Relatherm VLT Very Low Temperature Heat Transfer Fluid

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 VLT
Product description	Very Low Temperature Heat Transfer Fluid

Details of the supplier of the safety data sheet

Manufacturer/supplier	Relatherm Heat Transfer Fluids P.O.Box 57874, Jacksonville, FL, 32241
Emergency telephone number	904-300-0911

2. Hazard(s) Identification

Classification of the substance or mixture

GHS08 GHS02 GHS09 GHS07

Label elements

GHS label elements	The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

GHS08 GHS02 GHS09 GHS07

Signal word	Warning
Hazard statements	May be fatal if swallowed and enters air ways. Causes skin irritation. Causes serious eye irritation.

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2. Hazard(s) Identification (continued)

Precautionary statements

Wear protective gloves.
Wear eye protection / face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If swallowed: Call a poison center/doctor if you feel unwell.
Specific treatment (see on this label).
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Rinse mouth.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local/regional/national/ international regulations.

Classification system NFPA ratings (scale 0-4)

Health=1; Fire=1; Reactivity=0

Health=1; Fire=1; Reactivity=0

3. Composition / Information on Ingredients

Chemical characterization: Mixtures

Dangerous Components

Terpene

Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319

GHS02 Flame: Flam. Liq. 3 H226 Flammable liq-uid and vapor

Aquatic Acute 1, H400; Aquatic Chronic 1, H410;

Skin Irrit. 2, H315; Skin Sens. 1, H317

Component Name	Identification	Classification according to GHS	%
Hydrocarbon Base Fluids	CAS#: 64742-54-7	Not Classified	35%-55%
Terpene	CAS #: 5989-27-5	GHS02, GHS07,GHS08, GHS09	35%-55%
Proprietary Additives	Trade Secret	Not Classified	5-10%

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4. First-aid Measures

Description of first aid measures

General information	Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
After inhalation	In case of unconsciousness, place patient securely on side position for transportation.
After skin contact	Immediately wash with water and soap and rinse thoroughly. If irritation occurs consult a doctor.
After eye contact	Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.
After swallowing	Immediately call a 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.
Special hazards arising from the substance or mixture	No further relevant information available.

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	Do not allow to enter sewers/ surface or ground water
Methods and material for containment and cleaning up	Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to section 13. Ensure adequate ventilation. Dispose of the collected material according to regulations.
Reference to other sections	See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7. Handling and Storage

Precautions for safe handling	Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.
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
Further information about storage conditions	Keep receptacle tightly sealed
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	Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.
Breathing equipment	Not required
Protection of hands	
Protective gloves	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Select glove material based on penetration times, rates of diffusion and degradation.
Material of gloves	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Penetration time of glove material	The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
Eye protection	Tightly sealed goggles

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9. Physical and Chemical Properties

Information on basic physical and chemical properties

General Information

Appearance

Form	Liquid
Color	Clear
Odor	Citrus Odor
Odor Threshold	Not determined
pH-value	Not determined
Change in Condition	
Melting point/Melting range	Not determined
Boiling point/Boiling range	Not determined
Flash Point	>40°C (>100°F)
Flammability (solids/gases)	Not determined
Ignition Temperature	Not determined
Decomposition Temperature	Not determined
Auto-Ignition	Not determined
Danger of Explosion	Not determined
Explosion Limits	
Lower	Not determined
Upper	Not determined
Vapor Pressure @ 20°C	Not determined
Density @ 20°C	.82-.85
Relative Density	Not determined
Vapor Density	Not determined
Evaporation Rate	Not determined
Solubility in/Miscibility with Water	Not determined
Partition coefficient (n-octanol/water)	Not determined
Viscosity	
Viscosity - Dynamic	1.6 cps
Viscosity - Kinematic	2 cSt
Solvent Content	
Organic Solvents	>30%

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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

LD/LC50 values that are relevant for classification

9003-13-8 Polyalkylene Glycol	Oral: LD50 >300- <2000 mg/kg (rat) Dermal: LD50 >2000 mg/kg (rat)

Primary irritant effect:

On the skin	Irritant to skin and mucous membranes
On the eye	Irritating effect. Causes serious eye irritation
Additional toxicological information	The product shows the following dangers according to internally approved calculation methods for preparations: Harmful. Irritant.

Carcinogenic categories

IARC (International Agency for Research on Cancer)	None of the ingredients are listed. Group 1 - Carcinogenic to humans Group 2A - Probably carcinogenic to humans Group 2B - Possibly carcinogenic to humans Group 3 - Not classifiable as to its carcinogenicity to humans 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	
General notes	Water hazard class 1 (Self-assessment): slightly hazardous for water

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12. Ecological Information (continued)

Results of PBT and vPvB assessment

PBT	Not applicable
vPvB	Not applicable
Other adverse effects	No further relevant information available

13. Disposal Considerations

Uncleaned packagings

Recommendation	Disposal must be made according to official regulations.

14. Transportation Information

UN-Number

DOT, ADR, ADN, IMDG, IATA	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”	—

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)	All components are either listed or not regulated under TSCA

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15. Regulatory Information (continued)

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	GHS08 GHS02 GHS09 GHS07
Signal word	Warning
Hazard-determining components of labeling	d-limonene
Hazard statements	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.
Precautionary statements	Wear protective gloves. Wear eye protection / face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If swallowed: Call a poison center/doctor if you feel unwell. Specific treatment (see on this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Rinse mouth. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. Dispose of contents/container in accordance with local/regional/national/ international regulations.
National regulations	The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

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15. Regulatory Information (continued)

State Right to Know

d-limonene

94266-47-4

Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319

GHS02 Flame: Flam. Liq. 3 H226 Flammable liquid and vapor

Aquatic Acute 1, H400; Aquatic Chronic 1, H410;

Skin Irrit. 2, H315; Skin Sens. 1, H317

Chemical safety assessment

A chemical safety assessment has not been carried out

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

05/16/2020 / 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)
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A