



Canada

# NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

## APPENDIX 1

### NUNAVUT SPILL REPORT FORM

AND

### GUIDE TO COMPLETE THE SPILL REPORT FORM

REPORT LINE USE ONLY

|          |                                     |                 |   |                    |
|----------|-------------------------------------|-----------------|---|--------------------|
| <b>A</b> | REPORT DATE: MONTH – DAY – YEAR     | REPORT TIME     | <input type="checkbox"/> ORIGINAL SPILL REPORT,<br><input type="checkbox"/> OR UPDATE #<br>TO THE ORIGINAL SPILL REPORT | REPORT NUMBER<br>- |
| <b>B</b> | OCCURRENCE DATE: MONTH – DAY – YEAR | OCCURRENCE TIME |   |                    |

|  |  |                                     |   |   |   |
|--|--|-------------------------------------|---|---|---|
| <b>C</b>   | LAND USE PERMIT NUMBER (IF APPLICABLE)   |                                     | WATER LICENCE NUMBER (IF APPLICABLE)  |   |   |
| <b>D</b>   | GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM THE NAMED LOCATION  |                                     |   | REGION<br><input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR |   |
| <b>E</b>   | LATITUDE<br>DEGREES      MINUTES      SECONDS  |                                     | LONGITUDE<br>DEGREES      MINUTES      SECONDS  |   |   |
| <b>F</b>   | RESPONSIBLE PARTY OR VESSEL NAME   |                                     | RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION  |   |   |
| <b>G</b>   | ANY CONTRACTOR INVOLVED  |                                     | CONTRACTOR ADDRESS OR OFFICE LOCATION   |   |   |
| <b>H</b>   | PRODUCT SPILLED  |                                     | QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES   |   | U.N. NUMBER   |
|  | SECOND PRODUCT SPILLED (IF APPLICABLE)   |                                     | QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES   |   | U.N. NUMBER   |
| <b>I</b>   | SPILL SOURCE   |                                     | SPILL CAUSE   |   | AREA OF CONTAMINATION IN SQUARE METRES                                    |
| <b>J</b>   | FACTORS AFFECTING SPILL OR RECOVERY  |                                     | DESCRIBE ANY ASSISTANCE REQUIRED  |   | HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT                               |
| <b>K</b>   | ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS |                                     |   |   |   |
| <b>L</b>   | REPORTED TO SPILL LINE BY  | POSITION                            | EMPLOYER  | LOCATION CALLING FROM   | TELEPHONE   |
| <b>M</b>   | ANY ALTERNATE CONTACT  | POSITION                            | EMPLOYER  | ALTERNATE CONTACT LOCATION  | ALTERNATE TELEPHONE   |
| <b>REPORT LINE USE ONLY</b>  |  |                                     |   |   |   |
| <b>N</b>   | RECEIVED AT SPILL LINE BY  | POSITION<br><b>Station operator</b> | EMPLOYER  | LOCATION CALLED<br><b>Yellowknife, NT</b>   | REPORT LINE NUMBER<br><b>(867) 920-8130</b>                               |
| LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC |  |                                     | SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN |   | FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED |
| AGENCY   | CONTACT NAME   |                                     | CONTACT TIME  | REMARKS   |   |
| LEAD AGENCY  |  |                                     |   |   |   |
| FIRST SUPPORT AGENCY   |  |                                     |   |   |   |
| SECOND SUPPORT AGENCY  |  |                                     |   |   |   |
| THIRD SUPPORT AGENCY   |  |                                     |   |   |   |



## Instructions for Completing the NT-NU Spill Report Form

Spills of hazardous substances can be reported by calling the NT-NU Spill Report Line at (867) 920-8130. Collect calls are accepted. As an alternative, the Spill Report form can be filled out and e-mailed as an attachment to spills@gov.nt.ca. Receipt of e-mail transmissions should be verified with a follow-up telephone call to the Spill Line. Completed forms can also be faxed to the Spill Line at (867) 873-6924.

|  |  |
|--|--|
| <b>A. Report Date/Time</b>                             | The actual date and time that the spill was reported to the spill line. If the spill is phoned in, the Spill Line will fill this out. <i>Please do not fill in the Report Number:</i> the spill line will assign a number after the spill. is reported.  |
| <b>B. Occurrence Date/Time</b>                         | Indicate, to the best of your knowledge, the exact date and time that the spill occurred. Not to be confused with the report date and time (see above).  |
| <b>C. Land Use Permit Number /Water Licence Number</b> | This needs to be filled in only if the activity has been licensed by the Nunavut Water Board or if a Land Use Permit has been issued. Applies primarily to mines and mineral exploration sites.  |
| <b>D. Geographic Place Name</b>                        | In most cases, this will be the name of the community where the spill occurred. For remote locations, identify the most prominent geographic feature, such as a lake or mountain or the distance and direction from the nearest community  |
| <b>E. Geographic Coordinates</b>                       | This needs to be filled out if the spill occurred outside of an established community such as at a mine site. The location should be stated in degrees, minutes and seconds of Latitude and Longitude.   |
| <b>F. Responsible Party Or Vessel Name</b>             | Identify the person or party who owned or was in control of the substance at the time it was spilled. In the case of a spill from a ship or vessel, include the name of the ship or vessel. Include full address, telephone number and e-mail. Use box K if there is insufficient space. <i>Note that the owner of the spilled substance is ultimately responsible for any spills of that substance, regardless of who may have actually caused the spill.</i> |
| <b>G. Contractor involved?</b>                         | Were there any other parties or contractors involved? (e.g. a construction company who is working on behalf of the owner of the spilled substance and who may have contributed to, or directly caused the spill and is responding to the spill).   |
| <b>H. Product Spilled</b>                              | Identify the product spilled. Most commonly this is gasoline, diesel fuel or sewage. Use the chemical name of the substance and, where possible, identify the product using the four digit UN number (e.g. UN1203 for gasoline; UN1202 for diesel fuel; UN1863 for Jet A & B). Avoid trade names.  |

|                                     |   |
|-------------------------------------|---|
| <b>I. Spill Source</b>              | Identify the source of the spill (e.g. truck, ship, home heating fuel tank) and the cause (e.g. fuel tank overfill, leaking tank, ship ran aground, traffic accident, vandalism, storm). Provide an estimate of the extent of the contaminated area (e.g. 10 m <sup>2</sup> )   |
| <b>J. Factors Affecting Spill</b>   | Identify any factors which might make it difficult to clean up the spill (e.g. rough terrain, bad weather, remote location, lack of equipment). Do you require advice and assistance with the cleanup? Identify any hazards to persons, property or environment (e.g. a gasoline spill beside a daycare centre would pose a safety hazard to children). Use box K if there is insufficient space.   |
| <b>K. Additional Information</b>    | Provide any additional pertinent details about the spill. State what action is being taken to clean up the spill, dispose of spilled material or notify affected parties. Attach additional sheets to the spill report if necessary. Number the pages in the same format found in the lower right hand corner of the spill form (e.g. Page 1 of 2). <b>Number the pages to ensure that recipients can be certain they received all pertinent documents.</b> If only the Spill Report form was filled out, number the form as "Page 1 of 1". |
| <b>L. Reported to Spill Line by</b> | Include your full name, employer, contact number and the location from which you are reporting the spill. Use box K if there is insufficient space.   |
| <b>M. Alternate Contact</b>         | Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.  |
| <b>N. Report Line Use Only</b>      | <i>Leave Blank. This box is for Spill Line use only.</i>  |





**APPENDIX B**  
**MSDS SHEETS**

## **CONTENTS**

- **Propane**
- **Motor Oil 5W-30, 10W-30, 10W-40, 20W-50**
- **Jet A Turbine Fuel**
- **Diesel Fuel**
-

**SECTION 1 – PRODUCT INFORMATION**

**Product Name:** Propane  
**Trade Name:** LPG (Liquified Petroleum Gas), LP-Gas  
**Chemical Formula:** C<sub>3</sub>H<sub>8</sub>

**Supplier:** Superior Propane Inc.  
 1111 - 49th Avenue N.E.  
 Calgary, AB T2E 8V2

**WHMIS CLASSIFICATION**  
 Class A - Compressed Gas  
 Class B, Division 1 - Flammable Gas

**Business:** (403) 730-7500

**Local Market**  
**Emergency Number:** \_\_\_\_\_  
 (Non Medical)

**Application and Use:** Propane is commonly used as a fuel for heating, cooking, automobiles, forklift trucks, crop drying and welding and cutting operations. Propane is used in industry as a refrigerant, solvent and as a chemical feedstock.

**SECTION 2 – HAZARDOUS INGREDIENTS**

| COMPONENTS                       | CAS NO.   | % Volume (v/v) | LD50           |
|----------------------------------|-----------|----------------|----------------|
| Propane                          | 74 -98-6  | 90% - 99%      | Not Applicable |
| Propylene                        | 115 -07-1 | 0% - 5%        | Not Applicable |
| Ethane                           | 74 -84-0  | 0% - 5%        | Not Applicable |
| Butane and heavier hydro carbons | 106 -97-8 | 0% - 2.5%      | Not Applicable |

Occupational Exposure Limit:

Based upon animal test data, the acute toxicity of this product is expected to be inhalation: 4 hour LC50 = 280,000 ppm (Rat).

**Note:** Composition is typical for HD-5 Propane per The Canadian General Standard Board CGSB 3.14 National Standard of Canada. Exact composition will vary from shipment to shipment.

**SECTION 3 – CHEMICAL AND PHYSICAL DATA**

**Form:** Liquid and vapour while stored under pressure.

**Boiling Point:** -42°C @ 1 atm.

**Freezing Point:** -188°C

**Evaporation Rate:** Rapid (Gas at normal ambient conditions).

**Vapour Pressure:** 1435 kPa (maximum) @ 37.8°C

**Vapour Density:** 1.52 (Air = 1)

**Coefficient of Water/Oil Distribution:** Not available.

**pH:** Not available.

**Solubility in water:** Slight, 6.1% by volume @ 17.8°C

**Specific Gravity:** 0.51 (water = 1)

**Appearance/Odour:** Colourless liquid and vapour while stored under pressure. Colourless and odourless gas in natural state at any concentration. Commercial propane has an odourant added, ethyl mercaptan, which has an odour similar to boiling cabbage.\*

**Odour Threshold:** 4800 ppm

\* With proper handling, transportation and storage, adding a chemical odourant such as eth-merc has proven to be a very effective warning device, but all odourants have certain limitations. The effectiveness of the odourant may be diminished by a person's sense of smell, by competing odours and by oxidation which may cause a potentially dangerous situation.

**SECTION 4 – FIRE OR EXPLOSION HAZARD**

**Flash Point:** -103.4°C

**Method:** Closed cup.

**Flammable Limits:** Lower 2.4%, Upper 9.5%

**Auto Ignition Temperature:** 432°C

**Products Evolved Due To Heat Or Combustion:** Carbon monoxide can be produced when primary air and secondary air are deficient while combustion is taking place.

**Fire and Explosive Hazards:** Explosive air-vapour mixtures may form if allowed to leak to atmosphere.

**Sensitivity To Impact:** No.

**Sensitivity To Static Discharge:** Yes.

**Fire Extinguishing Precautions:** Use water spray to cool exposed cylinders or tanks. Do not extinguish fire unless the source of the escaping gas that is fueling the fire can be turned off. Fire can be extinguished with carbon dioxide and/or dry chemical (BC). Container metal shells require cooling with water to prevent flame impingement and the weakening of metal. If sufficient water is not available to protect the container shell from weakening, the area will be required to be evacuated. If gas has not ignited, liquid or vapour may be dispersed by water spray or flooding.

**Special Fire Fighting Equipment:** Protective clothing, hose monitors, fog nozzles, self-contained breathing apparatus.

**SECTION 5 – REACTIVITY DATA**

**Stability:** Stable.

**Conditions To Avoid:** Keep separate from oxidizing agents. Gas explodes spontaneously when mixed with chloride dioxide.

**Incompatibility:** Remove sources of ignition and observe distance requirements for storage tanks from combustible material, drains and openings to building.

**Hazardous Decomposition Products:** Deficient primary and secondary air can produce carbon monoxide.

**Hazardous Polymerization:** Will not occur.

## SECTION 6 – TOXICOLOGICAL PROPERTIES OF MATERIAL

### ROUTES OF ENTRY:

**Inhalation:** Simple asphyxiant. No effect at concentrations of 10,000 ppm (peak exposures). Higher concentrations may cause central nervous system disorder and/or damage. Lack of oxygen may cause dizziness, loss of coordination, weakness, fatigue, euphoria, mental confusion, blurred vision, convulsions, breathing failure, coma and death. Breathing high vapour concentrations (saturated vapours) for a few minutes may be fatal. Saturated vapours may be encountered in confined spaces and/or under conditions of poor ventilation. Avoid breathing vapours or mist.

**Skin and Eye Contact:** Exposure to vapourizing liquid may cause frostbite (cold burns) and permanent eye damage.

**Ingestion:** Not considered to be a hazard.

**Acute Exposure:** The acute toxicity of this product is expected to be inhalation: 4 hour LC50=280,000ppm (Rat).

**Chronic Exposure:** There are no reported effects from long term low level exposure.

**Sensitization to Product:** Skin–unknown, Respiratory–unknown.

**Occupational Exposure Limits:** American Conference of Governmental Industrial Hygienists (ACGIH) lists as a simple asphyxiant. ACGIH TLV: 1000 ppm.

**Carcinogenicity, Reproductive Toxicity, Teratogenicity, Mutagenicity:** No effects reported.

## SECTION 7 – PREVENTIVE MEASURES

**Eyes:** Safety glasses, are recommended when transferring product.

**Skin:** Insulated gloves required if contact with liquid or liquid cooled equipment is expected. Wear gloves and long sleeves when transferring product.

**Inhalation:** Where concentration in air would reduce the oxygen level below 18% air or exceed occupational exposure limits in section 6, self-contained breathing apparatus is required.

**Ventilation:** Explosion proof ventilation equipment required in confined spaces.

## SECTION 8 – EMERGENCY AND FIRST AID PROCEDURES

### FIRST AID:

**Eyes:** Should eye contact with liquid occur, flush eyes with lukewarm water for 15 minutes. Obtain immediate medical care.

**Skin:** In case of "Cold Burn" from contact with liquid, immediately place affected area in lukewarm water and keep at this temperature until circulation returns. If fingers or hands are frostbitten, have the victim hold his hand next to his body such as under the armpit. Obtain immediate medical care.

**Ingestion:** None considered necessary.

**Inhalation:** Remove person to fresh air. If breathing is difficult or has stopped, administer artificial respiration. Obtain immediate medical care.

### SPILL OR LEAK:

Eliminate leak if possible.

Eliminate source of ignition.

Ensure cylinder is upright.

Disperse vapours with hose streams using fog nozzles. Monitor low areas as propane is heavier than air and can settle into low areas. Remain upwind of leak. Keep people away. Prevent vapour and/or liquid from entering into sewers, basements or confined areas.

## SECTION 9 – TRANSPORTATION, HANDLING AND STORAGE

- Transport and store cylinders and tanks secured in an upright position in a ventilated space away from ignition sources (so the pressure relief valve is in contact with the vapour space of the cylinder or tank).
- Cylinders that are not in use must have the valves in the closed position and be equipped with a protective cap or guard.
- Do not store with oxidizing agents, oxygen, or chlorine cylinders.

- Empty cylinders and tanks may contain product residue. Do not pressurize, cut, heat or weld empty containers.
- Transport, handle and store according to applicable federal and provincial codes and regulations.

### Transportation of Dangerous Goods (TDG)

- TDG Classification: Flammable Gas 2.1
- TDG Shipping Name: Liquefied Petroleum Gas (Propane)
- TDG Special Provisions: 56, 90, 102
- PIN Number: UN1075

## SECTION 10 – PREPARATION

Superior Propane Inc., Regulations & Safety Department. (403) 730-7500 Date prepared: November 2001.  
Supersedes: September 1999.

The information contained herein is believed to be accurate. It is provided independently of any sale of the product. It is not intended to constitute performance information concerning the product. No express warranty, implied warranty of merchantability or fitness for a particular purpose is made with respect to the product information contained herein.



# Material Safety Data Sheet

|                           |                               |                            |                         |
|---------------------------|-------------------------------|----------------------------|-------------------------|
| <b>WHMIS (Pictograms)</b> | <b>WHMIS (Classification)</b> | <b>Protective Clothing</b> | <b>TDG (pictograms)</b> |
|                           | <b>Not controlled</b>         |                            |                         |

|   |  |                             |  |
|---|--|-----------------------------|--|
| <b>Section 1. Chemical Product and Company Identification</b> |  |                             |  |
| <b>Product Name</b>   | <b>PETRO-CANADA SUPREME 5W-30, 10W-30, 10W-40, 20W-50 MOTOR OIL</b>  | <b>Code</b>                 | 410-344, MOSP53<br>410-341, MOSP13<br>410-342, MOSP14<br>410-343, MOSP25   |
| <b>Synonym</b>  | Not available.   | <b>Validated on</b>         | 8/31/2004.   |
| <b>Manufacturer</b>   | PETRO-CANADA<br>P.O. Box 2844<br>Calgary, Alberta<br>T2P 3E3   | <b>In case of Emergency</b> | Petro-Canada:<br>403-296-3000<br>Canutec Transportation:<br>613-996-6666<br>Poison Control Centre:<br>Consult local telephone<br>directory for emergency<br>number(s). |
| <b>Material Uses</b>  | Supreme is designed for the lubrication of all gasoline, propane and CNG engines where the manufacturer recommends the use of API SM quality oils. SAE 5W-30 and 10W-30 grades also meet the requirements of ILSAC GF-4. |                             |  |

|  |   |                |                                |                                 |                 |
|--|---|----------------|--------------------------------|---------------------------------|-----------------|
| <b>Section 2. Composition and Information on Ingredients</b>   |   |                |                                |                                 |                 |
|  |   |                | <i>Exposure Limits (ACGIH)</i> |                                 |                 |
| <b>Name</b>  | <b>CAS #</b>  | <b>% (W/W)</b> | <b>TLV-TWA(8 h)</b>            | <b>STEL</b>                     | <b>CEILING</b>  |
| Mixture of severely hydrotreated and hydrocracked base oil (petroleum) and other proprietary, non-hazardous additives. | Mixture   | 100            | 5 mg/m <sup>3</sup> (oil mist) | 10 mg/m <sup>3</sup> (oil mist) | Not established |
| <b>Manufacturer Recommendation</b>   | Not applicable  |                |                                |                                 |                 |
| <b>Other Exposure Limits</b>   | Consult local, state, provincial or territory authorities for acceptable exposure limits. |                |                                |                                 |                 |

|   |   |
|---|---|
| <b>Section 3. Hazards Identification.</b> |   |
| <b>Potential Health Effects</b>           | Prolonged or repeated contact may cause skin irritation, defatting, drying and dermatitis. Not expected to cause more than slight skin or eye irritation. With its relatively low vapour pressure, this product is not expected to be inhaled in any appreciable quantity at ambient conditions. If heated to high temperatures or subjected to mechanical actions which produce vapours or mists, inhalation may cause respiratory tract irritation. Ingestion may produce a laxative effect. For more information refer to Section 11 of this MSDS. |

|                                      |   |
|--------------------------------------|---|
| <b>Section 4. First Aid Measures</b> |   |
| <b>Eye Contact</b>                   | IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.  |
| <b>Skin Contact</b>                  | Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.                             |
| <b>Inhalation</b>                    | Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention. |
| <b>Ingestion</b>                     | DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.   |
| <b>Note to Physician</b>             | Not available   |

|   |   |  |  |
|---|---|--|--|
| <b>Section 5. Fire-fighting Measures</b>              |   |  |  |
| <b>Flammability</b>                                   | May be combustible at high temperature.                                   | <b>Flammable Limits</b>                                    | Not available.   |
| <b>Flash Points</b>                                   | OPEN CUP: 223°C (433.4°F) (Cleveland)                                     | <b>Auto-Ignition Temperature</b>                           | Not available  |
| <b>Fire Hazards in Presence of Various Substances</b> | Low fire hazard. This material must be heated before ignition will occur. | <b>Explosion Hazards in Presence of Various Substances</b> | Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire. |

|   |   |
|---|---|
| <b>Products of Combustion</b>               | Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), sulphur oxides (SO <sub>x</sub> ), calcium oxides (CaO <sub>x</sub> ), phosphorus compounds (PO <sub>x</sub> ), zinc oxides, boron oxides and molybdenum, smoke and irritating vapours as products of incomplete combustion.  |
| <b>Fire Fighting Media and Instructions</b> | NAERG96, GUIDE 171, Substances (low to moderate hazard). If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. SMALL FIRE: use DRY chemicals, foam, water spray or CO <sub>2</sub> . LARGE FIRE: use water spray, fog or foam. For small outdoor fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel. |

**Section 6. Accidental Release Measures**

|                                  |  |
|----------------------------------|--|
| <b>Material Release or Spill</b> | Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. Extinguish all ignition sources. Stop leak if safe to do so. Dike spilled material. Use appropriate inert absorbent material to absorb spilled product. Collect used absorbent for later disposal. Avoid contact with spilled material. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Notify appropriate authorities immediately. |
|----------------------------------|--|

**Section 7. Handling and Storage**

|                 |   |
|-----------------|---|
| <b>Handling</b> | Avoid contact with any sources of ignition, flames, heat, and sparks. Avoid skin contact. Avoid eye contact. 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. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated. |
| <b>Storage</b>  | Store away from incompatible and reactive materials (See section 5 and 10). Keep container tightly closed. Store in dry, cool, well-ventilated area.  |

**Section 8. Exposure Controls/Personal Protection**

|  |  |
|--|--|
| <b>Engineering Controls</b>  | 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. |
| <b>Personal Protection - <i>The selection of personal protective equipment varies, depending upon conditions of use.</i></b> |  |
| <b>Eyes</b>  | Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered.   |
| <b>Body</b>  | Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.  |
| <b>Respiratory</b>   | Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.   |
| <b>Hands</b>   | Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.   |
| <b>Feet</b>  | Wear appropriate footwear to prevent product from coming in contact with feet and skin.  |

**Section 9. Physical and Chemical Properties**

|                                      |                          |                        |  |
|--------------------------------------|--------------------------|------------------------|--|
| <b>Physical State and Appearance</b> | Viscous liquid.          | <b>Viscosity</b>       | 5W-30: 62.3 cSt @ 40°C (104°F), 10.6 cSt @ 100°C (212°F). VI=160<br>10W-30: 67.4 cSt @ 40°C (104°F), 10.5 cSt @ 100°C (212°F). VI=143<br>10W-40: 97.2 cSt @ 40°C (104°F), 14.1 cSt @ 100°C (212°F). VI=143<br>20W-50: 170 cSt @ 40°C (104°F), 19.0 cSt @ 100°C (212°F). VI=127 |
| <b>Colour</b>                        | Light amber.             | <b>Pour Point</b>      | 5W-30: -36°C (-33°F)<br>10W-30: -36°C (-33°F)<br>10W-40: -30°C (-22°F)<br>20W-50: -24°C (-11°F)  |
| <b>Odour</b>                         | Mild petroleum oil like. | <b>Softening Point</b> | Not applicable.  |
| <b>Odour Threshold</b>               | Not available.           | <b>Dropping Point</b>  | Not applicable.  |
| <b>Boiling Point</b>                 | Not available.           | <b>Penetration</b>     | Not applicable.  |

|                        |   |                                      |                     |
|------------------------|---|--------------------------------------|---------------------|
| <b>Density</b>         | 0.8566 - 0.8775 kg/L @ 15°C (59°F).             | <b>Oil / Water Dist. Coefficient</b> | Not available.      |
| <b>Vapour Density</b>  | Not available.                                  | <b>Ionicity (in water)</b>           | Not available       |
| <b>Vapour Pressure</b> | Negligible at ambient temperature and pressure. | <b>Dispersion Properties</b>         | Not available       |
| <b>Volatility</b>      | Non-volatile                                    | <b>Solubility</b>                    | Insoluble in water. |

**Section 10. Stability and Reactivity**

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <b>Corrosivity</b>                                   | Copper corrosion, 3h, 121°C (ASTM D0130): 1a                        |                                 |   |
| <b>Stability</b>                                     | The product is stable under normal handling and storage conditions. | <b>Hazardous Polymerization</b> | Will not occur under normal working conditions.   |
| <b>Incompatible Substances / Conditions to Avoid</b> | Reactive with oxidizing agents and acids.                           | <b>Decomposition Products</b>   | May release COx, H2S, methacrylate monomers, alkyl mercaptans, smoke and irritating vapours when heated to decomposition. |

**Section 11. Toxicological Information**

|                                       |   |  |  |
|---------------------------------------|---|--|--|
| <b>Routes of Entry</b>                | Skin contact, eye contact, inhalation, and ingestion.   |  |  |
| <b>Acute Lethality</b>                | Acute toxicity information is not available for the product as a whole, therefore, data for some of the ingredients is provided below:<br>Acute oral toxicity (LD50): >5000 mg/kg (rat).<br>Acute dermal toxicity (LD50): >2000 mg/kg (rabbit).<br>Acute inhalation toxicity (LC50): >2500 mg/m <sup>3</sup> /4h (rat).   |  |  |
| <b>Chronic or Other Toxic Effects</b> | <p><b>Dermal Route:</b> Prolonged or repeated contact may defat and dry skin, and cause dermatitis. Short-term exposure is expected to cause only slight irritation, if any.</p> <p><b>Inhalation Route:</b> With its relatively low vapour pressure, this product is not expected to be inhaled in any appreciable quantity at ambient conditions. If heated to high temperatures or subjected to mechanical actions which produce vapours or mists, inhalation may cause respiratory tract irritation.</p> <p><b>Oral Route:</b> 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). May produce a laxative effect.</p> <p><b>Eye Irritation/Inflammation:</b> Short-term exposure is expected to cause only slight irritation, if any.</p> <p><b>Immunotoxicity:</b> Not available.</p> <p><b>Skin Sensitization:</b> Contact with this product is not expected to cause skin sensitization, based upon the available data and the known hazards of the components.</p> <p><b>Respiratory Tract Sensitization:</b> Contact with this product is not expected to cause respiratory tract sensitization, based upon the available data and the known hazards of the components.</p> <p><b>Mutagenic:</b> This product is not known to contain any components at <math>\geq 0.1\%</math> that have been shown to cause mutagenicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a mutagen.</p> <p><b>Reproductive Toxicity:</b> This product is not known to contain any components at <math>\geq 0.1\%</math> 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.</p> <p><b>Teratogenicity/Embryotoxicity:</b> This product is not known to contain any components at <math>\geq 0.1\%</math> that have been shown to cause teratogenicity and/or embryotoxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a teratogen/embryotoxin.</p> <p><b>Carcinogenicity (ACGIH):</b> This product is not known to contain any chemicals at reportable quantities that are listed as Group A1 or A2 carcinogens by ACGIH.</p> <p><b>Carcinogenicity (IARC):</b> This product is not known to contain any chemicals at reportable quantities that are listed as Group 1, 2A, or 2B carcinogens by IARC.</p> <p><b>Carcinogenicity (NTP):</b> This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.</p> <p><b>Carcinogenicity (IRIS):</b> This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by IRIS.</p> <p><b>Carcinogenicity (OSHA):</b> This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.</p> |  |  |
| <b>Other Considerations</b>           | No additional remark.   |  |  |

**Section 12. Ecological Information**

|                           |                       |  |                |
|---------------------------|-----------------------|--|----------------|
| <b>Environmental Fate</b> | Not available         | <b>Persistence/Bioaccumulation Potential</b> | Not available  |
| <b>BOD5 and COD</b>       | Not available.        | <b>Products of Biodegradation</b>            | Not available. |
| <b>Additional Remarks</b> | 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**

|                           |   |   |                 |
|---------------------------|---|---|-----------------|
| <b>TDG Classification</b> | Not a hazardous material for transport according to the TDG Regulations. (Canada) | <b>Special Provisions for Transport</b> | Not applicable. |
|---------------------------|---|---|-----------------|

**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.

|                         |                |                     |   |
|-------------------------|----------------|---------------------|---|
| <b>DSD/DPD (Europe)</b> | Not evaluated. | <b>HCS (U.S.A.)</b> | Does not meet the definitions of a health or physical hazard according to the OSHA - Hazard Communication Standard. (United States) |
|-------------------------|----------------|---------------------|---|

|                                  |  |                                 |  |
|----------------------------------|--|---------------------------------|--|
| <b>ADR (Europe) (Pictograms)</b> | NOT EVALUATED FOR EUROPEAN TRANSPORT<br>NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN. | <b>DOT (U.S.A) (Pictograms)</b> |  |
|----------------------------------|--|---------------------------------|--|

|                      |  |                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |  |   |            |   |  |  |                 |  |               |  |
|----------------------|--|-----------------|---|-------------|---|------------|---|---------------------|---|----------------------|--|--------|---|-------------|---|--|---|------------|---|--|--|-----------------|--|---------------|--|
| <b>HMIS (U.S.A.)</b> | <table border="1"> <tr> <td>Health Hazard</td> <td>1</td> </tr> <tr> <td>Fire Hazard</td> <td>1</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> <tr> <td>Personal Protection</td> <td>B</td> </tr> </table> | Health Hazard   | 1 | Fire Hazard | 1 | Reactivity | 0 | Personal Protection | B | <b>NFPA (U.S.A.)</b> | <table border="1"> <tr> <td>Health</td> <td>1</td> <td>Fire Hazard</td> <td>1</td> </tr> <tr> <td></td> <td>1</td> <td>Reactivity</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td>Specific hazard</td> <td></td> </tr> </table> | Health | 1 | Fire Hazard | 1 |  | 1 | Reactivity | 0 |  |  | Specific hazard |  | <b>Rating</b> | 0 Insignificant<br>1 Slight<br>2 Moderate<br>3 High<br>4 Extreme |
| Health Hazard        | 1  |                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |  |   |            |   |  |  |                 |  |               |  |
| Fire Hazard          | 1  |                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |  |   |            |   |  |  |                 |  |               |  |
| Reactivity           | 0  |                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |  |   |            |   |  |  |                 |  |               |  |
| Personal Protection  | B  |                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |  |   |            |   |  |  |                 |  |               |  |
| Health               | 1  | Fire Hazard     | 1 |             |   |            |   |                     |   |                      |  |        |   |             |   |  |   |            |   |  |  |                 |  |               |  |
|                      | 1  | Reactivity      | 0 |             |   |            |   |                     |   |                      |  |        |   |             |   |  |   |            |   |  |  |                 |  |               |  |
|                      |  | Specific hazard |   |             |   |            |   |                     |   |                      |  |        |   |             |   |  |   |            |   |  |  |                 |  |               |  |

**Section 16. Other Information**

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

**Glossary**

- |   |  |
|---|--|
| ACGIH - American Conference of Governmental Industrial Hygienists             | IRIS - Integrated Risk Information System                      |
| ADR - Agreement on Dangerous goods by Road (Europe)                           | LD50/LC50 - Lethal Dose/Concentration kill 50%                 |
| ASTM - American Society for Testing and Materials                             | LDLo/LCLo - Lowest Published Lethal Dose/Concentration         |
| BOD5 - Biological Oxygen Demand in 5 days                                     | NAERG'96 - North American Emergency Response Guide Book (1996) |
| CAN/CGA B149.2 Propane Installation Code                                      | NFPA - National Fire Prevention Association                    |
| CAS - Chemical Abstract Services  | NIOSH - National Institute for Occupational Safety & Health    |
| CEPA - Canadian Environmental Protection Act                                  | NPRI - National Pollutant Release Inventory                    |
| CERCLA - Comprehensive Environmental Response, Compensation and Liability Act | NSNR - New Substances Notification Regulations (Canada)        |
| CFR - Code of Federal Regulations   | NTP - National Toxicology Program                              |
| CHIP - Chemicals Hazard Information and Packaging Approved Supply List        | OSHA - Occupational Safety & Health Administration             |
| COD5 - Chemical Oxygen Demand in 5 days                                       | PEL - Permissible Exposure Limit                               |
| CPR - Controlled Products Regulations   | RCRA - Resource Conservation and Recovery Act                  |
| DOT - Department of Transport   | SARA - Superfund Amendments and Reorganization Act             |
| DSC - Dangerous Substances Classification and Labeling (Europe)               | SD - Single Dose   |
| DSD/DPD - Dangerous Substances or Dangerous Preparations                      | STEL - Short Term Exposure Limit (15 minutes)                  |
|   | TDG - Transportation Dangerous Goods (Canada)                  |
|   | TDLo/TCLo - Lowest Published Toxic Dose/Concentration          |

Directives (Europe)  
DSL - Domestic Substance List  
EEC/EU - European Economic Community/European Union  
EINECS - European Inventory of Existing Commercial Chemical Substances  
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

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**

The Canadian Controlled Products Regulations (CPR) (Under the Hazardous Products Act, part of the WHMIS legislation) only apply to WHMIS Controlled (i.e., hazardous) products. Therefore, the CPR and the 3-year update rule specified therein do not apply to WHMIS Non-Controlled products. Although this is true, customarily Petro-Canada reviews and updates Non-Controlled product MSDS if a customer requests such an update. These Non-Controlled product updates are given a lower priority than Controlled products but are handled as soon as practicable. If you would like to verify if the MSDS you have is the most current, or you require any further information, please contact:

Internet: [www.petro-canada.ca](http://www.petro-canada.ca)

**Lubricants:**

Western Canada, telephone: 1-800-661-1199; fax: (780) 464-9564  
Ontario & Central Canada, telephone: 1-800-268-5850 and (905) 822-4222; fax: 1-800-201-6285  
Quebec & Eastern Canada, telephone: 1-800-576-1686; fax: 800-201-6285

**For Product Safety Information: (905) 804-4752**

Prepared by Product Safety - TLM on 8/31/2004.

Data entry by Product Safety - RS.

*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.*



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

|   |  |                             |  |
|---|--|-----------------------------|--|
| <b>Section 1. Chemical Product and Company Identification</b> |  |                             |  |
| <b>Product Name</b>   | <b>JET B AVIATION TURBINE FUEL</b>   | <b>Code</b>                 | W219<br>SAP: 150, 151, 152   |
| <b>Synonym</b>  | Jet B; Jet B DI; JP-4; Jet F-40; NATO F-40; Turbine Fuel, Aviation, Wide Cut Type (CAN/CGSB-3.22). | <b>Validated on</b>         | 12/3/2001.   |
| <b>Manufacturer</b>   | PETRO-CANADA<br>P.O. Box 2844<br>Calgary, Alberta<br>T2P 3E3                                       | <b>In case of Emergency</b> | Petro-Canada: 403-296-3000<br>Canutec Transportation:<br>613-996-6666<br>Poison Control Centre: Consult local telephone directory for emergency number(s). |
| <b>Material Uses</b>  | Used as aviation turbine fuel. May contain a fuel system icing inhibitor.                          |                             |  |

|   |   |                |                                |                 |                 |
|---|---|----------------|--------------------------------|-----------------|-----------------|
| <b>Section 2. Composition and Information on Ingredients</b>  |   |                |                                |                 |                 |
|   |   |                | <b>Exposure Limits (ACGIH)</b> |                 |                 |
| <b>Name</b>   | <b>CAS #</b>  | <b>% (V/V)</b> | <b>TLV-TWA(8 h)</b>            | <b>STEL</b>     | <b>CEILING</b>  |
| 1) Complex mixture of petroleum hydrocarbons (C6-C14).  | 64741-41-9  | >99            | Not established                | Not established | Not established |
| 2) Benzene  | 71-43-2   | <0.5           | 0.5 ppm                        | 2.5 ppm         | Not established |
| 3) Fuel System Icing Inhibitor (FSII) (if added*):<br>Diethylene Glycol Monomethyl Ether                  | 111-77-3  | ≤0.15          | Not established                | Not established | Not established |
| 4) Anti-static, antioxidant and metal deactivator additives.  | Not applicable  | <0.1           | Not applicable                 | Not applicable  | Not applicable  |
| * Please note that Jet B DI, JP-4, Jet F-40 and NATO F-40 all contain Fuel System Icing Inhibitor (FSII). |   |                |                                |                 |                 |
| <b>Manufacturer</b>   | Not applicable  |                |                                |                 |                 |
| <b>Recommendation</b>   |   |                |                                |                 |                 |
| <b>Other Exposure Limits</b>  | Consult local, state, provincial or territory authorities for acceptable exposure limits. |                |                                |                 |                 |

|   |   |
|---|---|
| <b>Section 3. Hazards Identification.</b> |   |
| <b>Potential Health Effects</b>           | 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, unconsciousness and possibly death. Aspiration into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure. This product contains a cancer causing agent. For more information, refer to Section 11. |

|                                      |   |
|--------------------------------------|---|
| <b>Section 4. First Aid Measures</b> |   |
| <b>Eye Contact</b>                   | IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.  |
| <b>Skin Contact</b>                  | Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.                             |
| <b>Inhalation</b>                    | Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention. |
| <b>Ingestion</b>                     | DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.   |
| <b>Note to Physician</b>             | Not available   |

|   |   |  |  |
|---|---|--|--|
| <b>Section 5. Fire-fighting Measures</b>              |   |  |  |
| <b>Flammability</b>                                   | Flammable liquid (NFPA).  | <b>Flammable Limits</b>                                    | LOWER: 1.3% UPPER: 8% (NFPA)   |
| <b>Flash Points</b>                                   | CLOSED CUP: -31°C (-24°F) (NFPA)  | <b>Auto-Ignition Temperature</b>                           | 240°C (464°F) (NFPA)   |
| <b>Fire Hazards in Presence of Various Substances</b> | 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. | <b>Explosion Hazards in Presence of Various Substances</b> | Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire. |
| <b>Products of Combustion</b>                         | Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), sulphur oxides (SO <sub>x</sub> ), 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).

CAUTION: This product has a very low flash point: Use of water spray when fighting fire may be inefficient.

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.

SMALL FIRES: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

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.

Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

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**

NAERG96, GUIDE 128, Flammable Liquids (Non-polar/ Water-immiscible). ELIMINATE ALL IGNITION SOURCES. Avoid contact. Stop leak if without risk. Contain spill. Absorb with inert absorbents, dry clay, or diatomaceous earth. Avoid inhaling dust of diatomaceous earth for it may contain silica in very fine particle size, making this a potential respiratory hazard. Place used absorbent in closed metal containers for later disposal or burn absorbent in a suitable combustion chamber. DO NOT FLUSH TO SEWERS, STREAMS OR OTHER BODIES OF WATER. Check with applicable jurisdiction for specific disposal requirements of spilled material and empty containers. Notify the appropriate authorities immediately.

**Section 7. Handling and Storage****Handling**

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk. DO NOT reuse empty containers without commercial cleaning or reconditioning. Ground/bond line and equipment during pumping or transfer to avoid accumulation of static charge. DO NOT ingest. Do not breathe gas/vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately. Avoid contact with skin and eyes. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.

**Storage**

Store in tightly closed containers in cool, dry, isolated, well-ventilated area, and away from incompatibles. Ground all equipment containing material. Keep away from direct sunlight.

**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** Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered.

**Body** Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.

**Respiratory** Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.

**Hands** Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.

**Feet** Wear appropriate footwear to prevent product from coming in contact with feet and skin.

**Section 9. Physical and Chemical Properties**

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

Continued on Next Page

Available in French

**Section 10. Stability and Reactivity**

|  |   |                                 |  |
|--|---|---------------------------------|--|
| <b>Corrosivity</b>                                   | Not available   |                                 |  |
| <b>Stability</b>                                     | The product is stable under normal handling and storage conditions. | <b>Hazardous Polymerization</b> | Will not occur under normal working conditions.  |
| <b>Incompatible Substances / Conditions to Avoid</b> | Reactive with oxidizing agents and acids.                           | <b>Decomposition Products</b>   | May release CO <sub>x</sub> , NO <sub>x</sub> , SO <sub>x</sub> , aldehydes, ketones, smoke and irritating vapours when heated to decomposition. |

**Section 11. Toxicological Information**

|                                       |  |  |  |
|---------------------------------------|--|--|--|
| <b>Routes of Entry</b>                | Skin contact, eye contact, inhalation and ingestion.   |  |  |
| <b>Acute Lethality</b>                | <p><b>Based on toxicity of similar product.</b><br/>         Acute oral toxicity (LD50): &gt;20000 mg/kg (rat).<br/>         Acute dermal toxicity (LD50): &gt;5000 mg/kg (rabbit).<br/>         Acute inhalation toxicity (LC50): &gt;5000 mg/m<sup>3</sup>/4h (rat).</p> <p><b>Benzene</b><br/>         Acute oral toxicity (LD50): 930 mg/kg (rat).<br/>         Acute dermal toxicity (LD50): &gt;9400 mg/kg (rabbit).<br/>         Acute inhalation toxicity (LC50): 13200 ppm/4h (rat).</p> <p><b>Diethylene Glycol Monomethyl Ether</b><br/>         Acute oral toxicity (LD50): 4140-5180 mg/kg (rat).<br/>         Acute dermal toxicity (LD50): &gt;2000 mg/kg (rabbit).<br/>         Acute inhalation toxicity (LC50): &gt;50000 mg/m<sup>3</sup>/4h (rat).</p> |  |  |
| <b>Chronic or Other Toxic Effects</b> |  |  |  |
| Dermal Route:                         | Skin contact can cause irritation.   |  |  |
| Inhalation Route:                     | 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, unconsciousness and possibly death.   |  |  |
| Oral Route:                           | Aspiration into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure.   |  |  |
| Eye Irritation/Inflammation:          | Eye contact can cause irritation.  |  |  |
| Immunotoxicity:                       | Not available  |  |  |
| Skin Sensitization:                   | This product is not expected to be a skin sensitizer, based on the available data and the known hazards of the components.   |  |  |
| Respiratory Tract Sensitization:      | This product is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.  |  |  |
| Mutagenic:                            | Benzene is tumorigenic by RTECS criteria.  |  |  |
| Reproductive Toxicity:                | This product is not expected to be a reproductive hazard, based on the available data and the known hazards of the components.   |  |  |
| Teratogenicity/Embryotoxicity:        | Fetotoxicity, embryotoxicity and/or teratogenicity have been observed in rats or rabbits following oral or dermal administration, in the absence of maternal toxicity. [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):               | Not available  |  |  |
| Carcinogenicity (OSHA):               | Benzene is an OSHA known carcinogen.   |  |  |
| <b>Other Considerations</b>           | No additional remark.  |  |  |

**Section 12. Ecological Information**

|                           |                       |  |               |
|---------------------------|-----------------------|--|---------------|
| <b>Environmental Fate</b> | Not available         | <b>Persistence/Bioaccumulation Potential</b> | Not available |
| <b>BOD5 and COD</b>       | Not available         | <b>Products of Biodegradation</b>            | Not available |
| <b>Additional Remarks</b> | No additional remark. |  |               |

**Section 13. Disposal Considerations**

**Waste Disposal** Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations. Consult your local or regional authorities.

**Section 14. Transport Information**

|                           |  |   |                 |
|---------------------------|--|---|-----------------|
| <b>TDG Classification</b> | Currently: Fuel, aviation, turbine engine, 3, UN1863, PGII<br>As of August 15, 2002: FUEL, AVIATION, TURBINE ENGINE, 3, UN1863, PGII | <b>Special Provisions for Transport</b> | Not applicable. |
|---------------------------|--|---|-----------------|

**Section 15. Regulatory Information**

|                                  |  |                                 |  |                 |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
|----------------------------------|--|---------------------------------|--|-----------------|---|------------|---|---------------------|---|----------------------|---|--------|---|-------------|--------|-----------------|--|--|------------|--|----------|--|--|-----------------|--|------------|--|--|--|--|--------|--|--|--|--|-----------|
| <b>Other Regulations</b>         | 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).<br><br>All components of this formulation are listed on the US EPA-TSCA Inventory.<br><br>All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).<br><br>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.<br><br>Please contact Product Safety for more information. |                                 |  |                 |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
| <b>DSD/DPD (Europe)</b>          | Not evaluated.   | <b>HCS (U.S.A.)</b>             | CLASS: Contains material which may cause cancer.<br>CLASS: Flammable liquid having a flash point lower than 37.8°C (100°F).<br>CLASS: Toxic.<br>CLASS: Irritating substance.<br>CLASS: Target organ effects. |                 |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
| <b>ADR (Europe) (Pictograms)</b> | NOT EVALUATED FOR EUROPEAN TRANSPORT<br><br>NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.   | <b>DOT (U.S.A) (Pictograms)</b> |    |                 |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
| <b>HMIS (U.S.A.)</b>             | <table border="1"> <tr><td>Health Hazard</td><td>2*</td></tr> <tr><td>Fire Hazard</td><td>3</td></tr> <tr><td>Reactivity</td><td>0</td></tr> <tr><td>Personal Protection</td><td>H</td></tr> </table>  | Health Hazard                   | 2*   | Fire Hazard     | 3 | Reactivity | 0 | Personal Protection | H | <b>NFPA (U.S.A.)</b> | <table border="1"> <tr> <td>Health</td> <td></td> <td>Fire Hazard</td> <td>Rating</td> <td>0 Insignificant</td> </tr> <tr> <td></td> <td></td> <td>Reactivity</td> <td></td> <td>1 Slight</td> </tr> <tr> <td></td> <td></td> <td>Specific hazard</td> <td></td> <td>2 Moderate</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>3 High</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>4 Extreme</td> </tr> </table> | Health |  | Fire Hazard | Rating | 0 Insignificant |  |  | Reactivity |  | 1 Slight |  |  | Specific hazard |  | 2 Moderate |  |  |  |  | 3 High |  |  |  |  | 4 Extreme |
| Health Hazard                    | 2*   |                                 |  |                 |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
| Fire Hazard                      | 3  |                                 |  |                 |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
| Reactivity                       | 0  |                                 |  |                 |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
| Personal Protection              | H  |                                 |  |                 |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
| Health                           |   | Fire Hazard                     | Rating   | 0 Insignificant |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
|                                  |  | Reactivity                      |  | 1 Slight        |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
|                                  |  | Specific hazard                 |  | 2 Moderate      |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
|                                  |  |                                 |  | 3 High          |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |
|                                  |  |                                 |  | 4 Extreme       |   |            |   |                     |   |                      |   |        |   |             |        |                 |  |  |            |  |          |  |  |                 |  |            |  |  |  |  |        |  |  |  |  |           |

**Section 16. Other Information**

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

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

**For Copy of MSDS** Prepared by Product Safety - TAR on 12/3/2001.

Western Canada, telephone: 403-296-4158; fax: 403-296-6551  
Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228  
Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385

Data entry by Product Safety - JDW.

For Product Safety Information: (905) 804-4752

*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.*



# Material Safety Data Sheet

|   |                               |  |   |
|---|-------------------------------|--|---|
| <b>WHMIS (Pictograms)</b>   | <b>WHMIS (Classification)</b> | <b>Protective Clothing</b>   | <b>TDG (pictograms)</b>   |
|  | <b>B-3, D-2B</b>              |  |  |

|   |   |
|---|---|
| <b>Section 1. Chemical Product and Company Identification</b> |   |
| <b>Product Name</b>   | <b>DIESEL FUEL</b>  |
| <b>Synonym</b>  | Diesel 50, Diesel 50 LS, #1 Diesel, #1 Diesel LS, Diesel LC, Seasonal Diesel, Seasonal Diesel LS, Diesel AA, Domestic Marine Diesel, International marine Diesel, Seasonal Diesel Locomotive, Domestic Marine diesel LS, diesel -20°C (LS), LSD, Low Sulphur Diesel, dyed diesel, marked diesel, coloured diesel, Naval Distillate, Ultra Low Sulphur Diesel, ULS Diesel, Mining Diesel, Mining Diesel Special, Mining Diesel Special LS, High Flash Mining Diesel, Furnace Oil, Stove Oil. |
| <b>Manufacturer</b>   | PETRO-CANADA<br>P.O. Box 2844<br>Calgary, Alberta<br>T2P 3E3  |
| <b>Material Uses</b>  | Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining Diesel has a higher flash point requirement, for safe use in underground mines.  |
| <b>Code</b>   | W104, W293<br>SAP: 120, 121, 122, 287   |
| <b>Validated on</b>   | 2/6/2004.   |
| <b>In case of Emergency</b>                                   | Petro-Canada: 403-296-3000<br>Canutec Transportation:<br>613-996-6666<br>Poison Control Centre: Consult local telephone directory for emergency number(s).  |

|  |   |                |   |                 |                 |
|--|---|----------------|---|-----------------|-----------------|
| <b>Section 2. Composition and Information on Ingredients</b>                   |   |                |   |                 |                 |
|  |   |                | <i>Exposure Limits (ACGIH)</i>                  |                 |                 |
| <b>Name</b>  | <b>CAS #</b>  | <b>% (V/V)</b> | <b>TLV-TWA(8 h)</b>                             | <b>STEL</b>     | <b>CEILING</b>  |
| 1) Diesel oil.   | 68334-30-5  | >99.9          | 100 mg/m <sup>3</sup> (as total hydrocarbons) * | Not established | Not established |
| 2) Proprietary additives.  | Not available   | <0.1           | Not established                                 | Not established | Not established |
| Aromatic content is 50% maximum (benzene: nil).<br>Sulphur content is 0-0.50%. |   |                |   |                 |                 |
| <b>Manufacturer Recommendation</b>   | * Avoid prolonged or repeated skin contact to diesel fuels which can lead to dermal irritation and may be associated with an increased risk of skin cancer. |                |   |                 |                 |
| <b>Other Exposure Limits</b>   | Consult local, state, provincial or territory authorities for acceptable exposure limits.   |                |   |                 |                 |

|   |  |
|---|--|
| <b>Section 3. Hazards Identification.</b> |  |
| <b>Potential Health Effects</b>           | Combustible liquid. Exercise caution when handling this material. Contact with this product may cause skin and eye irritation. Prolonged or repeated contact may cause skin irritation, defatting, drying and dermatitis. Inhalation of this product may cause respiratory tract irritation and 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. Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. For more information refer to Section 11 of this MSDS. |

|                                      |   |
|--------------------------------------|---|
| <b>Section 4. First Aid Measures</b> |   |
| <b>Eye Contact</b>                   | IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.  |
| <b>Skin Contact</b>                  | Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.                             |
| <b>Inhalation</b>                    | Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention. |
| <b>Ingestion</b>                     | DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.   |
| <b>Note to Physician</b>             | Not available   |

**Section 5. Fire-fighting Measures**

|   |  |  |   |
|---|--|--|---|
| <b>Flammability</b>                                   | Class II - combustible liquid (NFPA).  | <b>Flammable Limits</b>                                    | LOWER: 0.7%, UPPER: 6% (NFPA)   |
| <b>Flash Points</b>                                   | Diesel Fuel: Closed Cup: >40°C (>104°F)<br>Marine Diesel Fuel: Closed Cup: >60°C (>140°F)<br>Mining Diesel: Closed Cup: 52°C (126°F)   | <b>Auto-Ignition Temperature</b>                           | 225°C (437°F)   |
| <b>Fire Hazards in Presence of Various Substances</b> | Flammable in presence of open flames, sparks, or 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.   | <b>Explosion Hazards in Presence of Various Substances</b> | Containers may explode in heat of fire. Do not cut, weld, heat, drill or pressurize empty container. Vapour explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. |
| <b>Products of Combustion</b>                         | Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H <sub>2</sub> S), water vapour (H <sub>2</sub> O), smoke and irritating vapours as products of incomplete combustion.<br>See Section 11 (Other Considerations) for information regarding the toxicity of the combustion products.   |  |   |
| <b>Fire Fighting Media and Instructions</b>           | <p>NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible).<br/>CAUTION: This product has a moderate flash point above 40°C: Use of water spray when fighting fire may be inefficient.</p> <p>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.</p> <p>SMALL FIRES: Dry chemical, CO<sub>2</sub>, 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.</p> <p>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 discoloration 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.</p> |  |   |

**Section 6. Accidental Release Measures**

|                                  |   |
|----------------------------------|---|
| <b>Material Release or Spill</b> | Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. IN THE EVENT OF A LARGE SPILL CONSIDER THE FOLLOWING CONTROL MEASURES: Extinguish all ignition sources. Stop leak if safe to do so. Ventilate area. Dike spilled material. Use appropriate inert absorbent material to absorb spilled product. Collect used absorbent for later disposal. Avoid contact with spilled material. Avoid breathing vapours or mists of material. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Evacuate non-essential personnel. Ensure clean-up personnel wear appropriate personal protective equipment. Ground and bond all equipment used to clean up the spilled material, as it may be a static accumulator. Notify appropriate authorities immediately. |
|----------------------------------|---|

**Section 7. Handling and Storage**

|                 |  |
|-----------------|--|
| <b>Handling</b> | COMBUSTIBLE MATERIAL. Handle with care. Avoid contact with any sources of ignition, flames, heat, and sparks. Avoid skin contact. Avoid eye contact. 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. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated. Avoid confined spaces and areas with poor ventilation. Ensure all equipment is grounded/bonded. Wear proper personal protective equipment (See Section 8). |
| <b>Storage</b>  | Store away from heat and sources of ignition. Store in dry, cool, well-ventilated area. Store away from incompatible and reactive materials (See section 5 and 10). Ensure the storage containers are grounded/bonded.   |

**Section 8. Exposure Controls/Personal Protection**

|                             |  |
|-----------------------------|--|
| <b>Engineering Controls</b> | 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. |
| <b>Personal Protection</b>  | <b>The selection of personal protective equipment varies, depending upon conditions of use.</b>  |
| <b>Eyes</b>                 | Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered.   |
| <b>Body</b>                 | Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.  |
| <b>Respiratory</b>          | Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.   |
| <b>Hands</b>                | Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.   |
| <b>Feet</b>                 | Wear appropriate footwear to prevent product from coming in contact with feet and skin.  |

**Section 9. Physical and Chemical Properties**

|                                      |  |                                      |   |
|--------------------------------------|--|--------------------------------------|---|
| <b>Physical State and Appearance</b> | Bright oily liquid.  | <b>Viscosity</b>                     | 1.3 - 4.1 cSt @ 40°C (104°F)  |
| <b>Colour</b>                        | Clear to yellow / brown (may be dyed for taxation purposes). | <b>Pour Point</b>                    | Variable, -50°C to 0°C (-58°F to -32°F)                             |
| <b>Odour</b>                         | Petroleum oil like.  | <b>Softening Point</b>               | Not applicable.   |
| <b>Odour Threshold</b>               | Not available  | <b>Dropping Point</b>                | Not applicable.   |
| <b>Boiling Point</b>                 | 150 - 371°C (302-700°F)                                      | <b>Penetration</b>                   | Not applicable.   |
| <b>Density</b>                       | 0.80 - 0.85 kg/L @ 15°C (59°F)                               | <b>Oil / Water Dist. Coefficient</b> | Not available   |
| <b>Vapour Density</b>                | 4.5 (Air = 1)  | <b>Ionicity (In water)</b>           | Not applicable.   |
| <b>Vapour Pressure</b>               | Not available  | <b>Dispersion Properties</b>         | Not available   |
| <b>Volatility</b>                    | Semivolatile to volatile.                                    | <b>Solubility</b>                    | Insoluble in cold water, soluble in non-polar hydrocarbon solvents. |

**Section 10. Stability and Reactivity**

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <b>Corrosivity</b>                                   | Not available   |                                 |   |
| <b>Stability</b>                                     | The product is stable under normal handling and storage conditions. | <b>Hazardous Polymerization</b> | Will not occur under normal working conditions.   |
| <b>Incompatible Substances / Conditions to Avoid</b> | Reactive with oxidizing agents and acids.                           | <b>Decomposition Products</b>   | May release COx, NOx, SOx, H2S, H2O, smoke and irritating vapours when heated to decomposition. |

**Section 11. Toxicological Information**

|                                       |   |  |  |
|---------------------------------------|---|--|--|
| <b>Routes of Entry</b>                | Skin contact, eye contact, inhalation, and ingestion.   |  |  |
| <b>Acute Lethality</b>                | Acute oral toxicity (LD50): 7500 mg/kg (rat).   |  |  |
| <b>Chronic or Other Toxic Effects</b> |   |  |  |
| Dermal Route:                         | This product contains a component (at $\geq 1\%$ ) that can cause skin irritation. Therefore, this product is considered to be a skin irritant. Prolonged or repeated contact may defat and dry skin, and cause dermatitis. (See Other Considerations)  |  |  |
| Inhalation Route:                     | Inhalation of this product may cause respiratory tract irritation. Inhalation 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 cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. 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. |  |  |
| Eye Irritation/Inflammation:          | This product contains a component (at $\geq 1\%$ ) that can cause eye irritation. Therefore, this product is considered to be an eye irritant.  |  |  |
| 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:                            | This product is not known to contain any components at $\geq 0.1\%$ that have been shown to cause mutagenicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a mutagen.   |  |  |
| Reproductive Toxicity:                | This product is not known to contain any components at $\geq 0.1\%$ 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 is not known to contain any components at $\geq 0.1\%$ that have been shown to cause teratogenicity and/or embryotoxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a teratogen/embryotoxin.   |  |  |
| Carcinogenicity (ACGIH):              | ACGIH A3: animal carcinogen. [Diesel oil] (See Other Considerations)  |  |  |
| Carcinogenicity (IARC):               | This product is not known to contain any chemicals at reportable quantities that are listed as Group 1, 2A, or 2B carcinogens by IARC.  |  |  |
| Carcinogenicity (NTP):                | This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.  |  |  |
| Carcinogenicity (IRIS):               | This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by IRIS.   |  |  |

|                                |  |
|--------------------------------|--|
| <b>Carcinogenicity (OSHA):</b> | This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.  |
| <b>Other Considerations</b>    | Avoid prolonged or repeated skin contact to diesel fuels which can lead to dermal irritation and may be associated with an increased risk of skin cancer.<br><br>Diesel engine exhaust particulate is probably carcinogenic to humans (IARC Group 2A). |

**Section 12. Ecological Information**

|                           |                       |  |               |
|---------------------------|-----------------------|--|---------------|
| <b>Environmental Fate</b> | Not available         | <b>Persistence/Bioaccumulation Potential</b> | Not available |
| <b>BOD5 and COD</b>       | Not available         | <b>Products of Biodegradation</b>            | Not available |
| <b>Additional Remarks</b> | No additional remark. |  |               |

**Section 13. Disposal Considerations**

|                       |  |
|-----------------------|--|
| <b>Waste Disposal</b> | 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**

|                           |  |   |  |
|---------------------------|--|---|--|
| <b>TDG Classification</b> | DIESEL FUEL, 3, UN1202, PGIII (CL-TDG) | <b>Special Provisions for Transport</b> | See Transportation of Dangerous Goods Regulations. |
|---------------------------|--|---|--|

**Section 15. Regulatory Information**

|   |  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
|---|--|---------------------------------|---|-------------|---|------------|---|---------------------|---|----------------------|--|--------|---|-------------|---|------------|---|---|--|--|--|--|--|--------|--|--|--|--|--|-----------------|--|--|--|--|--|----------|--|--|--|--|--|------------|--|--|--|--|--|--------|--|--|--|--|--|-----------|--|--|--|--|--|
| <b>Other Regulations</b>  | 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).<br><br>All components of this formulation are listed on the US EPA-TSCA Inventory.<br><br>All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).<br><br>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.<br><br>Please contact Product Safety for more information. |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| <b>DSD/DPD (Europe)</b>   | Not evaluated.   | <b>HCS (U.S.A.)</b>             | CLASS: Irritating substance.<br>CLASS: Target organ effects.<br>CLASS: Combustible liquid having a flash point between 37.8°C (100°F) and 93.3°C (200°F). |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| <b>ADR (Europe) (Pictograms)</b>  | NOT EVALUATED FOR EUROPEAN TRANSPORT<br>NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.   | <b>DOT (U.S.A) (Pictograms)</b> |    |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| <b>HMIS (U.S.A.)</b>  | <table border="1"> <tr> <td>Health Hazard</td> <td>2*</td> </tr> <tr> <td>Fire Hazard</td> <td>2</td> </tr> <tr> <td>Reactivity</td> <td>0</td> </tr> <tr> <td>Personal Protection</td> <td>H</td> </tr> </table>  | Health Hazard                   | 2*  | Fire Hazard | 2 | Reactivity | 0 | Personal Protection | H | <b>NFPA (U.S.A.)</b> | <table border="1"> <tr> <td>Health</td> <td>2</td> <td>Fire Hazard</td> <td>0</td> <td>Reactivity</td> <td>0</td> </tr> <tr> <td colspan="6" style="text-align: center;"> Specific hazard</td> </tr> <tr> <td colspan="6">Rating</td> </tr> <tr> <td colspan="6">0 Insignificant</td> </tr> <tr> <td colspan="6">1 Slight</td> </tr> <tr> <td colspan="6">2 Moderate</td> </tr> <tr> <td colspan="6">3 High</td> </tr> <tr> <td colspan="6">4 Extreme</td> </tr> </table> | Health | 2 | Fire Hazard | 0 | Reactivity | 0 |  Specific hazard |  |  |  |  |  | Rating |  |  |  |  |  | 0 Insignificant |  |  |  |  |  | 1 Slight |  |  |  |  |  | 2 Moderate |  |  |  |  |  | 3 High |  |  |  |  |  | 4 Extreme |  |  |  |  |  |
| Health Hazard   | 2*   |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| Fire Hazard   | 2  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| Reactivity  | 0  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| Personal Protection   | H  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| Health  | 2  | Fire Hazard                     | 0   | Reactivity  | 0 |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
|  Specific hazard |  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| Rating  |  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| 0 Insignificant   |  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| 1 Slight  |  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| 2 Moderate  |  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| 3 High  |  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |
| 4 Extreme   |  |                                 |   |             |   |            |   |                     |   |                      |  |        |   |             |   |            |   |   |  |  |  |  |  |        |  |  |  |  |  |                 |  |  |  |  |  |          |  |  |  |  |  |            |  |  |  |  |  |        |  |  |  |  |  |           |  |  |  |  |  |

**Section 16. Other Information**

|                   |   |
|-------------------|---|
| <b>References</b> | Available upon request.<br>* Marque de commerce de Petro-Canada - Trademark |
|-------------------|---|

**Glossary**

|   |  |
|---|--|
| ACGIH - American Conference of Governmental Industrial Hygienists             | IRIS - Integrated Risk Information System                      |
| ADR - Agreement on Dangerous goods by Road (Europe)                           | LD50/LC50 - Lethal Dose/Concentration kill 50%                 |
| ASTM - American Society for Testing and Materials (                           | LDLo/LCLo - Lowest Published Lethal Dose/Concentration         |
| BOD5 - Biological Oxygen Demand in 5 days                                     | NAERG'96 - North American Emergency Response Guide Book (1996) |
| CAN/CGA B149.2 Propane Installation Code                                      | NFPA - National Fire Prevention Association                    |
| CAS - Chemical Abstract Services  | NIOSH - National Institute for Occupational Safety & Health    |
| CEPA - Canadian Environmental Protection Act                                  | NPRI - National Pollutant Release Inventory                    |
| CERCLA - Comprehensive Environmental Response, Compensation and Liability Act | NSNR - New Substances Notification Regulations (Canada)        |
| CFR - Code of Federal Regulations   | NTP - National Toxicology Program                              |
| CHIP - Chemicals Hazard Information and Packaging Approved Supply List        | OSHA - Occupational Safety & Health Administration             |
| COD5 - Chemical Oxygen Demand in 5 days                                       | PEL - Permissible Exposure Limit                               |
| CPR - Controlled Products Regulations   | RCRA - Resource Conservation and Recovery Act                  |
| DOT - Department of Transport   | SARA - Superfund Amendments and Reorganization Act             |
| DSCL - Dangerous Substances Classification and Labeling (Europe)              | SD - Single Dose   |
|   | STEL - Short Term Exposure Limit (15 minutes)                  |

|  |  |
|--|--|
| DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe) | TDG - Transportation Dangerous Goods (Canada)                                  |
| DSL - Domestic Substance List  | TDL <sub>o</sub> /TCL <sub>o</sub> - Lowest Published Toxic Dose/Concentration |
| EEC/EU - European Economic Community/European Union                          | TL <sub>m</sub> - Median Tolerance Limit                                       |
| EINECS - European Inventory of Existing Commercial Chemical Substances       | TLV-TWA - Threshold Limit Value-Time Weighted Average                          |
| EPCRA - Emergency Planning and Community Right to Know Act                   | TSCA - Toxic Substances Control Act  |
| FDA - Food and Drug Administration   | USEPA - United States Environmental Protection Agency                          |
| FIFRA - Federal Insecticide, Fungicide and Rodenticide Act                   | USP - United States Pharmacopoeia  |
| HCS - Hazardous Communication System   | WHMIS - Workplace Hazardous Material Information System                        |
| HMIS - Hazardous Material Information System                                 |  |
| IARC - International Agency for Research on Cancer                           |  |

**For Copy of MSDS**Internet: [www.petro-canada.ca/msds](http://www.petro-canada.ca/msds)

Western Canada, Ontario &amp; Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228

Quebec &amp; Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385

For Product Safety Information: (905) 804-4752

Prepared by Product Safety - JDW on 2/6/2004.

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.*