**Relatherm O** Heat Transfer Oil

# Material Safety Data Sheet (MSDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

## 1. Identification

| | |
|---|---|
| Product identifier | |
| Trade name | Relatherm O |
| Product description | Heat Transfer Oil |
| Details of the supplier of the safety data sheet | |
| Manufacturer/supplier | Relatherm Heat Transfer Fluids<br>P.O.Box 57874,<br>Jacksonville, FL, 32241 |
| Emergency telephone number | 904-300-0911 |

## 2. Hazard(s) Identification

| | |
|---|---|
| Classification of the substance or mixture | The substance is not classified according to the Globally Harmonized System (GHS). |
| Label elements | |
| GHS label elements | Non-regulated material |
| Hazard pictograms | Non-regulated material |
| Signal word | Non-regulated material |
| Hazard statements | Non-regulated material |
| Classification System | |
| NFPA ratings (scale 0-4) | Health=0; Fire=1; Reactivity=0 |
| HMIS-ratings (scale 0 - 4) | Health=0; Fire=1; Reactivity=0 |

# **Relatherm O** Heat Transfer Oil

## 3. Composition / Information on Ingredients

| | |
|---|---|
| Chemical characterization | Mixtures |
| Description | Mixture of the substances listed below with nonhazardous additions |
| Dangerous Components | Non-regulated material |

| Component Name | Identification | Classification according to GHS | % |
|---|---|---|---|
| Hydrocarbon Base Fluids | CAS#: 64742-54-7 | Not Classified | 90 - 95% |
| Proprietary Additives | Trade Secret | Not Classified | 5 - 10% |

## 4. First-aid Measures

Description of first aid measures

| | |
|---|---|
| General information | No special measures required |
| After inhalation | Supply fresh air; consult doctor in case of complaints |
| After skin contact | Generally the product does not irritate the skin |
| After eye contact | Rinse opened eye for several minutes under running water |
| After swallowing | If symptoms persist, consult doctor |
| Most important symptoms and effects, both acute and delayed | No further relevant information available |
| Indication of any immediate medical attention and special treatment needed | No further relevant information available |

## 5. Fire-fighting Measures

Extinguishing media Suitable extinguishing agents

$CO_2$ or Powder. Water mist to cool, no direct water spray. Collect spillage. No further relevant information available

Special hazards arising from the substance or mixture

Advice for firefighters

Protective equipment

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

## 6. Accidental Release Measures

| | |
|---|---|
| Personal precautions, protective equipment and emergency procedures | Not required |
| Environmental precautions | No special measures required |
| Methods and material for containment and cleaning up | Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).Dispose of the collected material according to regulations. |
| Reference to other sections | See Section 7 for information on safe handling.<br>See Section 8 for information on personal protection equipment.<br>See Section 13 for disposal information. |

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## 7. Handling and Storage

| | |
|---|---|
| Precautions for safe handling | No special measures required |
| Information about protection against explosions and fires | No special measures required |
| Conditions for safe storage, including any incompatibilities | |
| Storage | |
| Requirements to be met by storerooms and receptacles | No special requirements |
| Information about storage in one common storage facility | Not required |
| Further information about storage conditions | None |
| Specific end use(s) | No further relevant information available |

## 8. Exposure Controls / Personal Protection

| | |
|---|---|
| Additional information about design of technical systems | No further data; see section 7 |
| Control parameters | |
| Components with occupational exposure limits | The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace |
| Additional information | The lists that were valid during the creation were used as basis |
| Exposure controls | |
| Personal protective equipment | |
| General protective and hygienic measures | The usual precautionary measures for handling chemicals should be followed |
| Breathing equipment | Normally not necessary. If mist is generated, wear approved organic vapor respirator suitable for oil mist areas with sufficient oxygen. |
| Protection of hands | Normally none required, for direct contact of more than 2 hours, PVC, Viton, or Nitrile gloves are recommended. |
| Material of gloves | Not required |
| Penetration time of glove material | Not applicable |
| Eye protection | Normally none required, chemical goggles if splashing is likely or high pressure systems are used. |

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## 9. Physical and Chemical Properties

**Information on basic physical and chemical properties**

**General Information**

**Appearance**

| | |
|---|---|
| Form | Liquid |
| Color | See product |
| Odor | Mild |
| Odor Threshold | Not determined |
| pH-value | Not determined |
| **Change in condition** | |
| Melting point/Melting range | Not applicable |
| Boiling point/Boiling range | >570°F (>298°C) |
| Flash Point | >395°F(>197°C) |
| Flammability (solid/gaseous) | Not applicable |
| **Ignition temperature** | |
| Decomposition temperature | Not determined |
| Auto-igniting | Not determined |
| Danger of explosion | Not determined |
| **Explosion limits** | |
| Lower | Not determined |
| Upper | Not determined |
| Vapor Pressure @ 20 DEG C | <0.003 kPa |
| Density @ 20 DEG C | 0.85-0.88 |
| Relative Density | Not determined |
| Vapor Density | Not determined |
| Evaporation Rate | Not determined |
| Solubility in/Miscibility with Water | Not miscible |
| Partition coefficient (n-octanol/water) | Not determined |
| **Viscosity** | |
| Viscosity - Dynamic | 33.6 |
| Viscosity - Kinematic | 40 |
| **Solvent content** | |
| Organic solvents | 0.00% |
| Other Information | No further information |

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## 10. Stability and Reactivity

| | |
|---|---|
| Reactivity | No further relevant information available |
| Chemical stability | Stable under normal conditions |
| Thermal decomposition / conditions to be avoided | No decomposition if used according to specifications |
| Possibility of hazardous reactions | No dangerous reactions known |
| Conditions to avoid | No further relevant information available |
| Incompatible materials | No further relevant information available |
| Hazardous decomposition products | No dangerous decomposition products known |

## 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Primary irritant effect

| | |
|---|---|
| On the skin | No irritating effect |
| On the eye | No irritating effect |
| Additional toxicological information | The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us. |

Carcinogenic categories

| | |
|---|---|
| IARC (International Agency for Research on Cancer) | None of the ingredients are listed.<br>Group 1 - Carcinogenic to humans<br>Group 2A - Probably carcinogenic to humans<br>Group 2B - Possibly carcinogenic to humans<br>Group 3 - Not classifiable as to its carcinogenicity to humans<br>Group 4 - Probably not carcinogenic to humans |
| NTP (National Toxicology Program) | None of the ingredients are listed |
| OSHA-Ca (Occupational Safety & Health Administration) | None of the ingredients are listed |

## 12. Ecological Information

| | |
|---|---|
| Toxicity | No data is available on this product |
| Aquatic toxicity | No further relevant information available |
| Persistence and degradability | No further relevant information available |
| Bioaccumulative potential | No further relevant information available |
| Mobility in soil | No further relevant information available |

Additional ecological information

# **Relatherm O** Heat Transfer Oil

## 12. Ecological Information (continued)

| | |
|---|---|
| General notes | Generally not hazardous for water |
| Results of PBT and vPvB assessment | |
| PBT | Not applicable |
| vPvB | Not applicable |
| Other adverse effects | No further relevant information available |

## 13. Disposal Considerations

| | |
|---|---|
| Waste treatment methods | |
| Recommendation | Smaller quantities can be disposed of with household waste. Recycle or dispose with household trash. |
| Uncleaned packagings | |
| Recommendation | Disposal must be made according to official regulations. |

## 14. Transportation Information

| | |
|---|---|
| UN-Number | |
| DOT, ADN, IMDG, IATA | Non-regulated material |
| ADR | Non-regulated material |
| UN proper shipping name | |
| DOT, ADR, ADN, IMDG, IATA | Non-regulated material |
| Transport hazard class(es) | |
| DOT, ADR, ADN, IMDG, IATA | |
| Class | Non-regulated material |
| Packing group | |
| DOT, ADR, IMDG, IATA | Non-regulated material |
| Environmental hazards | |
| Marine pollutant | No |
| Special precautions for user | Not applicable |
| Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable |
| UN “Model Regulation” | — |

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## 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture Sara

| | |
|---|---|
| Section 355 (extremely hazardous substances) | None of the ingredients are listed |
| Section 313 (Specific toxic chemical listings) | None of the ingredients are listed |
| TSCA (Toxic Substances Control Act) | None of the ingredients are listed |
| Proposition 65 | |
| Chemicals known to cause cancer | None of the ingredients are listed |
| Chemicals known to cause reproductive toxicity for females | None of the ingredients are listed |
| Chemicals known to cause reproductive toxicity for males | None of the ingredients are listed |
| Chemicals known to cause developmental toxicity | None of the ingredients are listed |
| Carcinogenic categories | |
| EPA (Environmental Protection Agency) | None of the ingredients are listed |
| TLV (Threshold Limit Value established by ACGIH) | None of the ingredients are listed |
| NIOSH-Ca (National Institute for Occupational Safety and Health) | None of the ingredients are listed |
| GHS label elements | Non-regulated material |
| Hazard pictograms | Non-regulated material |
| Signal word | Non-regulated material |
| Hazard statements | Non-regulated material |
| National regulations | Non-regulated material |
| State Right to Know | Non-regulated material |
| Chemical safety assessment | A Chemical Safety Assessment has not been carried out. |

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## 16. Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

| | |
|---|---|
| Date of preparation / last revision | 02/19/2016 / 1 |
| Abbreviations and acronyms | ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)<br>ADN: The European Agreement concerning the International Carriage of Danger-ous Goods by Inland Waterways<br>IMDG: International Maritime Code for Dangerous Goods<br>DOT: US Department of Transportation<br>IATA: International Air Transport Association<br>ACGIH: American Conference of Governmental Industrial Hygienists<br>EINECS: European Inventory of Existing Commercial Chemical Substances<br>ELINCS: European List of Notified Chemical Substances<br>CAS: Chemical Abstracts Service (division of the American Chemical Society)<br>NFPA: National Fire Protection Association (USA)<br>HMIS: Hazardous Materials Identification System (USA) |