





Material Safety Data Sheet

NFPA	HMIS (U.S.A.)	Rating	Protective Clothing	DOT (pictograms)
	Health Hazard (2*) Fire Hazard (1) Reactivity (1) Personal Protection (B)	0 Insignificant 1 Slight 2 Moderate 3 High 4 Extreme		Not evaluated for transport Non évalué pour le transport

Section I. Chemical Product and Company Identification

Product Name	API MODIFIED THREAD COMPOUND	Code	650-775, THRED
Synonym	Not available	DSL	See Section 15
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	TSCA	See Section 15
Material Uses	API Modified Thread Compound is used in drilling operations for the lubrication of casing, tubing, and line pipe, as protection for threads and as a sealant against drilling fluids.	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

			Exposure Limits (ACGIH)		
Name	CAS #	% (Wt)	TLV-TWA(8 h)	STEL	CEILING
Natural Graphite	7782-42-5	≤20	2.0 mg/m ³ (Respirable fraction)	Not established	Not established
Lead, elemental	7439-92-1	≤30	0.05 mg/m ³	Not established	Not established
Lime	1305-78-8	≤10	2 mg/m ³	Not established	Not established
Copper	7440-50-8	≤10	1 mg/m ³ (dust and mist as Cu)	Not established	Not established
Manufacturer Recommendation	Consult local, state, provincial or territory authorities for acceptable exposure limits. This product is not expected to form a mist based on its properties and expected use.				
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

Section III. Hazards Identification.

Potential Health Effects	Contact with this product may cause skin and eye irritation. May cause teratogenicity/embryotoxicity. May cause cancer. May cause damage to reproductive organs. 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. May produce a laxative effect. This product contains an ingredient or ingredients, which have been shown to cause chronic toxic effects. For more information refer to Section 11 of this MSDS.
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Section IV. First Aid Measures

Eye Contact	Avoid direct contact. Quickly and gently blot or brush away chemical. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes or until the chemical is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately.
Skin Contact	Avoid direct contact. Wear chemical resistant protective clothing if necessary. Quickly and gently, blot or brush away excess chemical. Wash gently and thoroughly with warm water and non-abrasive soap for 15-20 minutes or until chemical is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g., watch bands, belts, etc.). Obtain medical attention immediately. Completely decontaminate clothing, shoes and leather goods before reuse or discard. High pressure grease gun is capable of injecting grease through the skin. Grease gun injuries require immediate physician assessment.
Inhalation	Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of contamination or move victim to fresh air.
Ingestion	NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 240 to 300 mL (8 to 10 oz) of water to dilute material in stomach. If vomiting occurs naturally, rinse mouth and repeat administration of water. Obtain medical attention immediately.
Note to Physician	Not available

Section V. Fire-fighting Measures

Flammability	Not flammable at ambient temperatures.	Flammable Limits	LOWER: 0.9% UPPER: 7%
Flash Points	Mineral Oil Blend: OPEN CUP: 250°C (482°F) (Cleveland)	Auto-Ignition Temperature	>260°C (500°F)
Fire Hazards in Presence of Various Substances	Not available	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, CO ₂), smoke and irritating vapours as products of incomplete combustion.		
Fire Fighting Media and Instructions	NAERG2004, 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 CO ₂ . 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	IN THE EVENT OF A LARGE SPILL CONSIDER THE FOLLOWING CONTROL MEASURES: Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. Extinguish all ignition sources. Ensure clean-up personnel wear appropriate personal protective equipment. Stop leak if safe to do so. Use appropriate inert absorbent material to absorb spilled product. Collect used absorbent for later disposal. Avoid breathing vapours or mists of material. Avoid contact with spilled material. Ventilate area. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Do not allow spilled material to enter sewer systems as vapours may accumulate and may cause an explosion/fire hazard. 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 eye contact. Avoid skin contact. Avoid inhalation of product vapours or mists. Wear proper personal protective equipment (See Section 8). Avoid contact with any incompatible or reactive materials. 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. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product.
Storage	Store away from incompatible and reactive materials (See section 5 and 10). Store away from heat and sources of ignition. 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 -	The selection of personal protective equipment varies, depending upon conditions of use.
Eyes	As a minimum, safety glasses with side shields should be worn when handling this material.
Body	If this material may come in contact with the body during handling and use, we recommend wearing appropriate protective clothing to prevent contact with the skin. (Contact your PPE provider for more information.)
Respiratory	A minimum of NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister with a dust, fume or mist filter (R, or P series) may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. A NIOSH-approved positive-pressure, air-supplied respirator or self-contained breathing apparatus may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.
Hands	If this material may come in contact with the hands during handling and use, we recommend wearing gloves of the following material(s): nitrile, neoprene. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.
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	Paste.	Viscosity	Mineral Oil Blend: 103.3 cSt @ 40°C, 11.50 cSt @ 100°C, VI=98
Colour	Brown-Black.	Pour Point	Mineral Oil Blend: -15°C (5°F)
Odour	Light petroleum odour.	Softening Point	Not available
Odour Threshold	Not available	Dropping Point	138°C
Boiling Point	>274°C (525.2°F)	Penetration	325 (60 strokes)
Specific Gravity	Mineral Oil Blend: 0.8741 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	Not available	Solubility	Insoluble in water.

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 and acids.	Decomposition Products	May release COx, smoke and irritating vapours when heated to decomposition.

Section XI. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation and ingestion.
Acute Lethality	Not available
Chronic or Other Toxic Effects	
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.
Inhalation Route:	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.
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.
Eye Irritation/Inflammation:	Short-term exposure is expected to cause only slight irritation, if any.
Immunotoxicity:	Not available
Skin Sensitization:	Contact with this product is not expected to cause skin sensitization, based upon the available data and the known hazards of the components.
Respiratory Tract Sensitization:	Contact with this product is not expected to cause respiratory tract sensitization, based upon the available data and the known hazards of the components.
Mutagenic:	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 contains a component(s) at $\geq 0.1\%$ that has been shown to cause reproductive toxicity. Therefore, this product is considered to be a reproductive toxin. (Lead)
Teratogenicity/Embryotoxicity:	This product contains a component(s) at $\geq 0.1\%$ that has been shown to cause teratogenicity and/or embryotoxicity in laboratory tests. Therefore, this product is considered to be a teratogen/embryotoxin. (Lead acetate)
Carcinogenicity (ACGIH):	This product contains the following chemical(s) at $\geq 0.1\%$ that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Considered to be A3 by the ACGIH. Lead, 7439-92-1)
Carcinogenicity (IARC):	This product contains the following chemical(s) at $\geq 0.1\%$ that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Considered to be carcinogenic to humans (group 2B) by IARC. Lead, 7439-92-1)
Carcinogenicity (NTP):	This product contains the following chemical(s) at $\geq 0.1\%$ that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Reasonably anticipated to be a human carcinogen according to NTP. Lead, 7439-92-1)
Carcinogenicity (IRIS):	This product contains the following chemical(s) at $\geq 0.1\%$ that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Considered to be carcinogenic by IRIS. Lead, 7439-92-1)
Carcinogenicity (OSHA):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.
Other Considerations	This product contains a component(s) at $\geq 1.0\%$ that has been shown to cause chronic toxic effects. Therefore, this product is considered to be a chronic toxin. (Lead)

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.
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Section XIV. Transport Information

DOT Classification	Not evaluated.	Special Provisions for Transport	Not applicable
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Section XV. Regulatory Information

Other Regulations	<p>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).</p> <p>All components of this formulation are listed on the US EPA-TSCA Inventory.</p> <p>All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).</p> <p>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.</p> <p>Please contact Product Safety for more information.</p>		
DSD/DPD (EEC)	<p>R61 - May cause harm to the unborn child. R20/22 - Harmful by inhalation and if swallowed. R33 - Danger of cumulative effects. R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R62 - Possible risk of impaired fertility.</p> <p>S53 - Avoid exposure - Obtain special instructions before use. S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S60 - This material and its container must be disposed of as hazardous waste. S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.</p>	WHMIS (Canada)	D-2A, D-2B
ADR (Europe) (Pictograms)	<p>NOT EVALUATED FOR EUROPEAN TRANSPORT</p> <p>NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.</p>	TDG (Canada) (Pictograms)	 

Section XVI. Other Information

References	<p>Available upon request.</p> <p>* Marque de commerce de Petro-Canada - Trademark</p>		
Glossary	<p>ACGIH - American Conference of Governmental Industrial Hygienists ADR - Agreement on Dangerous goods by Road (Europe) ASTM - American Society for Testing and Materials BOD5 - Biological Oxygen Demand in 5 days CAN/CGA B149.2 Propane Installation Code CAS - Chemical Abstract Services CEPA - Canadian Environmental Protection Act CERCLA - Comprehensive Environmental Response, Compensation and Liability Act CFR - Code of Federal Regulations CHIP - Chemicals Hazard Information and Packaging Approved Supply List CNS - Central Nervous System</p> <p>IRIS - Integrated Risk Information System LD50/LC50 - Lethal Dose/Concentration kill 50% LDLo/LCLo - Lowest Published Lethal Dose/Concentration NAERG/96 - North American Emergency Response Guide Book (1996) NFPA - National Fire Prevention Association NIOSH - National Institute for Occupational Safety & Health NPRI - National Pollutant Release Inventory NSNR - New Substances Notification Regulations (Canada) NTP - National Toxicology Program OSHA - Occupational Safety & Health Administration PEL - Permissible Exposure Limit RCRA - Resource Conservation and Recovery Act RTECS - Registry of Toxic Effects of Chemical Substances</p>		

COD5 - Chemical Oxygen Demand in 5 days
 CPR - Controlled Products Regulations
 DOT - Department of Transport
 DSCL - Dangerous Substances Classification and Labeling (Europe)
 DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)
 DSL - Domestic Substance List
 EEC/EU - European Economic Community/European Union
 EINECS - European Inventory of Existing Commercial Chemical Substances
 EPA - Environmental Protection Agency
 EPCRA - Emergency Planning and Community Right to Know Act
 FDA - Food and Drug Administration
 FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
 HCS - Hazard Communication Standard
 HMIS - Hazardous Material Information System
 IARC - International Agency for Research on Cancer

SARA - Superfund Amendments and Reorganization Act
 SD - Single Dose
 STEL - Short Term Exposure Limit (15 minutes)
 TDG - Transportation Dangerous Goods (Canada)
 TDLo/TCLo - Lowest Published Toxic Dose/Concentration
 TLm - Median Tolerance Limit
 TLV-TWA - Threshold Limit Value-Time Weighted Average
 TSCA - Toxic Substances Control Act
 USEPA - United States Environmental Protection Agency
 USP - United States Pharmacopoeia
 WHMIS - Workplace Hazardous Material Information System

**Information
Contact**

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Prepared by Product Safety - JDW on 1/30/2006.

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