

Material Safety Data Sheet

according to 1907/2006 EC, Article 31

Duratherm 450 High Temperature Heat Transfer Fluid

Revision Date: 01/2011
Revision #: 1

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

Product Name	Duratherm 450 - High Temperature Heat Transfer Fluid
Company Name	Duratherm Extended Life Fluids P.O. Box 563, Lewiston, NY 14092
Telephone	800-446-4910
Fax	905-984-6684
Website	www.heat-transfer-fluid.com
Emergency telephone number	800-446-4910

2. HAZARDS IDENTIFICATION

Physical State	Viscous Liquid
Odor	Very slight hydrocarbon odor
HMIS (Canada)	Not controlled under HMIS (Canada)
OSHA/HCS Status	This material is not considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200). Refer to and retain this MSDS for safety and handling information
Emergency Overview	No specific hazard
Routes of Enter	Dermal contact, eye contact, inhalation, ingestion

Potential Acute Health Effect

Inhalation	No known significant effects or critical hazards
Ingestion	No known significant effects or critical hazards
Skin	No known significant effects or critical hazards
Eyes	No known significant effects or critical hazards

Potential Chronic Health Effect

Chronic Effects	No known significant effects or critical hazards
Carcinogenicity	Not listed as a carcinogenic by OSHA, NTP, or IARC
Mutagenicity	No known significant effects or critical hazards
Teratogenicity	No known significant effects or critical hazards
Development Effects	No known significant effects or critical hazards
Fertility Effects	No known significant effects or critical hazards
Medical Conditions Aggravated by Overexposure	Repeated or prolonged exposure with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated skin exposure can produce local skin destruction or dermatitis

3. COMPOSITION / INFORMATION ON INGREDIENTS

Description	This product does not contain any substances classified as hazardous to health
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4. FIRST AID MEASURES

Skin contact	Wash affected areas thoroughly with soap and water. Wash contaminated clothing before reuse. See medical attention if irritation or symptoms persist
Eye contact	Flush with clean, lukewarm water (low pressure) occasionally lifting eyelids. Seek physician assessment if eyes are inflamed.
Inhalation	Avoid breathing oil mists. Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Get medical attention.
Ingestion	Do not induce vomiting. Force fluid. Has laxative effect.

5. FIRE FIGHTING MEASURES

Extinguishing media	For small fires: Carbon dioxide (CO ₂) Dry chemical. Foam. Water spray.
Fire hazards	LOW FIRE HAZARD - Do not cut, drill, or weld empty containers
Protective equipment	Wear suitable respiratory equipment when necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Ensure adequate ventilation of the working area.
Environmental precautions	Do not allow product to enter drains. Prevent further spillage if safe.
Clean up method	Absorb with inert, absorbent material. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.

7. HANDLING AND STORAGE

Handling	Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing.
Storage	Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labelled containers. Store at a maximum of 40°C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures	Ensure adequate ventilation of the working area.
Occupational exposure contr.	Keep away from food, drink and animal feed.
Respiratory protection	Normally not necessary. If mist is generated, wear approved organic vapor respirator suitable for oil mist areas with sufficient oxygen.
Skin/Hand Protection	Normally none required, for direct contact of more than 2 hours, PVC, Viton, or Nitrile gloves are recommended.
Eye protection	Normally none required, chemical goggles if splashing is likely or high pressure systems are used.
Ventilation	General ventilation
Exposure limits	<u>Practically non-toxic</u> ACGIH TL (United States). Notes: (Oil Mist) TWA: 5mg/m ³ , 8 hour(s) / STEL: 10 mg/m ³ 15 minute(s)
Protective equipment	Protect clothing from contact with the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Description	Liquid
Color	Clear Liquid
Odor	Very slight hydrocarbon odor
Boiling point	>470°F (>248°C)
Flash point	>300°F (>149°C)
Vapor pressure	<0.003 kPa @ 25°C
Specific Gravity	0.84 - 0.92
Volatilities, % Volume	0%
Solubility in water	Negligible
Evaporation rate	Nil
Viscosity @40 °C (cSt)	Varies depending on grade

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10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Hazardous polymerization	Will not occur
Materials to avoid	Strong oxidizing agents.
Decomposition products	Analogous compounds evolve, carbon monoxide, carbon dioxide, and other undefined fragments.

11. TOXICOLOGICAL INFORMATION

General	Acute Toxicity (LD ₅₀): LD ₅₀ (oral, rabbit): > 5000 mg/kg LD ₅₀ (dermal, rat): > 2000 mg/kg LD ₅₀ (inhalative, rat): > 2500 mg/kg/4h
Other	In case of inhalation: no data available Skin contact: no data available Eye contact: no data available Ingestion: no data available Irritation: skin and eye irritating Sensitization: no sensitizing effects known Subacute toxicity: Intensive or prolonged exposition. Repeated or prolonged exposure with spray or mist may product chronic eye irritation and severe skin irritation. Repeated skin exposure can produce local skin destruction or dermatitis. Chronic Toxicity: not available Subchronic Exposure: not available Specific symptoms observed in animal studies: no data available CMR Effects: Carcinogenity: no data available Reproductive toxicity: no data available Mutagenicity: no data available Summarized evaluation of the CMR properties: not available

12. ECOLOGICAL INFORMATION

Ecological Information	Do not allow to enter sewer/soil/surface or ground water Ecological Information: LC50 (Rainbow Trout): > 100 000 MG/1/96 h Mobility: no data available Persistence and biodegradation: not readily biodegradable Bioaccumulation potential: no data available Results of PBT assessments: no data available Other adverse side effects: no data available
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13. DISPOSAL CONSIDERATIONS

General information	Used product must be disposed of in accordance with Federal, State, and Local environmental control regulations. Incineration is preferred. DO NOT HEAT OF CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.
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14. TRANSPORTATION INFORMATION

Technical Name	Severely Hydrocracked Paraffinic Hydrocarbon
D.O.T. hazard class	Not regulated
U.N. N.A. #	Not regulated
Product label	Duratherm 450 - Duratherm High Temperature Heat Transfer Fluid


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15. REGULATORY INFORMATION

EU Risk phrases	NSH - No Significant Hazard This product is not classified according to EU regulations
HMIS	Not controlled under HMIS (Canada)
EC Classification	Not classified as dangerous under EC classifications
EC Symbols	Not classified
OSHA status	Non Hazardous under 29 CFR 1910.1200
TSCA status	N/A
RCRA status	If discarded in its purchased form this product would not be a hazardous waste either by listing or characteristic. However it is the responsibility of the product user to determine at the time of disposal, whether the material being disposed of is a hazardous waste (40 CFR 261.20-24).
Other Information	Environmental Protection Act 1990 (as amended). Health and Safety at Work Act 1974. Consumers Protection Act 1987. Control of Pollution Act 1974. Environmental Act 1995. Factories Act 1961. Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations. Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. Control of Substances Hazardous to Health Regulations 1994 (as amended). Road Traffic (Carriage of Dangerous Substances in Packages) Regulations. Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations. Road Traffic (Carriage of Dangerous Substances in Road Tankers in Tank Containers) Regulations. Road Traffic (Training of Drivers of Vehicles Carrying Dangerous Goods) Regulations. Reporting of Injuries, Diseases and Dangerous. Other Regulations. Health and Safety (First Aid) Regulations 1981. Personal Protective Equipment (EC Directive) Regulations 1992. Personal Protective Equipment at Work Regulations 1992.

OSHA status	Non Hazardous under 29 CFR 1910.1200
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HMIS status	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 2px;">Health Hazard</td> <td style="border: 1px solid black; border-radius: 50%; padding: 2px; text-align: center;">1</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Fire Hazard</td> <td style="border: 1px solid black; border-radius: 50%; padding: 2px; text-align: center;">1</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Reactivity</td> <td style="border: 1px solid black; border-radius: 50%; padding: 2px; text-align: center;">0</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Personal Protection</td> <td style="border: 1px solid black; border-radius: 50%; padding: 2px; text-align: center;">B</td> </tr> </table>	Health Hazard	1	Fire Hazard	1	Reactivity	0	Personal Protection	B
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	<p>NFPA (U.S.A.)</p>  <p>Health 1 Fire Hazard 1 Reactivity 0</p> <p style="text-align: center;">Specific Hazard 0</p>								
	<p>Rating</p> <p>0= Insignificant, 1=Slight, 2=Moderate, 3= High, 4= Extreme</p>								

16. OTHER INFORMATION

Further information	This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Duratherm Extended Life Fluids. The data on this sheet related only to the specific material designed herein. Duratherm Extended Life Fluids assumes no legal responsibility for the use or reliance upon these data.
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