

Material Safety Data Sheet

PETRO-THERM



1. Product and company identification

- Common name** : PETRO-THERM
Code : PTHERM, 490-189
Material uses : This product is a heat transfer oil for medium temperature, liquid-phase heating systems.
Manufacturer : PETRO-CANADA
P.O. Box 2844
Calgary, Alberta
T2P 3E3
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).

2. Hazards identification

- Physical state** : Viscous liquid.
Odor : Hydrocarbon.
OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Emergency overview : No specific hazard.
Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects
Eyes : Slightly irritating to the eyes.
Skin : Slightly irritating to the skin.
Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Medical conditions aggravated by over-exposure : Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated skin exposure can produce local skin destruction or dermatitis.

See toxicological information (section 11)

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	Mixture	-

The base oil may be a mixture of the following CAS#s: 8042-47-5, 64742-46-7, 64742-52-5, 64742-54-7, 72623-84-8, 72623-85-9, 72623-86-0, 72623-87-1, 178603-64-0, 178603-65-1, 178603-66-2, 445411-73-4

4. First aid measures

- Eye contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin contact : Wash skin thoroughly with soap and water or use recognized skin cleanser. Get medical attention if irritation occurs. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Ingestion : Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If potentially dangerous quantities of this material have been swallowed, call a physician immediately.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5 . Fire-fighting measures

- Flammability of the product** : May be combustible at high temperature.
- Products of combustion** : Carbon oxides (CO, CO₂), nitrogen oxides (NO_x), smoke and irritating vapours as products of incomplete combustion.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : In a fire or if heated, a pressure increase will occur and the container may burst. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Special remarks on fire hazards** : Low fire hazard. This material must be heated before ignition will occur.
- Special remarks on explosion hazards** : Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Keep away from sources of ignition. Empty containers pose a fire risk. Evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles.
- Storage** : Keep container tightly closed. Store away from incompatible materials (see section 10). Keep container in a cool, well-ventilated area.

8 . Exposure controls/personal protection

Product name

Mixture of severely hydrotreated and hydrocracked base oil (petroleum).

Exposure limits

ACGIH TLV (United States). Notes: (oil mist)

TWA: 5 mg/m³ 8 hour(s).

STEL: 10 mg/m³ 15 minute(s).

Consult local authorities for acceptable exposure limits.

- Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

8 . Exposure controls/personal protection

Personal protection

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended: organic vapor filter
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Recommended: neoprene, nitrile, polyvinyl alcohol (PVA), Viton.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

- Physical state** : Viscous liquid.
- Flash point** : Open cup: $\geq 200^{\circ}\text{C}$ (392°F) [Cleveland.]
- Auto-ignition temperature** : 352°C (665.6°F)
- Flammable limits** : Not available.
- Color** : Colorless to light yellow.
- Odor** : Hydrocarbon.
- pH** : Not available.
- Boiling/condensation point** : Not available.
- Pour point** : -18°C (0°F)
- Melting/freezing point** : Not available.
- Relative density** : $0.8693 \text{ kg/L @ } 15^{\circ}\text{C}$ (59°F)
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Volatility** : Not available
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- Viscosity** : $35.8 \text{ cSt @ } 40\text{C}$ (104°F), $5.66 \text{ cSt @ } 100\text{C}$ (212°F), VI=95
- Solubility** : Insoluble in water.
- LogK_{ow}** : Not available.
- Softening Point** : Not available.
- Dropping Point** : Not available.
- Penetration** : Not available.
- Physical/chemical properties comments** : Not available.

10 . Stability and reactivity

- Stability and reactivity** : The product is stable.
- Conditions of instability** : Not applicable.
- Incompatibility with various substances** : Reactive with oxidizing agents, acids and reducing agents.
- Hazardous decomposition products** : May release CO_x, NO_x, diphenylamine, alkenes, smoke and irritating vapours when heated to decomposition.
- Hazardous polymerization** : Will not occur.

11 . Toxicological information

Toxicity data

<u>Product/ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Mixture of severely hydrotreated and hydrocracked base oil (petroleum).	LD50	>5000 mg/kg	Oral	Rat
	LD50	>2000 mg/kg	Dermal	Rabbit
	LC50	>2500 mg/m ³ (4 hours)	Inhalation	Rat

Specific effects

- Carcinogenic effects** : Not listed as carcinogen by OSHA, NTP or IARC.
- Mutagenic effects** : No known significant effects or critical hazards.
- Teratogenicity / Reproductive toxicity** : No known significant effects or critical hazards.

Sensitization

- Ingestion** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Eyes** : Slightly irritating to the eyes.
- Skin** : Slightly irritating to the skin.

- Synergistic products** : Not available.

12 . Ecological information

Ecotoxicity data

<u>Product/ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Environmental precautions			: No known significant effects or critical hazards.
Bioconcentration factor			Not available.
BOD and COD			Not available.
Biodegradable/OECD			Not available.
Mobility			Not available.
Special remarks on the products of biodegradation			Not available.

13 . Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
TDG Classification	Not regulated.	-	-	-		-
DOT Classification	Not available.	Not available.	Not available.	-		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Not regulated.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

EU regulations

Risk phrases : This product is not classified according to EU legislation.

International regulations

International lists

CANADA INVENTORY (DSL) : Listed

EC INVENTORY (EINECS/ELINCS) : Listed

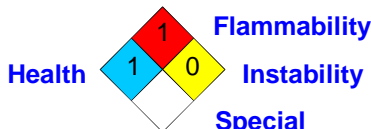
TSCA 8(b) inventory : Listed

16 . Other information

Hazardous Material Information System (U.S.A.) :

Health	1
Fire hazard	1
Reactivity	0
Personal protection	B

National Fire Protection Association (U.S.A.) :



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

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Version : 1

16 . Other information

For Copy of (M)SDS : Internet: www.petro-canada.ca/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: 1-800-201-6285

For Product Safety Information: (905) 804-4752

Notice to reader

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.