



NFPA	HMIS (U.S.A.)	Rating	Protective Clothing	DOT (pictograms)
	Health Hazard (1)	0 Insignificant		
	Fire Hazard (1)	1 Slight		
	Reactivity (0)	2 Moderate		
	Personal Protection (B)	3 High		
		4 Extreme		

Section I. Chemical Product and Company Identification	
Product Name	PRODURO TO-4+ 60 TRANSMISSION OIL
Synonym	Not available
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3
Material Uses	Multipurpose transmission and final drive fluids intended for use where Caterpillar TO-4 quality oils are recommended.
Code	PD460
DSL	See Section 15
TSCA	See Section 15
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)	Exposure Limits (ACGIH)		
			TLV-TWA(8 h)	STEL	CEILING
1) Mixture of severely hydrotreated and hydrocracked and/or solvent-refined base oil (petroleum).	The base oil may be a mixture of the following CAS#s: 8042-47-5, 64741-95-3, 64742-01-4, 64742-46-7, 64742-52-5, 64742-54-7, 64742-62-7, 72623-83-7, 72623-84-8, 72623-85-9, 72623-86-0, 72623-87-1, 178603-64-0, 178603-65-1, 178603-66-2, 445411-73-4	-	5 mg/m ³ (oil mist)	10 mg/m ³ (oil mist)	Not established
2) Other proprietary, non-hazardous additives.	Mixture	-	Not applicable	Not applicable	Not applicable
Manufacturer Recommendation	Not applicable				
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

Section III. Hazards Identification.	
Potential Health Effects	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.

Section IV. First Aid Measures	
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 V. Fire-fighting Measures

Flammability	May be combustible at high temperature.	Flammable Limits	Not available
Flash Points	OPEN CUP: 253°C (487°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), 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 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 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	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.
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Section VII. Handling and Storage

Handling	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.
Storage	Store away from incompatible and reactive materials (See section 5 and 10). Keep container tightly closed. Store in dry, cool, well-ventilated area.

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 - <i>The selection of personal protective equipment varies, depending upon conditions of use.</i>	
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

Physical State and Appearance	Viscous liquid.	Viscosity	363.0 cSt @ 40°C (104°F), 25.5 cSt @ 100°C (212°F), VI=97
Colour	Amber.	Pour Point	-12°C (10°F)
Odour	Hydrocarbon.	Softening Point	Not applicable.
Odour Threshold	Not available	Dropping Point	Not applicable.
Boiling Point	Not available	Penetration	Not applicable.
Density	0.8985 kg/L @ 15°C (59°F).	Oil / Water Dist. Coeff.	Not available
Vapour Density	Not available	Ionicity (in water)	Not available
Vapour Pressure	Negligible at ambient temperature and pressure.	Dispersion Properties	Not available
Volatility	Non-volatile.	Solubility	Insoluble in water.

Section X. Stability and Reactivity

Corrosivity	Copper corrosion, 3h, 100°C (ASTM D0130): 1a		
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 and acids.	Decomposition Products	May release COx, H2S, POx, ZnOx, CaOx, methacrylate monomers, aldehydes, alkyl mercaptans, sulfides, smoke and irritating vapours when heated to decomposition.

Section XI. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation and ingestion.		
Acute Lethality	<p>Acute toxicity information is not available for the product as a whole, therefore, data for some of the ingredients is provided below:</p> <p>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)</p>		
Chronic or Other Toxic Effects	<p>Dermal Route: 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>Inhalation Route: With its relatively low vapour pressure, this product is not expected 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>Oral Route: Ingestion of this product may lead to aspiration of the liquid, especially if vomiting occurs. This may result in chemical pneumonitis (inflammation of the lungs) and/or pulmonary edema (an accumulation of fluid in the lungs). May produce a laxative effect.</p> <p>Eye Irritation/Inflammation: Short-term exposure is expected to cause only slight irritation, if any.</p> <p>Immunotoxicity: Not available</p> <p>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.</p> <p>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.</p> <p>Mutagenic: This product is not known to contain any components at >= 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.</p> <p>Reproductive Toxicity: This product is not known to contain any components at >= 0.1% that have been shown to cause reproductive toxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a reproductive toxin.</p> <p>Teratogenicity/Embryotoxicity: This product is not known to contain any components at >= 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.</p> <p>Carcinogenicity (ACGIH): 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>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.</p> <p>Carcinogenicity (NTP): This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.</p> <p>Carcinogenicity (IRIS): This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by IRIS.</p> <p>Carcinogenicity (OSHA): This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.</p>		
Other Considerations	No additional remark.		

Section XII. Ecological Information

Environmental Fate	Not available	Persistence/ 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 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 XIV. Transport Information

DOT Classification	Not a hazardous material for transport according to the requirements of the DOT. (United States)	Special Provisions for Transport	Not applicable.
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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.

Please contact Product Safety for more information.

DSD/DPD (EEC)	Not classified under the Dangerous Substances or Dangerous Preparations Directives.	WHMIS (Canada)	Not controlled.
ADR (Europe) (Pictograms)	NOT EVALUATED FOR EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.	TDG (Canada) (Pictograms)	

Section XVI. 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
DSCL - Dangerous Substances Classification and Labeling (Europe)	SD - Single Dose
DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)	STEL - Short Term Exposure Limit (15 minutes)
DSL - Domestic Substance List	TDG - Transportation Dangerous Goods (Canada)
EEC/EU - European Economic Community/European Union	TDLo/TCLo - Lowest Published Toxic Dose/Concentration
EINECS - European Inventory of Existing Commercial Chemical Substances	TLM - Median Tolerance Limit
EPCRA - Emergency Planning and Community Right to Know Act	TLV-TWA - Threshold Limit Value-Time Weighted Average
FDA - Food and Drug Administration	TSCA - Toxic Substances Control Act
FIFRA - Federal Insecticide, Fungicide and Rodenticide Act	USEPA - United States Environmental Protection Agency
HCS - Hazardous Communication System	USP - United States Pharmacopoeia
HMIS - Hazardous Material Information System	WHMIS - Workplace Hazardous Material Information System
IARC - International Agency for Research on Cancer	

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/msds

Lubricants:

Prepared by Product Safety - JDW on 9/30/2003.

Data entry by Product Safety - RS.

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

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