Relatherm S-1 Silicone 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 S-1
Product description	Silicone 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	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

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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	%
Polydimethyl Siloxane	CAS #: 63148-62-9	Not Classified	95-99%
Proprietary Additives	Trade Secret	Not Classified	1-5%

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
Special hazards arising from the substance or mixture	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	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. See Section 8 for information on personal protection equipment. 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	Clear/water white
Odor	Odorless
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	>600°F(>315°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	0.90-0.99
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	35
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. 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

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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.

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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 Danger-ous 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)