

# SAFETY DATA SHEET

## 1. Identification

### Identification

**Product name:** PARATHERM™ OR

### Additional identification

**Chemical name:** Not available.

### Recommended use and restriction on use

**Recommended use:** Heat Transfer Fluid  
**Restrictions on use:** Lubricating oils; Hydraulic fluid additive

### Details of the supplier of the safety data sheet

#### Supplier

**Company Name:** THE LUBRIZOL CORPORATION  
PARATHERM HEAT TRANSFER FLUIDS  
**Address:** 2009 Renaissance Boulevard  
King of Prussia, PA 19406  
US  
**Telephone:** 610-941-4900

### Emergency telephone number:

FOR TRANSPORT EMERGENCY CALL CHEMTREC 24-HOUR NUMBER (+1)703 527 3887 OR WITHIN USA  
1 800 424 9300 (CCN13437)

## 2. Hazard(s) identification

### Hazard Classification

#### Health Hazards

**||** Carcinogenicity Category 2

#### Unknown toxicity

Acute toxicity, inhalation, vapor	97.8 %
Acute toxicity, inhalation, dust or mist	98.8 %

### Label Elements:

#### Hazard Symbol:



**||** **Signal Word:** Warning

**||** **Hazard Statement:** Suspected of causing cancer.

**Precautionary Statements:**

- Prevention:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
- Response:** IF exposed or concerned: Get medical advice/attention.
- Storage:** Store locked up.
- Disposal:** Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

**Other hazards which do not result in GHS classification:** None identified.

**3. Composition/information on ingredients**

Chemical name	CAS number	Percent by Weight
Mineral oil	8042-47-5	90 – 100%
Alkarylamine	68411-46-1	1 – 5%
Alkyl phenol derivative	31570-04-4	1 – 5%
Diphenylamine	122-39-4	0.1 – 0.5%

**4. First-aid measures**

- General information:** IF exposed or concerned: Get medical advice/attention.
- Ingestion:** Treat symptomatically. Get medical attention.
- Inhalation:** Remove exposed person to fresh air if adverse effects are observed.
- Skin Contact:** Wash with soap and water. Get medical attention if symptoms occur. Launder contaminated clothing before reuse.
- Eye contact:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

**Most important symptoms/effects, acute and delayed**

- Symptoms:** Symptoms may be delayed. See section 11.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically.

**5. Fire-fighting measures**

**General Fire Hazards:** No unusual fire or explosion hazards noted.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** CO2, Dry chemical or Foam. Water can be used to cool and protect exposed material.

**Unsuitable extinguishing media:** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical:** A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. See section 10 for additional information.

**Special protective equipment and precautions for fire-fighters**

**Special fire-fighting procedures:** No data available.

**Special protective equipment for fire-fighters:** Recommend wearing self-contained breathing apparatus.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations.

**Environmental Precautions:** Avoid release to the environment. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. Prevent further leakage or spillage if safe to do so.

**Methods and material for containment and cleaning up:** Dike far ahead of larger spill for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.

**7. Handling and storage**

**Precautions for safe handling:** Avoid contact with eyes and prolonged or repeated contact with skin. Open container in a well ventilated area. Avoid breathing vapors. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or grounding procedures. Use grounding and bonding connection when transferring material. In case of spills, beware of slippery floors and surfaces. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Observe good industrial hygiene practices. Provide adequate ventilation. Use personal protective equipment as required. Launder contaminated clothing before reuse.

**Maximum Handling Temperature:** Not determined.

**Conditions for safe storage, including any incompatibilities:** Store away from incompatible materials. See section 10 for incompatible materials.

**Maximum Storage Temperature:** Not determined.

## 8. Exposure controls/personal protection

### Control Parameters:

#### Occupational Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
Mineral oil	IDLH	2,500 mg/m <sup>3</sup>	US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
Mineral oil - Inhalable fraction	TWA	5 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values, as amended (02 2012)
Mineral oil - Mist	REL	5 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Mineral oil - Mist	STEL	10 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Mineral oil - Mist	PEL	5 mg/m <sup>3</sup>	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Diphenylamine	TWA	10 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values, as amended (02 2012)
Diphenylamine	REL	10 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Diphenylamine	TWA	10 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)

#### Biological Limit Values

Chemical name	Exposure Limit Values	Source
Diphenylamine (Methemoglobin: Sampling time: During or end of shift.)	(Hemoglobin in blood)	ACGIH BEI (01 2021)

#### Appropriate engineering controls:

Adequate ventilation should be provided so that exposure limits are not exceeded. Mechanical ventilation or local exhaust ventilation may be required. No special requirements under ordinary conditions of use and with adequate ventilation.

#### Individual protection measures, such as personal protective equipment

**General information:** Use personal protective equipment as required.

**Eye/face protection:** If contact is likely, safety glasses with side shields are recommended.

#### Skin Protection

##### Hand Protection:

Use nitrile or neoprene gloves. Use good industrial hygiene practices. In case of skin contact, wash hands and arms with soap and water. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear. Consult clothing/glove manufacturer to determine appropriate type of glove for given situation.

##### Other:

Gloves, coveralls, apron, boots as necessary to minimize contact.

##### Respiratory Protection:

Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator. Use disposable dust/mist mask if the recommended exposure limit is exceeded.

##### Hygiene measures:

Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product.

## 9. Physical and chemical properties

### Appearance

<b>Physical state:</b>	liquid
<b>Form:</b>	liquid
<b>Color:</b>	No data available.
<b>Odor:</b>	No data available.
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	Not applicable
<b>Freezing point:</b>	No data available.
<b>Boiling Point:</b>	> 599.9 °F (315.5 °C)
<b>Flash Point:</b>	> 331 °F (166 °C) (ASTM D93 (Pensky-Martens (A and B Closed Cup)))
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper:</b>	No data available.
<b>Explosive limit - lower:</b>	No data available.
<b>Vapor pressure:</b>	< 1 torr (21.1 °C 70.0 °F)
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	0.875 - 0.895 60.1 °F (15.6 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Insoluble in water
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	40 mm <sup>2</sup> /s ( 100.0 °F (37.8 °C) ) 7 mm <sup>2</sup> /s (98.89 °C (210.00 °F) )

## 10. Stability and reactivity

<b>Reactivity:</b>	No data available.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Will not occur.
<b>Conditions to avoid:</b>	Do not expose to excessive heat, ignition sources, or oxidizing materials.
<b>Incompatible Materials:</b>	Strong oxidizing agents.
<b>Hazardous Decomposition Products:</b>	Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation:</b>	No data available.
<b>Ingestion:</b>	No data available.
<b>Skin Contact:</b>	No data available.
<b>Eye contact:</b>	No data available.

### Information on toxicological effects

#### Acute toxicity

##### Oral

Product: Not classified for acute toxicity based on available data.

##### Dermal

Product: Not classified for acute toxicity based on available data.

##### Inhalation

Product: Vapour: ATEmix (, 4 h): > 20 mg/l.

##### Skin Corrosion/Irritation:

Product: Remarks: Not classified as a primary skin irritant. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.

##### Serious Eye Damage/Eye Irritation:

Product: Remarks: Not classified as a primary eye irritant.

##### Respiratory sensitization:

No data available

##### Skin sensitization:

Mineral oil Classification: Not a skin sensitizer. (Literature) Not a skin sensitizer.

Alkarylamine Classification: Not a skin sensitizer. (Literature) Not a skin sensitizer.

Alkyl phenol derivative Classification: Not a skin sensitizer. (Literature) Not a skin sensitizer.

Diphenylamine Classification: Not a skin sensitizer. (Literature)

##### Specific Target Organ Toxicity - Single Exposure:

Mineral oil If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.

Alkarylamine If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.

**Diphenylamine** Exposure to a high concentration of vapor or mist may be irritating.

**Aspiration Hazard:**

Mineral oil Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in severe injury to the lungs and death.

**Other effects:**

**Chronic Effects**

**Carcinogenicity:**

Product: All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Mineral oil All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

**Diphenylamine** Suspected of causing cancer.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended:**

No carcinogenic components identified

**Germ Cell Mutagenicity:**

Alkarylamine In vitro and in vivo genetic toxicity studies were negative.

Alkyl phenol derivative This material has not exhibited mutagenic or genotoxic potential in laboratory tests.

Diphenylamine The Ames Salmonella test for mutagenicity was negative for this product. The mouse micronucleus and the rat hepatocyte UDS tests for genotoxicity were negative for diphenylamine.

**Reproductive toxicity:**

Alkarylamine Suspected of damaging fertility or the unborn child.

Diphenylamine There are conflicting reports in the literature concerning the teratogenicity of diphenylamine. However, because the predominant route of exposure was oral (via gavage or diet) and relatively high dose levels were administered in the studies where positive effects were observed, it would not seem to present a workplace hazard.

**Specific Target Organ Toxicity - Repeated Exposure:**

Alkarylamine	Oral: Target Organ(s): Liver, Kidney
Diphenylamine	<p>A two year feeding study in rats and dogs of diphenylamine demonstrated liver, kidney and blood cell damage. The effect was observed at levels as low as 100 ppm. A five month feeding study in rats of 1% diphenylamine produced renal cystic disease. A dose-dependent increase in Heinz body formation was evident during a 12 week study of 5 to 1000 ppm. The no effect level was at 10 ppm.</p> <p>Dermal: Target Organ(s): Liver, Kidney          Inhalation: Target Organ(s): Kidney, Liver          Oral: Target Organ(s): Liver, Kidney</p>

**12. Ecological information**

**Ecotoxicity**

<b>Fish</b>	
Mineral oil	LC 50 (Not reported, 96 h): > 10,000 mg/l
Alkarylamine	LC 50 (Zebra Fish, 4 d): > 100 mg/l
Diphenylamine	LC 50 (Not reported, 2 d): 2.2 mg/l

**Aquatic Invertebrates**

Mineral oil	<p>EC 50 (Water flea (Daphnia magna), 2 d): &gt; 100 mg/l          EC 50 (Water flea (Daphnia magna), 21 d): &gt; 10 mg/l          NOEC (Water flea (Daphnia magna), 21 d): 10 mg/l</p>
Alkarylamine	<p>EC 50 (Water flea (Daphnia magna), 2 d): 51 mg/l          NOEC (Water Flea (Daphnia Magna), 21 d): 1.69 mg/l</p>
Alkyl phenol derivative	EC 50 (Water flea (Daphnia magna), 1 d): 510 mg/l
Diphenylamine	EC 50 (Water flea (Daphnia magna), 2 d): 0.31 mg/l

**Toxicity to Aquatic Plants**

Mineral oil	<p>LC 50 (Algae (Pseudokirchneriella subcapitata), 3 d): &gt; 100 mg/l          NOEC (Algae (Pseudokirchneriella subcapitata), 3 d): &gt; 100 mg/l</p>
Alkarylamine	<p>EC 50 (Green algae (Scenedesmus quadricauda), 3 d): &gt; 100 mg/l          NOEC (Green algae (Scenedesmus quadricauda), 3 d): 10 - 100 mg/l</p>
Diphenylamine	EC 50 (Green algae (Selenastrum capricornutum), 3 d): 1.51 mg/l

**Toxicity to soil dwelling organisms**

No data available

**Sediment Toxicity**

No data available

**Toxicity to Terrestrial Plants**

No data available

**Toxicity to Above-Ground Organisms**

No data available



**Toxicity to microorganisms**

Alkarylamine	EC 50 (Sludge, 3 h): > 100 mg/l
Alkyl phenol derivative	EC 50 (Sludge, 0.6 d): > 100 mg/l

**Persistence and Degradability**

**Biodegradation**

Mineral oil	OECD TG 301 F, 31.13 %, 28 d, Not readily degradable.
Alkarylamine	OECD TG 301 B, 1 %, 28 d, Not readily degradable. (The product is not biodegradable.)
Alkyl phenol derivative	OECD TG 301 B, 4.5 %, 28 d, Not readily degradable.
<b>  </b> Diphenylamine	OECD TG 301 D, 26 %, 28 d, Not readily degradable.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**

Alkarylamine	Common Carp, Bioconcentration Factor (BCF): 1,730 (Read across) Based on experimental data this material is not bioaccumulative.
Alkyl phenol derivative	Bioconcentration Factor (BCF): 4.57 (Measured)

**Partition Coefficient n-octanol / water (log Kow)**

Alkarylamine	Log Kow: > 5 25 °C (calculated)
<b>  </b> Diphenylamine	Log Kow: 3.4 (calculated)

**Mobility:**

No data available

**Other adverse effects**

No data available

**13. Disposal considerations**

**Disposal instructions:**

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

**Contaminated Packaging:**

Container packaging may exhibit hazards.

**14. Transport information**

**DOT**

Not Regulated.

**IMDG**

Not Regulated.

**IATA**

Not Regulated.

**Transport in bulk according to Annex II of MARPOL and the IBC Code**

None known.

The DOT shipping information in this section is based on a bulk container. Please review the accompanying shipping papers for the correct shipping descriptions based on the size of the package. Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. During transportation, steps must be taken to prevent load shifting or materials falling, and all relating legal statutes should be obeyed. Review classification requirements before shipping materials at elevated temperatures.

## 15. Regulatory information

### US Federal Regulations

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

#### TSCA Section 5(a)2 Significant New Use Rule (SNURs) (40CFR 721, Subpt E)

None present or none present in regulated quantities.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

None present or none present in regulated quantities.

#### Superfund amendments and reauthorization act of 1986 (SARA)

##### SARA 311 Classifications

|| Carcinogenicity

##### SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

##### SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

##### SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

### US State Regulations

#### US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

### Inventory Status

#### Australia (AIIIC)

All components are in compliance with chemical notification requirements in Australia.

#### Canada (DSL/NDSL)

All substances contained in this product are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List (DSL) or are exempt.

#### China (IECSC)

All components of this product are listed on the Inventory of Existing Chemical Substances in China.

#### European Union (REACH)

To obtain information on the REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

**Great Britain (UK REACH)**

To obtain information on the UK REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

**Japan (ENCS)**

All components are in compliance with the Chemical Substances Control Law of Japan.

**Korea (ECL)**

All components are in compliance in Korea.

**New Zealand (NZIoC)**

All components are in compliance with chemical notification requirements in New Zealand.

**Philippines (PICCS)**

All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

**Switzerland (SWISS)**

All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

**Taiwan (TCSCA)**

All components of this product are listed on the Taiwan inventory.

**Turkey (KKDIK)**

To obtain information on the KKDIK compliance status of this product, please e-mail REACH@SDSInquiries.com.

**United States (TSCA)**

All substances contained in this product are listed on the TSCA inventory or are exempt.

*The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.*

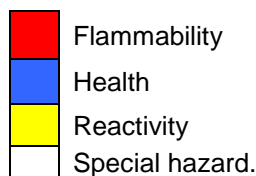
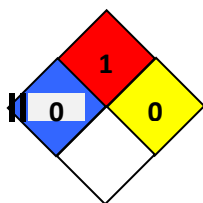
**16. Other information, including date of preparation or last revision**

**HMIS Hazard ID**

<b>Health</b>	*	1
<b>Flammability</b>	1	
<b>Physical Hazards</b>	0	

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; \*Chronic health effect

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

**Issue Date:** 08/19/2024

**Version #:** 7.0

**Source of information:** Internal company data and other publically available resources.

**Further Information:** Contact supplier (see Section 1)

Revision(s) are noted by the double bar in the margin and the light gray box.

**Disclaimer:** As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.