



# SAFETY DATA SHEET

## 281M Marine Heat Transfer Oil

### Section 1. Identification

- GHS product identifier** : 281M Marine Heat Transfer Oil
- Other means of Identification** : Not available
- Product type** : Liquid.
- Identified uses** : Non-corrosive, non-fouling, marine heat transfer fluid.
- Supplier's details** : Schaeffer Mfg. Company  
102 Barton Street  
Saint Louis, Missouri 63104  
Tel: 314-865-4100  
Fax: 314-865-4107  
Toll Free: 1-800-325-9962  
Email: [safety@schaefferoil.com](mailto:safety@schaefferoil.com)  
Web: <http://www.schaefferoil.com>
- Emergency telephone number (with hours of operation)** : +1 314 865-4105 (24-hour response number)

### Section 2. Hazards identification

- OSHA/HCS status** : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
- Classification of the substance or mixture** : Not classified.
- GHS label elements**
- Signal word** : No signal word
- Hazard statements** : No known significant effects or critical hazards.
- Precautionary statements**
- Prevention** : Not applicable.
- Response** : Not applicable.
- Storage** : Not applicable.
- Disposal** : Not applicable.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture:** Mixture

Ingredient name	%	CAS number
Base Oil(s)(*)	60-100	See below.

Any concentration shown as a range is to protect confidentially or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Base oil(s) contained in this material may be described by one or more of the following CAS Nos.: 64742-54-7, 64742-57-0, 64742-62-7, 64742-65-0, 72623-85-9, 72623-87-1.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Section 4. First aid measures

#### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

### Section 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : No specific fire or explosion hazard.

**Hazardous thermal decomposition product** : No specific data.

**Special protective actions for fire-fighters** : No special measures are required.

**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.

### Section 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. U.S.A. regulations may require reporting spills of this material that could reach any surface waters. Report spills to all applicable Federal, State, Provincial and local authorities and/or the United States National Response Center at (800) 424-8802 as appropriate or required.

**Section 6. Accidental release measures**

**Methods and materials for containment and cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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.

**Section 7. Handling and storage**

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage: including any incompatibilities** Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

**Section 8. Exposure controls/personal protection**

**Control parameters**

**Occupational exposure limit**

<b><u>Ingredient name</u></b>	<b><u>Exposure limits</u></b>
Base Oil(s)(*)	<b>NIOSH REL (United States, 10/2013).</b> TWA: 5 mg/m <sup>3</sup> 10 hours. Form: Mist. STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Mist <b>ACGIH TLV (United States).</b> TWA: 5 mg/m <sup>3</sup> Form: Oil mist. STEL: 10 mg/m <sup>3</sup> Form: Oil mist. <b>OSHA PEL (United States).</b> TWA: 5 mg/m <sup>3</sup> Form: Oil mist.

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

## Section 8. Exposure controls/personal protection

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### Individual protection measures

**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.

**Eye/face protection** : Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact.

### Skin Protection

**Hand protection** : Use nitrile or oil resistant gloves.

**Body protection** : Personal protective clothing such as gloves, aprons, boots and complete facial protection should be selected based on the task being performed and the risks involved. Users should determine acceptable performance characteristics of protective clothing. Consider physical requirements and other substances present when selecting protective clothing.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

**Respiratory protection** : If a risk assessment indicates that respiratory protection is required, use a properly fitted, air-purifying or supplied air respirator that complies with an approved standard. 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.

## Section 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	: Liquid. [Clear.]
<b>Color</b>	: Colorless.
<b>Odor</b>	: Petroleum.
<b>Odor threshold</b>	: Not available.
<b>pH</b>	: Not applicable.
<b>Melting point/Dropping Point</b>	: Not available.
<b>Boiling Point</b>	: >315°C (>599°F)
<b>Flash point</b>	: Closed cup: 229°C (444.2°F)
<b>Evaporation point</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Lower and upper explosive (flammable) limits</b>	: Not available.

## Section 9. Physical and chemical properties

<b>Vapor pressure</b>	: Not available.
<b>Vapor density</b>	: >1 [Air = 1]
<b>Relative density</b>	: 0.85 to 0.88
<b>Solubility</b>	: Insoluble in water.
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Kinematic (100°C): 7 to 8 cSt Kinematic (40°C): 45 to 53 cSt
<b>Volatility</b>	: Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity for this product or its ingredients.
<b>Chemical stability</b>	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>Possibility of hazardous reactions</b>	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
<b>Conditions to avoid</b>	: No specific data.
<b>Incomplete materials</b>	: Reactive or incompatible with the following materials: Strong acids, bases and oxidizers.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

There is no data available.

#### Irritation/Corrosion

There is no data available.

#### Sensitization

There is no data available.

#### Carcinogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

## Section 11. Toxicological information

### Specific target organ toxicity (repeated exposure)

There is no data available.

### Aspiration hazard

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Delayed and immediate effects and also chronic effect from short and long term exposure

#### Short term exposure

**Potential immediate effects** : No known significant effects or critical hazards.  
**Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects:** No known significant effects or critical hazards.

#### Potential chronic health effects

**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

There is no data available.

## Section 12. Ecological information

### Toxicity

There is no data available.

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

There is no data available.

### Mobility in soil

- Soil/water partition coefficient (Koc)** : Not available.
- Other adverse effects** : No known significant effects or critical hazards

## Section 13. Disposal considerations

- Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transportation information

- DOT Classification** : Not regulated.
- IDG** : Not regulated.
- IATA/ICAO** : Not regulated.
- AERG** : Not applicable.
- Special precautions for user:** **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

- U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determine  
**United States inventory (TSCA 8b):** All components are listed or exempted.
- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed.



## Section 15. Regulatory information

**Clean Air Act Section 602  
Class I Substances** : Not listed.

**Clean Air Act Section 602  
Class II Substances** : Not listed.

**DEA List I Chemicals  
(Precursor Chemicals)** : Not listed.

**DEA List II Chemicals  
(Essential Chemicals)** : Not listed.

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Not applicable.

### SARA 313

No products were found.

### State regulations

**Massachusetts** : None of the components are listed.

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Distillates (petroleum), solvent-dewaxed heavy paraffinic

**Pennsylvania** : None of the components are listed.

### California Prop. 65

No products were found.

## Section 16. Other information

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

**Health** : 1    **Flammability** : 1    **Physical hazards** : 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J.J. Keller.

The customer is responsible for determining the PPE code for this material.

## Section 16. Other information

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

**Health :** 1      **Flammability :** 1      **Instability:** 0

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. The reprinted material is not the completed and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

**US Tariff Heading Number** : 2710.19.3080  
**Schedule B Code** : 2710.19.3080

### History

**Date of issue mm/dd/yyyy** : 06/15/2014  
**Version** : 1  
**Prepared by** : KMK Regulatory Services Inc.

Although the information and recommendations set forth herein (hereafter referred to as information) are presented in good faith and believed to be accurate and factual as of the date hereof. Schaeffer Mfg. Company makes no representation as to the completeness or accuracy thereof. Information is supplied upon the condition that the person receiving the same will make their own determination as to its safety and suitability for their purposes prior to use. In no event will Schaeffer Mfg. Company be responsible for damages of any natures whatsoever resulting from the use or reliance upon information. **No representation or warranty, either expressed or implied, of merchantability or fitness for a particular purpose is made with respect to information of the product to which the information refers. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.**



KMK Regulatory Services

Tel : +1-888-GHS-7769 (447-7769) / +1-450-GHS-7767 (447-7767)  
[www.kmkregservices.com](http://www.kmkregservices.com) [www.askdrluc.com](http://www.askdrluc.com) [www.ghssmart.com](http://www.ghssmart.com)