Section I. Chemical Product and Company Identification

Product Name: 2-CYCLE MOTOR OIL

Synonym: Not available

Manufacturer: PETRO-CANADA
P.O. Box 2844
Calgary, Alberta
T2P 3E3

Material Uses: A low ash 2-cycle engine oil designed to lubricate conventional pre-mixed fuel/oil as well as oil injection lubricated engines powering air-cooled two-stroke cycle engines.

In case of Emergency:
Petro-Canada: 403-296-3000
Canutec Transportation: 613-996-6666
Poison Control Centre: Consult local telephone directory for emergency number(s).

Section II. Composition and Information on Ingredients

Name | CAS # | % (W/W) | TLV-TWA (8 h) | STEL | CEILING
--- | --- | --- | --- | --- | ---
1) Severely hydrotreated paraffinic oil and additives. | Mixture | 100 | 5 mg/m³ (oil mist) | 10 mg/m³ (oil mist) | Not established

Other Exposure Limits: Consult local, state, provincial or territory authorities for acceptable exposure limits.

Section III. Hazards Identification

Potential Health Effects: Non irritating to slight transient irritation to skin and eyes, but no permanent damage. Relatively non-toxic via ingestion. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures, or mechanical actions which may produce vapours or mists, inhalation of product may cause irritation of the breathing passages. For more information, refer to Section 11.

Eye Contact: IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.

Skin Contact: Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.

Inhalation: 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.

Ingestion: DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.

Note to Physician: Not available

Section IV. First Aid Measures

Flammability: May be combustible at high temperature.

Flammable Limits: Not available

Flash Points: OPEN CUP: 152°C (305.6°F) (Cleveland)

Auto-Ignition Temperature: Not available

Fire Hazards in Presence of Various Substances: Low fire hazard. This material must be heated before ignition will occur.

Explosion Hazards in Presence of Various Substances: Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire.

Products of Combustion: Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), smoke and irritating vapours as products of incomplete combustion.
Fire Fighting Media and Instructions

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 discoloration 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 CO2. 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 VI. Accidental Release Measures

Material Release or Spill

NAERG96, GUIDE 171, Substances (low to moderate hazard). 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 VII. Handling and Storage

Handling

Avoid inhalation and skin contact especially when handling used oil. Keep away from sources of ignition. DO NOT reuse empty containers without commercial cleaning or reconditioning. 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.

Section VIII. 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 IX. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State and Appearance</th>
<th>Viscous liquid.</th>
<th>Viscosity</th>
<th>21.1 cSt @ 40°C (104°F), 4.5 cSt @ 100°C (212°F), VI=127</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Blue-green</td>
<td>Pour Point</td>
<td>&lt;-54°C</td>
</tr>
<tr>
<td>Odour</td>
<td>Hydrocarbon.</td>
<td>Softening Point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>Not available</td>
<td>Dropping Point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
<td>Penetration</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Density</td>
<td>0.88 kg/L @ 15°C (59°F).</td>
<td>Oil / Water Dist. Coef.</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour Density</td>
<td>Not available</td>
<td>Ionicity (in water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Negligible at ambient temperature and pressure.</td>
<td>Dispersion Properties</td>
<td>Not available</td>
</tr>
<tr>
<td>Volatility</td>
<td>Non-volatile.</td>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
</tbody>
</table>

Section X. Stability and Reactivity

| Corrosivity                    | Not available |
| Stability                      | The product is stable under normal handling and storage conditions. |
| Hazardous Polymerization       | Will not occur under normal working conditions. |
| Incompatible Substances / Conditions to Avoid | Reactive with oxidizing agents, acids and reducing agents. |
| Decomposition Products         | May release COx, NOx, methacrylate monomers, aldehydes, smoke and irritating vapours when heated to decomposition. |
Section XI. Toxicological Information

Routes of Entry
Skin contact, eye contact, inhalation and ingestion.

Acute Lethality
Based on toxicity of components.
Acute oral toxicity (LD50): >5000 mg/kg (rat).
Acute dermal toxicity (LD50): >2000 mg/kg (rabbit).
Acute inhalation toxicity (LC50): >2500 mg/m³/4h (rat).

Chronic or Other Toxic Effects

Dermal Route: Prolonged or repeated contact may cause skin irritation characterized by dermatitis or oil acne.

Inhalation Route: Negligible breathing hazard at normal temperatures (up to 38°C) or recommended blending temperatures. Elevated temperatures or mechanical action may form vapours, mists or fumes. Inhalation of oil mists or vapours from hot oil may cause irritation of the upper respiratory tract.

Oral Route: Low toxicity; has laxative effect.

Eye Irritation/Inflammation: Repeated or prolonged contact may cause transient irritation, but no permanent damage.

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: Based on actual test results of base oils and results of similar products, severely hydrotreated base oils give negative results when tested for: (a) Salmonella Typhimurium TA98 using the Modified Ames Assay for Petroleum Product; (b) Salmonella-Escherichia coli/Mammalian-Microsome Reverse Mutation Assay (Ames test) with a Confirmatory Assay; (c) Structural Chromosomal Aberrations in Chinese Hamster Ovary (CHO) Cells.

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: This product is not expected to be a teratogen or an embryotoxin, based on the available data and the known hazards of the components.

Carcinogenicity (ACGIH): This product is not known to contain any chemicals at reportable quantities that are listed as A1 or A2 carcinogens by ACGIH.

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): Not available

Carcinogenicity (OSHA): This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.

Other Considerations
No additional remark.

Section XII. Ecological Information

Environmental Fate
Not available

Persistance/Bioaccumulation Potential
Not available

BOD5 and COD
Not available

Products of Biodegradation
Not available

Additional Remarks
No additional remark.

Section XIII. Disposal Considerations

Waste Disposal
Spent/used/waste oil may meet the requirements of a hazardous waste. Consult your local or regional authorities. 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.

Section XIV. Transport Information

DOT Classification
Not a DOT controlled material (United States).

Special Provisions for Transport
Not applicable.

Section XV. 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.

Continued on Next Page

Available in French
Please contact Product Safety for more information.

<table>
<thead>
<tr>
<th>DSD/DPD (EEC)</th>
<th>Not classified under the Dangerous Substances or Dangerous Preparations Directives.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHMIS (Canada)</td>
<td>Not controlled</td>
</tr>
</tbody>
</table>

### Section XVI. Other Information

**References**
Available upon request.

* Marque de commerce de Petro-Canada - Trademark

<table>
<thead>
<tr>
<th>Glossary</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH - American Conference of Governmental Industrial Hygienists</td>
<td>IRIS - Integrated Risk Information System</td>
</tr>
<tr>
<td>ADR - Agreement on Dangerous goods by Road (Europe)</td>
<td>LD50/LC50 - Lethal Dose/Concentration kill 50%</td>
</tr>
<tr>
<td>ASTM - American Society for Testing and Materials</td>
<td>LDLo/LCLo - Lowest Published Lethal Dose/Concentration</td>
</tr>
<tr>
<td>CAN/CGA B149.2 Propane Installation Code</td>
<td>NFPA - National Fire Prevention Association</td>
</tr>
<tr>
<td>CAS - Chemical Abstract Services</td>
<td>NIOSH - National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>CEPA - Canadian Environmental Protection Act</td>
<td>NPRI - National Pollutant Release Inventory</td>
</tr>
<tr>
<td>CERCLA - Comprehensive Environmental Response, Compensation and Liability Act</td>
<td>NSNR - New Substances Notification Regulations (Canada)</td>
</tr>
<tr>
<td>CFR - Code of Federal Regulations</td>
<td>NTP - National Toxicology Program</td>
</tr>
<tr>
<td>CHIP - Chemical Hazard Information and Packaging Approved Supply List</td>
<td>PEL - Permissible Exposure Limit</td>
</tr>
<tr>
<td>CODB - Chemical Oxygen Demand in 5 days</td>
<td>RCRA - Resource Conservation and Recovery Act</td>
</tr>
<tr>
<td>CPR - Controlled Products Regulations</td>
<td>SARA - Superfund Amendments and Reorganization Act</td>
</tr>
<tr>
<td>DOT - Department of Transport</td>
<td>SD - Single Dose</td>
</tr>
<tr>
<td>DSCL - Dangerous Substances Classification and Labeling (Europe)</td>
<td>STEL - Short Term Exposure Limit (15 minutes)</td>
</tr>
<tr>
<td>DSD/DPD - Dangerous Substances or Dangerous Preparations Directives</td>
<td>TDG - Transportation Dangerous Goods (Canada)</td>
</tr>
<tr>
<td>(Europe)</td>
<td>TDL0/TCL0 - Lowest Published Toxic Dose/Concentration</td>
</tr>
<tr>
<td>DSL - Domestic Substance List</td>
<td>TLm - Median Tolerance Limit</td>
</tr>
<tr>
<td>EEC/EU - European Economic Community/European Union</td>
<td>TLV-TWA - Threshold Limit Value-Time Weighted Average</td>
</tr>
<tr>
<td>EINECS - European Inventory of Existing Commercial Chemical Substances</td>
<td>USEPA - United States Environmental Protection Agency</td>
</tr>
<tr>
<td>EPCRA - Emergency Planning and Community Right to Know Act</td>
<td>USP - United States Pharmacopoeia</td>
</tr>
<tr>
<td>FDA - Food and Drug Administration</td>
<td>WHMIS - Workplace Hazardous Material Information System</td>
</tr>
<tr>
<td>FIFRA - Federal Insecticide, Fungicide and Rodenticide Act</td>
<td></td>
</tr>
<tr>
<td>HCS - Hazardous Communication System</td>
<td></td>
</tr>
<tr>
<td>HMIS - Hazardous Material Information System</td>
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<tr>
<td>IARC - International Agency for Research on Cancer</td>
<td></td>
</tr>
</tbody>
</table>

**For Copy of MSDS**

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


Data entry by Product Safety - JDW.

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