

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS


D005069AC

Revision: 05.01.2017

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

- **1.1 Product identifier**
- **Trade:** Dowtherm SR-1 Pre Mix, Dowtherm SR-1 55% (EG), and RO Water 45%
- **Other product identifiers:** No other identifiers
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture:** Water treatment
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
Opti Temp  
1500 International Drive  
Traverse City, MI 49686  
Tel: (231) 946.2931  
E-mail: Information@OptiTemp.com
- **1.4 Emergency telephone number:** (231) 946-2931

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Classifications listed are applicable to the OSHA GHS Hazard Communication Standard (29CFR1910.1200).  
Acute Tox. 4 H302 Harmful if swallowed.  
STOT RE 2 H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the Globally Harmonized System within the United States.  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**  
  
GHS07 GHS08
- **Signal word** Warning
- **Hazard-determining components of labelling:**  
ethylene glycol
- **Hazard statements**  
H302 Harmful if swallowed.  
H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
- **Precautionary statements**  
P260 Do not breathe mist/vapours/spray.

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P264 Wash thoroughly after handling.  
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P314 Get medical advice/attention if you feel unwell.  
 P330 Rinse mouth.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards** There are no other hazards not otherwise classified that have been identified.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

### · 3.2 Mixtures

#### · Components:

CAS: 107-21-1 EINECS: 203-473-3 Index number: 603-027-00-1 Reg.nr.: 01-2119456816-28-XXXX	ethylene glycol	 STOT RE 2, H373  Acute Tox. 4, H302	50-100%
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#### · Additional information:

For the listed ingredient(s), the identity and/or exact percentages are being withheld as a trade secret.  
 For the wording of the listed Hazard Statements refer to section 16.

## SECTION 4: First aid measures

### · 4.1 Description of first aid measures

#### · After inhalation:

Supply fresh air; consult doctor in case of complaints.  
 Provide oxygen treatment if affected person has difficulty breathing.

#### · After skin contact:

Immediately remove any clothing soiled by the product.  
 Immediately wash with water and soap and rinse thoroughly.  
 If skin irritation is experienced, consult a doctor.

#### · After eye contact:

Remove contact lenses if worn.  
 Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

#### · After swallowing:

Rinse out mouth and then drink plenty of water.  
 Do not induce vomiting; call for medical help immediately.

### · 4.2 Most important symptoms and effects, both acute and delayed

Headache  
 Coughing  
 Dizziness  
 Acidosis  
 Cramp

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Gastric or intestinal disorders when ingested.  
Nausea in case of ingestion.  
Disorientation

• **Hazards:**

Harmful if swallowed.  
May cause drowsiness or dizziness.  
May cause damage to organs.  
Danger of cerebral oedema.  
Danger of convulsion.

• **4.3 Indication of any immediate medical attention and special treatment needed**

Medical supervision for at least 48 hours.  
Monitor circulation, possible shock treatment.

## SECTION 5: Firefighting measures

• **5.1 Extinguishing media**

• **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

• **For safety reasons unsuitable extinguishing agents:** None.

• **5.2 Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

• **5.3 Advice for firefighters**

• **Protective equipment:**

Wear self-contained respiratory protective device.  
Wear fully protective suit.

• **Additional information:** Use large quantities of foam as it is partially destroyed by the product.

## SECTION 6: Accidental release measures

• **6.1 Personal precautions, protective equipment and emergency procedures**

Use respiratory protective device against the effects of fumes/dust/aerosol.

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

• **6.2 Environmental precautions** Do not allow to enter sewers/ surface or ground water.

• **6.3 Methods and material for containment and cleaning up**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Send for recovery or disposal in suitable receptacles.

• **6.4 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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## SECTION 7: Handling and storage

### · 7.1 Precautions for safe handling

- Prevent formation of aerosols.
- Use only in well ventilated areas.
- Avoid splashes or spray in enclosed areas.

- **Information about fire - and explosion protection:** No special measures required.

### · 7.2 Conditions for safe storage, including any incompatibilities

#### · Storage:

#### · Requirements to be met by storerooms and receptacles:

- Provide ventilation for receptacles.
- Avoid storage near extreme heat, ignition sources or open flame.

#### · Information about storage in one common storage facility:

- Store away from foodstuffs.
- Do not store together with oxidising and acidic materials.

- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

### · 8.1 Control parameters

#### · Ingredients with limit values that require monitoring at the workplace:

#### 107-21-1 ethylene glycol

IOELV (EU) Short-term value: 104 mg/m<sup>3</sup>, 40 ppm  
Long-term value: 52 mg/m<sup>3</sup>, 20 ppm  
Skin

TLV (USA) Long-term value: NIC-10\* mg/m<sup>3</sup>  
Ceiling limit: (100) mg/m<sup>3</sup>  
(H);\*as inhalable fraction and vapor

EL (Canada) Short-term value: 20\*\* mg/m<sup>3</sup>  
Long-term value: 10\*\* mg/m<sup>3</sup>  
Ceiling limit: 100\* mg/m<sup>3</sup>, 50\*\*\* ppm  
\*Aerosol; \*\*Particulate; \*\*\*Vapour

EV (Canada) Ceiling limit: 100 mg/m<sup>3</sup>

- **DNELs:** No further relevant information available.
- **PNECs:** No further relevant information available.

### · 8.2 Exposure controls

#### · Personal protective equipment:

#### · General protective and hygienic measures:

- The usual precautionary measures are to be adhered to when handling chemicals.
- Keep away from foodstuffs, beverages and feed.
- Wash hands before breaks and at the end of work.
- Immediately remove all soiled and contaminated clothing.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes.

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Avoid close or long term contact with the skin.

• **Respiratory protection:**

Not required under normal conditions of use.

Use suitable respiratory protective device in case of insufficient ventilation.

For spills, respiratory protection may be advisable.

• **Protection of hands:**



Protective gloves

Gloves are advised for repeated or prolonged contact.

Wear protective gloves to handle contents of damaged or leaking units.

• **For the permanent contact gloves made of the following materials are suitable:**

PVC gloves

Neoprene gloves

Nitrile rubber, NBR

• **Eye protection:**



Safety glasses

• **Body protection:** Protective work clothing

• **Limitation and supervision of exposure into the environment:**

No further relevant information available.

• **Risk management measures:** See Section 7 for additional information.

## SECTION 9: Physical and chemical properties

• **9.1 Information on basic physical and chemical properties**

• **Appearance**

Form:

Liquid

Colour:

Colourless

• **Odour:**

Mild

• **Odour threshold:**

Not determined.

• **pH-value:**

Not determined.

• **Melting point/freezing point:**

Not determined.

• **Initial boiling point and boiling range:**

Not determined.

• **Flash point:**

111 °C (232 °F)

• **Flammability (solid, gas):**

Not applicable.

• **Auto/Self-ignition temperature:**

Not determined.

• **Decomposition temperature:**

Not determined.

• **Explosive properties:**

Product does not present an explosion hazard.

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· <b>Explosion limits</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure:</b>	Not determined.
· <b>Density:</b>	Not determined.
· <b>Relative density:</b>	Not determined.
· <b>Vapour density:</b>	Not determined.
· <b>Evaporation rate:</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Partly miscible.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>9.2 Other information</b>	No further relevant information available.

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.  
To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions**  
Reacts with strong acids and alkali.  
Reacts with strong oxidising agents.  
Toxic fumes may be released if heated above the decomposition point.
- **10.4 Conditions to avoid** Store away from oxidising agents.
- **10.5 Incompatible materials** Oxidisers, strong bases, strong acids
- **10.6 Hazardous decomposition products**  
Carbon monoxide and carbon dioxide  
Phosphorus oxides (e.g. P<sub>2</sub>O<sub>5</sub>)

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**  
Harmful if swallowed.

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· **LD/LC50 values relevant for classification:**

**107-21-1 ethylene glycol**

Oral LD50 5840 mg/kg (rat)

Dermal LD50 9530 mg/kg (rabbit)

- **Primary irritant effect**
- **Skin corrosion/irritation:** Slight irritant effect on skin and mucous membranes.
- **Serious eye damage/irritation:** Slight irritant effect on eyes.
- **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable routes of exposure:**

Inhalation

Eye contact.

Skin contact.

- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:**  
May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** Biodegradable
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

- **Uncleaned packaging:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## SECTION 14: Transport information

- **14.1 UN-Number**

- DOT, ADR, IMDG, IATA Not Regulated

- **14.2 UN proper shipping name**

- DOT, ADR, IMDG, IATA Not Regulated

- **14.3 Transport hazard class(es)**

- DOT, ADR, IMDG, IATA

- Class Not Regulated

- **14.4 Packing group**

- DOT, ADR, IMDG, IATA Not Regulated

- **14.5 Environmental hazards:**

- Marine pollutant: No

- **14.6 Special precautions for user**

Not applicable.

- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

- United States (USA)

- SARA

- **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

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· **Section 313 (Specific toxic chemical listings):**

107-21-1	ethylene glycol
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· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65 (California):**

· **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.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients are listed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H302 Harmful if swallowed.

H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure:  
Oral.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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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)  
WHMIS: Workplace Hazardous Materials Information System (Canada)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
Acute Tox. 4: Acute toxicity – Category 4  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

**Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))  
Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do))  
Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))  
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6  
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.  
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Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573  
Website: [www.chemtelinc.com](http://www.chemtelinc.com)