Inventory - Canada - Domestic Substances List | ETHYL BENZENE | 100-41-4 |
| Inventory - Canada - Domestic Substances List | LIGHT PETROLEUM DISTILLATE | 8006-61-9 |
| Inventory - Canada - Domestic Substances List | N-HEXANE | 110-54-3 |
| Inventory - Canada - Domestic Substances List | NAPHTHALENE | 91-20-3 |
| Inventory - Canada - Domestic Substances List | TOLUENE | 108-88-3 |
| Inventory - Canada - Domestic Substances List | XYLENE | 1330-20-7 |
| Inventory - TSCA - Sect. 8(b) Inventory | 1,2,4-TRIMETHYLBENZENE | 95-63-6 |
| Inventory - TSCA - Sect. 8(b) Inventory | BENZENE | 71-43-2 |
| Inventory - TSCA - Sect. 8(b) Inventory | CUMENE | 98-82-8 |
| Inventory - TSCA - Sect. 8(b) Inventory | CYCLOHEXANE | 110-82-7 |
| Inventory - TSCA - Sect. 8(b) Inventory | ETHYL BENZENE | 100-41-4 |
| Inventory - TSCA - Sect. 8(b) Inventory | LIGHT PETROLEUM DISTILLATE | 8006-61-9 |
| Inventory - TSCA - Sect. 8(b) Inventory | N-HEXANE | 110-54-3 |
| Inventory - TSCA - Sect. 8(b) Inventory | NAPHTHALENE | 91-20-3 |
| Inventory - TSCA - Sect. 8(b) Inventory | TOLUENE | 108-88-3 |
| Inventory - TSCA - Sect. 8(b) Inventory | XYLENE | 1330-20-7 |
| OSHA - Final PELs - Ceiling Limits | BENZENE | 71-43-2 |
| OSHA - Final PELs - Ceiling Limits | TOLUENE | 108-88-3 |
| OSHA - Final PELs - Skin Notations | CUMENE | 98-82-8 |
| OSHA - Final PELs - Time Weighted Averages | BENZENE | 71-43-2 |
| OSHA - Final PELs - Time Weighted Averages | CUMENE | 98-82-8 |
| OSHA - Final PELs - Time Weighted Averages | CYCLOHEXANE | 110-82-7 |
| OSHA - Final PELs - Time Weighted Averages | ETHYL BENZENE | 100-41-4 |
| OSHA - Final PELs - Time Weighted Averages | N-HEXANE | 110-54-3 |
| OSHA - Final PELs - Time Weighted Averages | NAPHTHALENE | 91-20-3 |
| OSHA - Final PELs - Time Weighted Averages | TOLUENE | 108-88-3 |
| OSHA - Final PELs - Time Weighted Averages | XYLENE | 1330-20-7 |
| OSHA - Regulated Carcinogens | BENZENE | 71-43-2 |
| OSHA - Select Carcinogens | BENZENE | 71-43-2 |
| Pennsylvania - RTK (Right to Know) List | 1,2,4-TRIMETHYLBENZENE | 95-63-6 |
| Pennsylvania - RTK (Right to Know) List | BENZENE | 71-43-2 |
| Pennsylvania - RTK (Right to Know) List | CUMENE | 98-82-8 |
| Pennsylvania - RTK (Right to Know) List | CYCLOHEXANE | 110-82-7 |

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## REGULAR UNLEADED GASOLINE

### Section 15 Regulatory Information (continued)

| | | |
|---|---|---|
| Pennsylvania - RTK (Right to Know) List | THYL BENZENE | 100-41-4 |
| Pennsylvania - RTK (Right to Know) List | N-HEXANE | 110-54-3 |
| Pennsylvania - RTK (Right to Know) List | NAPHTHALENE | 91-20-3 |
| Pennsylvania - RTK (Right to Know) List | TOLUENE | 108-88-3 |
| Pennsylvania - RTK (Right to Know) List | XYLENE | 1330-20-7 |
| Pennsylvania - RTK - Special Hazardous Substances | BENZENE | 71-43-2 |
| TSCA - Sect. 12(b) - Export Notification | CYCLOHEXANE | 110-82-7 |
| TSCA - Sect. 12(b) - Export Notification | N-HEXANE | 110-54-3 |
| TSCA - Section 8(a) - PAIR Reporting List | NAPHTHALENE | 91-20-3 |

### Section 16 Other Information

Precautionary labeling for pumps, portable containers, and drums is required. A "hazardous when empty" pictogram and D.O.T. flammable liquid label are also required for drums. Details available upon request. Because benzene is present in this product above 0.1%, the OSHA Standard for benzene is applicable to work locations upstream of final discharge from terminals. Consult 29CFR1910.1028 for details. Prolonged and repeated excessive exposures to benzene can result in blood disorders ranging from anemia to leukemia. Sun recommends that exposures to benzene be kept below 1.0 ppm for 8-hours; 5.0 ppm for 15-min. Normal service station operations are below these values. For use as motor fuel only. Do not use for any other purpose. Catecholamines and similar adrenergic drugs are generally contraindicated because of potential for increased sensitivity of the heart from hydrocarbon overexposure and subsequent ventricular fibrillation. EKG monitoring may be indicated and bronchodilators should be selected with care. Following injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss. COMPONENT TOXICITY: Overexposure to naphthalene, a minor component of this product, may cause skin, eye and respiratory tract irritation, anemia, loss of vision, nervous system effects and kidney and thymus damage. Also, exposure to naphthalene has produced "respiratory tract" tumors in laboratory animals

### Preparation Date of Material Safety Data Sheet

| | |
|---|---|
| DATE PREPARED | 03/06/96 |
| REVISION DATE | 08/20/04 |

DISCLAIMER: Information presented herein has been complied from information provided to us by our suppliers and other sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing here in is to be construed as recommending any practice or the use of any product in violation of any patent or in violation of any law or regulation. It is the users' responsibility to determine the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained by using any material and since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of material supplied by us.

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# MSDS CALCIUM CHLORIDE-94%

## PRODUCT INFORMATION

**CHEMICAL NAME:** Calcium Chloride
**SYNONYM(S):** High Test Fines, High Test Powder, High Test Beads,
**CHEMICAL FAMILY:** Inorganic salt
**Product use:** Calcium chloride is used to dehydrate natural gas with high sulfur content, gas from remote or offshore wells, or from wells with low flow rates.
**MOLECULAR FORMULA:** CaCl2
**SHIPPING NAME:** Calcium Chloride
**PIN - UN NUMBER:** Not controlled
**WHMIS:** D2B
**MANUFACTURER:** The Dow Chemical Company Ltd.
P.O box 1012
Sarnia, Ontario
N7T 7K7
DOW Emergency Number: 780-998-8282 (Ft Saskatchewan, Alberta)
519-339-3711 (Sarnia, Ontario)
450-652-1000 (Varennes, Quebec)
**SUPPLIER:** Panther Industries Inc.
Box 628
Davidson, Sask. S0G 1A0
**EMERGENCY TELEPHONE NUMBER:** (306)567-2814

## HAZARDOUS INGREDIENTS

| INGREDIENTS: | WEIGHT % | C.A.S. REGISTRY NUMBER: |
|---|---|---|
| Calcium Chloride | 94-97% | 10043-52-4 |

## OTHER INGREDIENTS

| INGREDIENTS: | WEIGHT% | C.A.S. REGISTRY NUMBER: |
|---|---|---|
| Strontium Chloride | 0-1% | 10476-85-4 |
| Sodium Chloride | 1-2% | 07647-14-5 |
| Potassium Chloride | 2-3% | 07447-40-7 |
| Water | | 07732-18-5 |

## PHYSICAL DATA

**PHYSICAL STATE:** Solid.
**PH:** data to indicate the product is basic
**ODOUR AND APPEARANCE:** Odourless white to off white pellets.
**ODOUR THRESHOLD:** Not applicable
**VAPOUR PRESSURE:** <0.005 mmHg, at 20 °C.
**VAPOUR DENSITY:** Not applicable
**BOILING POINT:** 1670°C
**SOLUBILITY IN WATER:** Very soluble
**MELTING POINT:** Approx. 772°C, 1424°F
**SPECIFIC GRAVITY:** 2.2

## FIRE AND EXPLOSION DATA

**CONDITIONS OF FLAMMABILITY:** Not applicable.
**MEANS OF EXTINGUISHING:** This material does not burn. If exposed to fire from another

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**MSDS** **CALCIUM CHLORIDE-94%**

source, use suitable extinguishing agent for that fire.

**FLASH POINT:** Not applicable.

**UPPER FLAMMABLE LIMIT:** Not applicable.

**LOWER FLAMMABLE LIMIT:** Not applicable.

**SPECIAL FIRE FIGHTING PROCEDURES:** Keep people away. Isolate fire area and deny unnecessary entry. Firefighters should wear positive-pressure self-contained breathing apparatus (SCBA) and full protective fire fighting clothing (included fire fighting helmet, coat, pants, boots, and gloves.)

**EXPLOSION HAZARDS:** **Hydrogen chloride is a hazardous combustion product at temperatures in excess of 1600 degrees Celsius.**

## REACTIVITY DATA

**STABILITY:** Stable. Hygroscopic.

**HAZARDOUS POLYMERIZATION:** Will not occur

**HAZARDOUS DECOMPOSITION PRODUCTS:** Does no decompose.

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY:** Corrosive to some metals. Corrosive when wet. Flammable hydrogen may be generated from contact with metals such as zinc or sodium. Avoid contact with sulfuric acid. Heat is generated when mixed with water. Spattering or boiling can occur.

## HEALTH HAZARD DATA

**INHALATION:** Vapors are unlikely due to physical properties. Dust may cause irritation to upper respiratory tract. **Calcium Chloride has an $LD_{50}$ of 1940 mg/kg oral mouse**

**SKIN CONTACT:** Short single exposure not likely to cause significant skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if skin is damp or if material is confined to skin. May cause more severe response is skin is abraded (scratched or cut). When dissolving, the heat produced may cause more intense effects as well as thermal burns. Not classified as corrosive according to DOT. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

**EYE CONTACT:** Dusts may cause severe irritation with corneal injury, pellets may cause slight eye irritation. Effects may be slow to heal. When dissolving, the heat produced may cause more intense effects as well as thermal burns.

**INGESTION:** Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. Ingestion may cause gastrointestinal irritation or ulceration.

**Toxicological data:** Effects of chronic exposure: These effects are; Repeated exposure may cause irritation or even a burn to the skin, eyes and nasal cavity.

**IRRITANCY:** Slight.

**MUTAGENICITY:** Negative

**SENSITIZATION TO PRODUCT:** Not available.

**REPRODUCTIVE TOXICITY:** Not available.

**ANIMAL TOXICITY DATA:**

LD50 - 967-1668 mg/kg oral, rat.
>5000 mg/kg skin, rabbits

## FIRST AID PROCEDURES

**INHALATION:** Remove to fresh air if effects occur. Consult a physician.

**EYE CONTACT:** Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

**SKIN CONTACT:** Wash off in flowing water or shower.

**INGESTION:** If swallowed, seek medical attention. Give 2-4 glasses of water or milk and don't induce vomiting unless directed to do so by medical personnel.

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## MSDS CALCIUM CHLORIDE-94%

**NOTE TO PHYSICIAN:** If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

### PREVENTATIVE MEASURES

**RESPIRATORY PROTECTION:** In dusty atmospheres, use an approved dust respirator. Atmospheric levels should be maintained below the exposure guideline.

**EXPOSURE GUIDELINES:**
Calcium chloride: Dow IHG is 10 mg/m3
Sodium chloride: Dow IHG is 10 mg/m3
Potassium chloride: Dow IHG is 10 mg/m3

**EYE AND FACE PROTECTION:** Use safety glasses. For dusty operations or when handling solutions of the material, wear chemical goggles.

**SKIN PROTECTION:** When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Selection of specific items such as faceshield, gloves, boots, apron or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water and launder clothing before reuse. If hands are cut or scratched, use gloves impervious to this material even for brief exposures.

**STORAGE REQUIREMENTS:** Keep containers tightly closed when not in use. Store in a dry place. Protect from atmospheric moisture.

**ENGINEERING CONTROLS:** Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

**HANDLING:** Heat developed during diluting or dissolving is very high. Use cool water when diluting or dissolving (temperature less than 80F, 27C)

### ENVIRONMENTAL PROTECTION DATA

**PROCEDURES TO BE FOLLOWED IN CASE OF A LEAK OR SPILL:** Contain spill. Shovel and sweep up spill and place in a suitable and properly labelled container. Flush residue with large amounts of water. Keep contaminated water from entering sewers and water courses.

**WASTE DISPOSAL:** All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations.

**AQUATIC TOXICITY:** Material is practically non-toxic to aquatic organisms on an acute bases (LC50/EC50 > 100 mg/L in most sensitive species).

### PREPARATION INFORMATION

**MSDS PREPARED BY:** Technical Department
Panther Industries Inc.
Davidson, Sask.
Ph. (306) 567-2814

**DATE PREPARED/REVISED:** Feb 17 2004

**DATE PRINTED:** Feb 17 2004

**REFERENCES:** 1. Patty's Industrial Hygiene and Toxicology 3rd Ed.1981 by Clayton & Clayton John Wiley & Sons, New York.
2. Manufacturer's MSDS.

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EMD

# Material Safety Data Sheet

## Section 1. Product and Company Identification

**Product Name** Calcium Chloride, Dihydrate
**Product Code** CX0134
**Effective Date** 8/20/2004

**Manufacturer**
EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.

**For More Information Call**
856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

**In Case of Emergency Call**
800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

**Synonym** CALCIUM CHLORIDE
**Material Uses** Analytical reagent.
**Chemical Family** Inorganic salt.

## Section 2. Composition and Information on Ingredients

| Component | CAS # | % by Weight |
|---|---|---|
| CALCIUM CHLORIDE, DIHYDRATE | 10035-04-8 | 100 |

## Section 3. Hazards Identification

**Physical State and Appearance** Solid. (Powder or flakes solid. Granular solid.)
**Emergency Overview** CAUTION!
CAUSES EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
**Routes of Entry** Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
**Potential Acute Health Effects**
**Eyes** Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.
**Skin** May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
**Inhalation** No known acute effects of this product resulting from inhalation.
**Ingestion** Irritating to mouth, throat and stomach. Ingestion can cause nausea and vomiting.
**Potential Chronic Health Effects**
**Carcinogenic Effects** This material is not known to cause cancer in animals or humans.
Additional information See Toxicological Information (section 11)
**Medical Conditions Aggravated by Overexposure:** Repeated or prolonged exposure is not known to aggravate medical condition.

## Section 4. First Aid Measures

**Eye Contact** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
**Skin Contact** In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
**Inhalation** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
**Ingestion** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 5. Fire Fighting Measures

**Flammability of the Product** May be combustible at high temperature
**Auto-ignition Temperature** Not available.

| | |
|---|---|
| **Flash Points** | Not available. |
| **Flammable Limits** | Not available. |
| **Products of Combustion** | These products are carbon oxides (CO, CO2), halogenated compounds. Some metallic oxides. |
| ***Fire Hazards in Presence of Various Substances*** | Not available. |
| **Explosion Hazards in Presence of Various Substances** | **Risks of explosion of the product in presence of static discharge:** No.<br>**Risks of explosion of the product in presence of mechanical impact:** No. |
| **Fire Fighting Media and Instructions** | SMALL FIRE: Use DRY chemical powder.<br>LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| **Protective Clothing (Fire)** | Be sure to use an approved/certified respirator or equivalent. |
| **Special Remarks on Fire Hazards** | Not available |
| **Special Remarks on Explosion Hazards** | Not available. |

## Section 6. Accidental Release Measures

| | |
|---|---|
| **Small Spill and Leak** | Use appropriate tools to put the spilled solid in a convenient waste disposal container. |
| **Large Spill and Leak** | Use a shovel to put the material into a convenient waste disposal container. |
| **Spill Kit Information** | No specific spill kit required for this product. |

## Section 7. Handling and Storage

| | |
|---|---|
| **Handling** | Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not ingest. Do not breathe dust. |
| **Storage** | Keep container tightly closed. Keep container in a cool, well-ventilated area. |

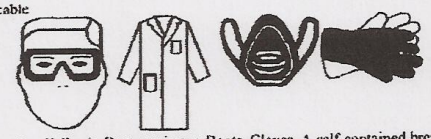
## Section 8. Exposure Controls/Personal Protection

**Engineering Controls** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection**

**Eyes** Splash goggles.
**Body** Lab coat.
**Respiratory** Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
**Hands** Gloves.
**Feet** Not applicable

**Protective Clothing (Pictograms)**



**Personal Protection in Case of a Large Spill** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

| **Product Name** | **Exposure Limits** |
|---|---|
| CALCIUM CHLORIDE, DIHYDRATE | Not available. |

## Section 9. Physical and Chemical Properties

| | |
|---|---|
| **Odor** | Not available. |
| **Color** | White. |
| **Physical State and Appearance** | Solid. (Powder or flakes solid. Granular solid.) |
| **Molecular Weight** | 147.02 g/mole |
| **Molecular Formula** | CaCl2 . 2H2O |
| **pH** | Not available |
| **Boiling/Condensation Point** | Not available. |
| **Melting/Freezing Point** | Not available |
| **Specific Gravity** | Not available. |
| **Vapor Pressure** | Not available |
| **Vapor Density** | Not available. |
| **Odor Threshold** | Not available. |
| **Evaporation Rate** | Not available. |
| **LogKow** | Not available. |
| **Solubility** | Soluble in water. |

## Section 10. Stability and Reactivity

| | |
|---|---|
| **Stability and Reactivity** | The product is stable. |
| **Conditions of Instability** | Not available. |
| **Incompatibility with Various Substances** | Reactive with metals, moisture. |
| **Rem/Incompatibility** | Not available. |
| **Hazardous Decomposition Products** | These products are halogenated compounds. |
| **Hazardous Polymerization** | Will not occur. |

## Section 11. Toxicological Information

| | |
|---|---|
| **RTECS Number:** | Calcium Chloride, Dihydrate EV9810000 |
| **Toxicity** | LD50: Not available.<br>LC50: Not available. |
| **Chronic Effects on Humans** | Not available. |
| **Acute Effects on Humans** | Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. *May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by* itching, scaling, reddening, or, occasionally, blistering. |
| **Synergetic Products (Toxicologically)** | Not available. |
| **Irritancy** | Draize Test: Not available. |
| **Sensitization** | Not available. |
| **Carcinogenic Effects** | This material is not known to cause cancer in animals or humans. |
| **Toxicity to Reproductive System** | Not available. |
| **Teratogenic Effects** | Not available. |
| **Mutagenic Effects** | Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS). |

## Section 12. Ecological Information

| | |
|---|---|
| **Ecotoxicity** | Not available. |
| **BOD5 and COD** | Not available. |
| **Toxicity of the Products of Biodegradation** | The products of degradation are more toxic than the product itself. |

## Section 13. Disposal Considerations

| | |
|---|---|
| **EPA Waste Number** | Not available. |
| **Treatment** | Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations. |

## Section 14. Transport Information

| | |
|---|---|
| **DOT Classification** | Proper Shipping Name: CHEMICALS, N.O.S.<br>RQ: Not applicable |
| **TDG Classification** | Not available. |
| **IMO/IMDG Classification** | Proper Shipping Name: CHEMICALS, N.O.S.<br>RQ: Not applicable. |
| **ICAO/IATA Classification** | Not available. |

## +Section 15. Regulatory Information

**U.S. Federal Regulations**

TSCA 8(b) inventory: Calcium Chloride, Dihydrate
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Calcium Chloride, Dihydrate
SARA 311/312 *MSDS distribution - chemical inventory - hazard identification:* Calcium Chloride, Dihydrate: Immediate (Acute) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.

# Material Safety Data / Fiche signalétique

WESTCOAST DRILLING SUPPLIES LTD.
8085 River Way, Delta, British Columbia,
Canada V4G 1L8
PH. (604) 940-6050 Fax (604) 940-6060

EMERGENCY 1-800-663-6637

## 550X® POLYMER



### SECTION V: PHYSICAL DATA

| | |
|---|---|
| APPEARANCE | White granular solid |
| ODOR | None |
| SPECIFIC GRAVITY | 0.8 at 25° C (77 F) |
| BOILING POINT (°C) | Not applicable |
| MELTING POINT (°C) | Not determined |
| SOLUBILITY IN WATER | Forms a gel |
| PERCENT VOLATILE BY VOLUME | Not determined |
| EVAPORATION RATE | Not determined |
| VAPOR PRESSURE (mm Hg) | Not determined |
| VAPOR DENSITY (Air=1) | Not determined |
| pH | 4 – 9 @ 5g/L |

### SECTION VI: FIRE AND EXPLOSION HAZARD DATA

| | |
|---|---|
| FLASH POINT | 93° C (200 F) |
| FLAMMABLE LIMITS | Not determined |
| EXTINGUISHING MEDIA | Dry Chemical, Carbon Dioxide |
| SPECIAL FIRE FIGHTING PROCEDURES | Aqueous solutions or powders that become wet render surfaces extremely slippery. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | No special equipment required. |

### SECTION VII: REACTIVITY DATA

| | |
|---|---|
| STABILITY | [XXX] Stable [ ] Unstable |
| INCOMPATIBILITY (Conditions to avoid) | Oxidizing agents |
| CONDITIONS OF REACTIVITY | Not known |
| HAZARDOUS DECOMPOSTION PRODUCTS | $NO_x$, $CO_x$ |
| HAZARDOUS POLYMERIZATION | [XXX] Will not occur [ ] May occur |

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# Material Safety Data / Fiche signalétique

**WESTCOAST DRILLING SUPPLIES LTD.**
6069 River Way, Delta, British Columbia,
Canada V4G 1L5
Ph. (604) 940-6050 Fax (604) 940-6080

EMERGENCY 1-800-665-9645

## 550X® POLYMER



### SECTION VIII: PREVENTIVE MEASURES

**SPECIAL PROTECTION INFORMATION**

| | |
|---|---|
| RESPIRATORY PROTECTION | Dust masks are recommended where concentration of total dust is more than 10 mg/m$^3$ |
| VENTILATION | General mechanical |
| PROTECTIVE GLOVES | Chemically resistant |
| EYE PROTECTION | Safety glasses with side shields |
| OTHER PROTECTIVE EQUIPMENT (Specify) | Not known |

**ACCIDENTAL RELEASE MEASURES**

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

Do not flush with water. Clean up promptly by sweeping or vacuum
Keep in suitable and closed containers for disposal.
After cleaning, flush away trace with water.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Wash hands before breaks and at the end of the day. Keep in a cool dry place (0 – 30 °C)

**WASTE DISPOSAL METHOD**

Can be land filled or incinerated, when in compliance with local, provincial and federal regulations.

### SECTION IX: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| CARCINOGENICITY | Not determined |
| REPRODUCTIVE TOXICITY | Not determined |
| TERATOGENICITY | Not determined |
| MUTAGENICITY | Not determined |
| DEVELOPMENTAL TOXICITY | Not determined |
| CHRONIC EFFECTS: | This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens. |

# Material Safety Data / Fiche signalétique

WESTCOAST DRILLING SUPPLIES LTD.
8069 River Way, Delta, British Columbia,
Canada V4G 1L3
Ph. (604) 940-6050 Fax (604) 940-6080

EMERGENCY 1-800-665-8645

## 550X POLYMER

Page 4 of 4

### SECTION X: PREPARATION

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

DATE ISSUED: August, 2001 DATE REVISED: August, 1998

BY: Product Safety Committees

### AMENDMENT
### HAZARDOUS INGREDIENTS (550X)

| Material or component | WT% | Hazard data |
|---|---|---|
| COPOLYACRYLAMIDE/SODIUM ACRYLATE | | Not considered hazardous |

### ENVIRONMENTAL

| | |
|---|---|
| DEGRADABILITY/AQUATIC TOXICITY: | Not determined |
| OCTANOL/WATER PARTITION COEFFICIENT | Not determined |
| WASTE DISPOSAL METHODS: | Incineration and/or disposal in Chemical Landfill. Disposer must comply with federal, provincial and local disposal or discharge laws. |
| RCRA STATUS OF UNUSED MATERIAL IF DISCARDED: | Not a "Hazardous Waste" |
| HAZARDOUS WASTE NUMBER: | Not available |

| | | |
|---|---|---|
| REPORTABLE QUANTITY: | EPA 40 CFR (CERCLA 102): | Not applicable |
| THRESHOLD PLANNING QUANTITY: | EPA 40 CRF 355 (SERA 301-304): | Not applicable |
| TOXIC CHEMICAL RELEASE REPORTING: | EPA 40 CFR 372 (SERA 311-313): | Not applicable |

| | | |
|---|---|---|
| EPA HAZARD CLASSIFICATION CODE: | ACUTE – Yes | CHRONIC – No |
| | FIRE - No | PRESSURE - No |
| | | REACTIVE - No |

| HMIS AND NFPA RATINGS: | HMIS | NFPA |
|---|---|---|
| HEALTH | 1 | 1 |
| FLAMMABILITY | 0 | 0 |
| REACTIVITY | 1 | 1 |
| SPECIAL | Not applicable | Not applicable |

WESTCOAST DRILLING SUPPLIES LTD.

## MATERIAL SAFETY DATA SHEET

### SECTION I: IDENTIFICATION OF PRODUCT

| | | | |
|---|---|---|---|
| COMPANY: | **Diversity Technologies Corp.** | DATE: | Dec. 19, 2005 |
| | **8750 – 53rd Ave.** | PHONE: | 604-940-6050 |
| | **Edmonton, AB T6E 5G2** | FAX: | 604-940-6080 |
| PRODUCT NAME: | **LINSEED SOAP** | | |
| PRODUCT USE: | Lubricant. | | |
| CHEMICAL FAMILY: | Mixture | CAS#: | Mixture |

### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

| | |
|---|---|
| WHMIS CLASSIFICATION: | Not WHMIS controlled. |
| WORKPLACE HAZARD: | Not applicable |

### TRANSPORTATION OF DANGEROUS GOODS (TDG)

| | |
|---|---|
| PROPER SHIPPING NAME: | Not regulated under TDG |
| TDG CLASSIFICATION: | Not applicable |
| UN NUMBER (PIN): | Not applicable |
| PACKING GROUP: | Not applicable |

### SECTION II: HAZARDOUS INGREDIENTS

| INGREDIENT | PERCENT | CAS NUMBER | $LD_{50}$ Oral-Rat | $LC_{50}$ Inhal-Mouse | ACGIH-TLV |
|---|---|---|---|---|---|

Contains no WHMIS controlled ingredients.

### SECTION III: HEALTH HAZARDS

| | |
|---|---|
| ROUTE OF ENTRY: | [XX] EYE CONTACT [ ] SKIN [ ] INHALATION [ ] INGESTION |
| EYE CONTACT: | May cause slight irritation. |
| SKIN CONTACT: | May cause slight irritation. |
| INGESTION: | Not considered toxic. |
| INHALATION: | Not a likely source of contact during normal use. |
| CARCINOGENICITY: | No information available. |
| TERATOGENICITY: | No information available. |
| REPRODUCTIVE TOXICITY: | No information available. |
| MUTAGENICITY: | No information available. |

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**Diversity Technologies Corp. is the parent company of**
**Canamara-United Supply, Hollimex Products, The Drilling Depot and**
**Westcoast Drilling Supplies**

| | |
|---|---|
| SYNERGISTIC PRODUCTS: | No information available. |

## SECTION IV: FIRST AID MEASURES

| | |
|---|---|
| SKIN CONTACT: | Wipe away excess. Wash thoroughly with soap and water. Launder contaminated clothing before re-use. If irritation persists, obtain medical attention. |
| EYE CONTACT: | Immediately flush with gently flowing warm water until material is removed and irritation ceases. If irritation persists, obtain medical attention. |
| INGESTION: | If conscious give 1 to 2 glasses of water and induce vomiting; keep head below hips to prevent aspiration of vomitus. Obtain medical attention. Never give anything by mouth to an unconscious or convulsing victim. |
| INHALATION: | Move to fresh air. Apply oxygen or artificial respiration if required. If breathing difficulties, or distress, continue obtain medical attention. |

## SECTION V: PHYSICAL DATA

| | | |
|---|---|---|
| APPEARANCE AND ODOUR: | Brown paste; slight odour | |
| SPECIFIC GRAVITY: | Not applicable | |
| BOILING POINT (°C): | 100 | |
| MELTING POINT (°C): | 0 | |
| SOLUBILITY IN WATER: | Soluble | pH: 9.5 – 11.0 |
| PERCENT VOLATILE BY VOLUME: | Not applicable | |
| EVAPORATION RATE: | Not applicable | |
| VAPOUR PRESSURE (mmHg): | Not applicable | |
| VAPOUR DENSITY (air = 1): | Not applicable | |
| BULK DENSITY | Not applicable | |

## SECTION VI: FIRE AND EXPLOSION HAZARD DATA

| | |
|---|---|
| FLASH POINT: | Not flammable |
| FLAMMABLE LIMITS: | Not applicable |
| EXTINGUISHING MEDIA: | Use media suitable for packaging and surrounding materials. |
| SPECIAL FIRE FIGHTING PROCEDURES: | Self-contained breathing apparatus required for fire fighting personnel. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | None known. |

**SECTION VII: REACTIVITY DATA**

| | | |
|---|---|---|
| STABILITY: | STABLE [XX] | UNSTABLE [ ] |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | None known. | |
| CONDITIONS OF REACTIVITY: | None known. | |
| HAZARDOUS DECOMPOSITION PRODUCTS: | Not determined. | |
| HAZARDOUS POLYMERIZATION: | WILL NOT OCCUR [XX] | MAY OCCUR [ ] |

**SECTION VIII: PREVENTATIVE MEASURES**

SPECIAL PROTECTION INFORMATION

| | |
|---|---|
| RESPIRATORY PROTECTION: | Not applicable. |
| VENTILATION: | Not applicable. |
| PROTECTIVE GLOVES: | Personal preference. |
| EYE PROTECTION: | Safety glasses with side-shields recommended. |
| OTHER PROTECTIVE EQUIPMENT (Specify): | Wear clothing adequate to protect against exposure. Ensure eye-wash station and emergency shower are available. |

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Wash thoroughly after handling. Avoid contact with eyes, skin or clothing. No specific storage requirements.

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

Use appropriate safety equipment. Scoop up excess material. Collect uncontaminated material for repackaging. Collect contaminated material in approved containers for disposal. Wipe up remaining spill with absorbent compound to prevent slipping hazard.

**WASTE DISPOSAL METHOD**

Dispose in accordance with federal, provincial and local regulations. This material can be land filled in most areas; check with local operator. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal.

**SECTION IX: PREPARATION**

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

| | | | |
|---|---|---|---|
| DATE ISSUED: | December 19, 2005 | BY: | Product safety committee |
| SUPERSEDES: | March 31, 2003 | PHONE: | 780-440-4923 |

**Diversity Technologies Corp. is the parent company of**
**Canamara-United Supply, Hollimex Products, The Drilling Depot and**
**Westcoast Drilling Supplies**

# MATERIAL SAFETY DATA SHEET

## SECTION I: IDENTIFICATION OF PRODUCT

| | | | |
|---|---|---|---|
| COMPANY: | **Diversity Technologies Corp.** | DATE: | Jan. 3, 2006 |
| | **8750 – 53rd Ave.** | PHONE: | 604-940-6050 |
| | **Edmonton, AB T6E 5G2** | FAX: | 604-940-6080 |
| PRODUCT NAME: | **DR-133 POLYMER** | | |
| PRODUCT USE: | Drilling mud additive. | | |
| CHEMICAL FAMILY: | Anionic polyacrylamides in oil-water emulsion | CAS#: | Mixture |

## WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

| | |
|---|---|
| WHMIS CLASSIFICATION: | B3; D2B |
| WORKPLACE HAZARD: | Combustible liquid; skin and eye irritant |

## TRANSPORTATION OF DANGEROUS GOODS (TDG)

| | |
|---|---|
| PROPER SHIPPING NAME: | Not regulated under TDG |
| TDG CLASSIFICATION: | Not applicable |
| UN NUMBER (PIN): | Not applicable |
| PACKING GROUP: | Not applicable |

## SECTION II: HAZARDOUS INGREDIENTS

| INGREDIENT | % (v/v) | CAS NUMBER | $LD_{50}$Oral-Rat | $LC_{50}$Inhal-Rat | ACGIH-TLV |
|---|---|---|---|---|---|
| Mineral spirits | 30-60 | 64742-47-8 | >5000 mg/kg | Not available | Not established |
| Alkylphenol ethoxylate | 3-7 | 68412-54-4 | 3000 mg/kg | Not available | Not established |
| Ethoxylated $C_{12-15}$ alcohol | 0.5-1.5 | 68131-39-5 | >3200 mg/kg | Not available | Not established |

## SECTION III: HEALTH HAZARDS

| | |
|---|---|
| ROUTE OF ENTRY: | [XX]EYE CONTACT [XX]SKIN [ ]INHALATION [XX]INGESTION |
| EYE CONTACT: | Severe irritant. Can cause redness, tissue destruction, and irritation. |
| SKIN CONTACT: | Irritant. Low acute dermal toxicity. Can cause redness, inflammation and irritation on prolonged contact. |
| INGESTION: | Low acute oral toxicity. May cause nausea, diarrhea and abdominal cramps. |
| INHALATION: | Not a likely source of exposure. |

---

**Diversity Technologies Corp. is the parent company of**
**Canamara-United Supply, Hollimex Products, The Drilling Depot and**
**Westcoast Drilling Supplies**

| | |
|---|---|
| CARCINOGENICITY: | No information available. |
| TERATOGENICITY: | No information available. |
| REPRODUCTIVE TOXICITY: | No information available. |
| MUTAGENICITY: | No information available. |
| SYNERGISTIC PRODUCTS: | No information available. |

## SECTION IV: FIRST AID MEASURES

| | |
|---|---|
| SKIN CONTACT: | Wash thoroughly with soap and water. If irritation develops or persists, obtain medical attention. Wash contaminated clothing prior to re-use. |
| EYE CONTACT: | Flush with gently flowing warm water for 15 minutes or until irritation subsides. Obtain medical attention when flushing period is complete. |
| INGESTION: | Do not induce vomiting. Give 1-2 glasses of water. Obtain immediate medical attention. Do not give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing. |
| INHALATION: | Move to fresh air. Apply oxygen or artificial respiration as required. If breathing difficulties or distress continues obtain medical attention. |

## SECTION V: PHYSICAL DATA

| | | |
|---|---|---|
| APPEARANCE AND ODOUR: | Liquid emulsion; petroleum odour | |
| SPECIFIC GRAVITY: | Not available | |
| BOILING POINT (°C): | Not available | |
| MELTING POINT (°C): | Not available | |
| SOLUBILITY IN WATER: | Forms gel | pH: 7-9 (@ 0.6%) |
| PERCENT VOLATILE BY VOLUME: | Not available | |
| EVAPORATION RATE: | Not available | |
| VAPOUR PRESSURE (mmHg): | Not available | |
| VAPOUR DENSITY (air = 1): | Not available | |
| BULK DENSITY: | Not applicable | |

## SECTION VI: FIRE AND EXPLOSION HAZARD DATA

| | |
|---|---|
| FLASH POINT: | 65°C (TCC) |
| FLAMMABLE LIMITS: | Not applicable |
| EXTINGUISHING MEDIA: | Carbon dioxide, dry chemical, foam, in preference to a water spray. |
| SPECIAL FIRE FIGHTING PROCEDURES: | Self contained breathing apparatus required for fire fighting personnel. Move containers from fire area, or cool with water spray, if possible. |

| | |
|---|---|
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | Vapours may travel to ignition source and flash back. |

**SECTION VII: REACTIVITY DATA**

| | |
|---|---|
| STABILITY: | STABLE [XX] UNSTABLE [ ] |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Avoid contact with strong oxidizers and strong reducing agents. Avoid ignition sources. |
| HAZARDOUS DECOMPOSITION PRODUCTS: | Oxides of carbon and nitrogen upon combustion |
| HAZARDOUS POLYMERIZATION: | WILL NOT OCCUR [XX] MAY OCCUR [ ] |

**SECTION VIII: PREVENTATIVE MEASURES**

SPECIAL PROTECTION INFORMATION

| | |
|---|---|
| RESPIRATORY PROTECTION: | Use approved respirators with organic vapour cartridges if TLV is exceeded. |
| VENTILATION: | Use in well-ventilated area, or use local exhaust ventilation, process enclosure or other engineering controls to maintain vapour/mist level below TLV. |
| PROTECTIVE GLOVES: | Neoprene or viton recommended. |
| EYE PROTECTION: | Wear chemical goggles when handling. |
| OTHER PROTECTIVE EQUIPMENT (Specify): | As necessary to prevent contact. Ensure eyewash station and emergency shower are available. |

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Avoid all contact with material. Remove contaminated clothing; launder or dry-clean before re-use. Cleanse skin thoroughly after contact, before breaks and meals and at end of work period. Product is readily removed from skin by washing thoroughly with soap and water. Store in a cool, dry location away from incompatibles. Store in original container. Empty packages contain residual hazardous material; handle and store as if full.

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

Use appropriate safety equipment. Eliminate ignition sources. Stop leak if possible to do so without risk. Dike spill to prevent spread. Use vacuum to pick up large spills. Soak up residual and small spills with absorbent materials. Collect uncontaminated material for repackaging. Collect contaminated material and absorbents in appropriate container for disposal.

## WASTE DISPOSAL METHOD

Dispose in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal.

## SECTION IX: PREPARATION

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

| | | | |
|---|---|---|---|
| DATE ISSUED: | January 3, 2006 | BY: | Product safety committee |
| SUPERSEDES: | March 31, 2003 | PHONE: | 780-440-4923 |

BIO TECHNICS LIMITED
Upper Mill, Inverbervie, Aberdeenshire, Scotland UK DD10 0SP
Telephone +44 (0) 1561 361515 Fax +44 (0) 1561 361011
Email info@biotechnics.co.uk
www.simplybio.com

# MATERIAL SAFETY DATA SHEET
## PRODUCT
# OT8

## 1. DESCRIPTION / PROPERTIES (nature, reactivity):

A unique biological cleaner designed to remove residues of oils, greases and other hydrocarbon products by enhanced bacterial degradation. Aqueous suspension of selected natural bacteria, nutrients and cleaning agents. Cleans off hydrocarbon residues by bacterial oxidation to carbon dioxide and water, with no adverse environmental impact or harmful residues. Application rate is approximately 0.5 – 2.5 square metres per litre depending on surface porosity.

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

| HAZARDOUS COMPONENT | CAS NO | EINECS | % CONCENTRATION | HAZARD | RISK PHRASES | WEL |
|---|---|---|---|---|---|---|
| Orange terpene | 8028-48-6 | 232-433-8 | 10 → 30% | $X_n$ | R10,38,65,52/53 | - |
| Dipropylene glycol mono methyl ether | 34590-94-8 | 252-104-2 | 0 → 5% | - | | WEL |
| Isopropylamine dodecyl benzene sulphonate | 26264-05-1 | 247-556-2 | 5 → 10% | $X_i$ | R41, 38 | - |
| Alcohol ethoxylate | * | * | 0 → 5% | $X_n$ | R22, 41 | - |

* Proprietary status pending

## 3. HAZARD INDENTIFICATION

a) **Fire/Explosion Hazard (stability, flammability, combustion products):**
Product is not classified as combustible or flammable.

b) **Health Hazard (inhalation, ingestion, contact with skin or eyes):**
Irritating to skin and eyes. Avoid contact with skin and in particular, with the eyes. Low risk from inhalation but avoid excessive inhalation of vapour e.g. on heating etc. Low order of acute oral toxicity but do not ingest.

c) **Environmental Hazard:**
Not classified as hazardous to the environment.

## 4. FIRST AID MEASURES

**INHALATION** - Low risk in normal usage. Remove to fresh air. Rest and keep warm. If symptoms of distress persist seek medical attention.

**SKIN CONTACT** - Wash affected area thoroughly with clean water. Remove contaminated clothing and launder before re-use.

**EYE CONTACT** - Irrigate with plenty of clean water. Obtain medical advice.

**INGESTION** - Do not swallow, wash out mouth with water. If swallowed drink water and obtain medical attention. Do not induce vomiting.

## 5. FIRE FIGHTING MEASURES

**Suitable extinguishing media:**
If involved in a fire, use extinguishing media appropriate to the source of the fire.
**Protection for fire fighters:**
Wear self-contained breathing apparatus. Wear protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**
Mark out contaminated area with signs and prevent access to unauthorised personnel.
**Environmental Precautions:**
Prevent discharge of large quantities to drain or water courses.
**Clean up Procedures:**
Disperse small spillages with large excess of water. Large spillages - contain, absorb and pick up, place in sealed containers for disposal via licensed contractor. Wash down traces with excess of water.

## 7. HANDLING AND STORAGE

**Handling:**
After handling wash hands and face with soap and water.
**Storage:**
May be stored for periods over six months in plastic containers as supplied. Avoid temperatures above 45 °C and protect from frost.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

WEL (2-methoxymethylethoxy)propanol 8hr TWA 50ppm / 308mg/m$^3$ (EH40 2005)
Under normal conditions of use this limit is unlikely to be exceeded.

| | | |
|---|---|---|
| **Engineering Controls:** | Provide eyewash station. Ensure good natural ventilation. | |
| **Personal Protection:** | **Hand:** | Use protective gloves made of neoprene or nitrile. |
| | **Eyes:** | Wear safety glasses. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Density at 20°C | : | 0.95 – 0.97 |
| Vapour Pressure at 20°C | : | Essentially Water Vapour |
| Solubility in Water | : | Disperses |
| pH | : | 6.0 - 7.5 |
| Flash Point | : | N/A |

## 10. STABILITY AND REACTIVITY

**Stability:** Stable.
**Materials to avoid:** No known adverse reactions.
**Hazardous decomposition products:** No typical hazardous decomposition products known .

## 11. TOXICOLOGICAL INFORMATION

**Health Effects:**

| | |
|---|---|
| **Respiratory:** | Not likely to occur. |
| **Skin:** | Irritating to skin on prolonged or repeated skin contact. |
| **Eyes:** | Irritating to eyes. |
| **Ingestion:** | Low acute toxicity. May cause irritation to mucous membranes in mouth, throat, stomach and intestinal canal. |

OT-8

**Toxicological Data:**

For individual components:

| Component | Acute Toxicity |
|---|---|
| Dipropylene glycol mono methyl ether | LD50 oral (rat): 5000mg/kg |
| Orange terpenes | LD50 oral (rat): 4400mg/kg |
| Isopropylamine dodecyl benzene sulphonate | LD50 oral (rat): >2000mg/kg |
| Alcohol ethoxylate | Oral: 200< LD50<2000mg./kg<br>Dermal: LD50>2000mg/kg<br>Inhalation: LC50>5mg/L |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

For individual components:

| Component | Acute Toxicity |
|---|---|
| Orange terpenes | EC50 Daphnia magna 48h 12.3mg/L |
| Alcohol ethoxylate | Fish: 1< LC50<10mg./L<br>Daphnia: 1< LC50<10mg./L<br>Algae: 1< LC50<10mg./L |

**Degradability:**

All components are readily biodegradable.

**Bioaccumulation:**

No bioaccumulation is expected. The product is biodegradable and water-soluble.

## 13. DISPOSAL CONSIDERATION

Disperse small spillages with large excess of water. Return unwanted material to the supplier.

## 14. TRANSPORT INFORMATION

Not classified as hazardous for transport.

## 15. REGULATORY INFORMATION

Irritant $X_i$

R36/38 Irritating to skin and eyes.

S02 Keep out of the reach of children.
S26 In case of contact with the eyes rinse immediately with plenty of water and seek medical advice.
S37 Wear suitable gloves.

**Regulatory Information:**

**UK Regulatory References:** The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002.
EH40/2005 Workplace Exposure Limits 2005.

**EC Directives:** Dangerous Preparations Directive (1999/45/EC).
Safety Data Sheets Directive (2001/58/EC).

**Approved Code of Practice:** The Compilation of Safety Data Sheets.

## 16. OTHER INFORMATION

**PLEASE NOTE:**

The above information is based on the present state of our knowledge at the time of publication. It is given in good faith, no warranty is implied with respect to quality or specification of product. The user must satisfy himself that the product is entirely suitable.

**Signature:** _____ **Date: 9th August 2005**

Date: 09.08.05 File: A42-822 Rev: 0 Page 3 of 3

## MATERIAL SAFETY DATA SHEET

### SECTION I: IDENTIFICATION OF PRODUCT

| | | | |
|---|---|---|---|
| COMPANY: | **Diversity Technologies Corp.** | DATE: | Jan. 18, 2006 |
| | **8750 – 53rd Ave.** | PHONE: | 604-940-6050 |
| | **Edmonton, AB T6E 5G2** | FAX: | 604-940-6080 |
| PRODUCT NAME: | **W-OB POLYMER** | | |
| PRODUCT USE: | Drilling mud additive | | |
| CHEMICAL FAMILY: | Polysaccharide suspension | CAS #: | Mixture |

### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

| | |
|---|---|
| WHMIS CLASSIFICATION: | D2B |
| WORKPLACE HAZARD: | Skin and eye irritant |

### TRANSPORTATION OF DANGEROUS GOODS (TDG)

| | |
|---|---|
| PROPER SHIPPING NAME: | Not regulated |
| TDG CLASSIFICATION: | Not applicable |
| UN NUMBER (PIN): | Not applicable |
| PACKING GROUP: | Not applicable |

### SECTION II: HAZARDOUS INGREDIENTS

| INGREDIENT | % (v/v) | CAS NUMBER | $LD_{50}$ Oral-Rat | $LC_{50}$ Inhal-Rat | ACGIH-TLV |
|---|---|---|---|---|---|
| Ethoxylated nonylphenol | 1-5 | 9016-45-9 | 5100 mg/kg | Not determined | Not available |

### SECTION III: HEALTH HAZARDS

| | |
|---|---|
| ROUTE OF ENTRY: | [XX] EYE CONTACT [XX] SKIN [XX] INHALATION [XX] INGESTION |
| EYE CONTACT: | Irritant. Can cause redness, tearing and inflammation. |
| SKIN CONTACT: | Irritant. Can cause redness, irritation and inflammation. |
| INGESTION: | Low oral toxicity. May cause nausea, abdominal cramps and diarrhea. |
| INHALATION: | High concentrations of vapour and mist can cause irritation of the nose and throat |
| CARCINOGENICITY: | No information available. |
| TERATOGENICITY: | No information available. |

**Diversity Technologies Corp. is the parent company of**
**Canamara-United Supply, Hollimex Products, The Drilling Depot and**
**Westcoast Drilling Supplies**

| | |
|---|---|
| REPRODUCTIVE TOXICITY: | No information available. |
| MUTAGENICITY: | No information available. |
| SYNERGISTIC PRODUCTS: | No information available. |

## SECTION IV: FIRST AID MEASURES

| | |
|---|---|
| SKIN CONTACT: | Remove contaminated clothing. Flush affected area with water and soap for 5 minutes. If irritation persists, contact a physician. |
| EYE CONTACT: | Immediately flush with gently flowing warm water for 15, or until irritation ceases. When flushing period is completed, obtain medical attention. |
| INGESTION: | Rinse mouth and give 2 - 3 glasses of water to dilute. Do not induce vomiting. If vomiting occurs keep head below hips to prevent aspiration. Even small amounts of liquid drawn into the lungs from swallowing, or vomiting may cause severe health effects. Obtain medical attention. Never give anything by mouth if patient is unconscious, rapidly losing consciousness or convulsing. |
| INHALATION: | Move patient to fresh air. Apply oxygen or artificial respiration if required. If breathing difficulties or distress continues obtain medical attention. |

## SECTION V: PHYSICAL DATA

| | | |
|---|---|---|
| APPEARANCE AND ODOUR: | Opaque yellow to beige liquid; little odour | |
| SPECIFIC GRAVITY: | 1.078 | |
| BOILING POINT (°C): | Not determined | |
| MELTING POINT (°C): | Not determined | |
| SOLUBILITY IN WATER: | Dispersible | pH: Not determined |
| PERCENT VOLATILE BY VOLUME: | Not determined | |
| EVAPORATION RATE: | Not determined | |
| VAPOUR PRESSURE (mmHg): | Not determined | |
| VAPOUR DENSITY (air = 1): | Not determined | |
| BULK DENSITY: | Not applicable | |

## SECTION VI: FIRE AND EXPLOSION HAZARD DATA

| | |
|---|---|
| FLASH POINT: | Not flammable |
| FLAMMABLE LIMITS: | Not determined |
| EXTINGUISHING MEDIA: | $CO_2$, water, mist, foam |

| | |
|---|---|
| SPECIAL FIRE FIGHTING PROCEDURES: | Self-contained breathing apparatus required for fire fighting personnel. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: | None known. |

## SECTION VII: REACTIVITY DATA

| | | |
|---|---|---|
| STABILITY: | STABLE [XX] | UNSTABLE [ ] |
| INCOMPATIBILITY (CONDITIONS TO AVOID): | Strong oxidizers and acids. | |
| CONDITIONS OF REACTIVITY: | Not applicable. | |
| HAZARDOUS DECOMPOSITION PRODUCTS: | Oxides of carbon on combustion. | |
| HAZARDOUS POLYMERIZATION: | WILL NOT OCCUR [XX] | MAY OCCUR [ ] |

## SECTION VIII: PREVENTATIVE MEASURES

SPECIAL PROTECTION INFORMATION

| | |
|---|---|
| RESPIRATORY PROTECTION: | An approved respirator with organic vapour cartridge if TLV is exceeded. |
| VENTILATION: | Use local exhaust ventilation, process enclosure or other engineering control to prevent exposure. |
| PROTECTIVE GLOVES: | Rubber or viton gloves recommended. |
| EYE PROTECTION: | Chemical goggles and/or face shield required. Do not wear contact lenses. |
| OTHER PROTECTIVE EQUIPMENT (Specify): | It is recommended that chemical resistant protective clothing be worn at all times when handling this product. Make eye bath and emergency shower available. |

## PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact. Avoid inhalation of vapours or mists. Wear suitable protection for eyes and skin when handling. Launder contaminated clothing before reuse. Avoid contact with incompatible materials. Store in cool, well-ventilated area away from sources of ignition. Keep container tightly closed when not in use. Store unused material in original container. Handle and store empty containers as if full.

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

Use appropriate safety equipment including respiratory protection. Eliminate ignition sources. Ventilate area. Stop leak if possible to do so without risk. Soak up small spills with absorbent material. Contain large spills using absorbent materials. Collect spilled material and absorbents in approved containers for disposal. Prevent entry into bodies of water or sewer systems.

## WASTE DISPOSAL METHOD

Dispose in accordance with federal, provincial and local regulations. It is the responsibility of the end-user to determine at the time of disposal whether the product meets criteria for hazardous waste. Empty containers, which have not been cleaned and purged, contain residual hazardous material and must be disposed of, or recycled, according to local regulations.

## SECTION IX: PREPARATION

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

| | | | |
|---|---|---|---|
| DATE ISSUED: | January 18, 2006 | BY: | Product safety committee |
| SUPERSEDES: | March 31, 2003 | PHONE: | 780-440-4923 |