



NFPA	GHS Pictogram	Personal Protective Equipment

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	Product form	Product code
RhoTherm 921 RTU	Mixture	RT-921-RTU

1.2. Relevant identified uses of the substance or mixture and uses advised against:

Heat transfer fluid and antifreeze. Corrosion and scale inhibitor. Not for use where incidental food contact may occur.

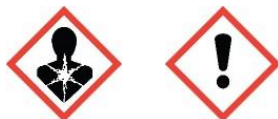
1.3. Details of the supplier of the safety data sheet

Rhomar HTF LLC, dba Rhomar Water
2103 E. Rockhurst St., Springfield, MO 65802 USA
Phone: 417-862-2600; Fax: 417-862-6410
TalkToUs@rhomarwater.com

1.4. Emergency telephone number
CHEM TEL: 1-800-255-3924

SECTION 2: HAZARDS IDENTIFICATION

GHS Pictogram:



Signal Word: **Warning**

Hazard Statements (Hazard Characterization):

- H302:** Harmful if swallowed (*Acute Toxicity/Oral: Category 4*).
- H371:** May cause damage to organs or aggravate existing conditions (kidney, liver) through prolonged or repeated exposure (ingestion) (*Specific Target Organ toxicity, single exposure: Category 2*)
- H316:** Causes mild skin irritation (*Skin Corrosion/Irritation: Category 3*).
- H320:** Causes eye irritation (*Serious Eye Damage/Eye Irritation: Category 2B*).
- H336:** May cause drowsiness or dizziness (*Specific Target Organ toxicity, single exposure, Narcotic effects, Category 3*)

Precautionary Statements:

- P264 + P270:** Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.
- P260** : Do not breathe vapors, fumes or mist. Use safety glasses and gloves for personal protection.
- P305 + P351 + P338:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P302 + P352 + P362:** IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.
- P301 + P331 + P312:** IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a POISON CENTER / doctor / physician if you fell unwell.
- P304 + P340 + P312:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you fell unwell.
- P370 + P378 + P380:** IN CASE OF A FIRE: Use alcohol-resistant foam or dry carbon dioxide or media compatible with surrounding fire for extinction. Evacuate area.
- P233 + P410 + P403:** Keep the container tightly closed in a well ventilated place. Protect from sunlight.
- P102** : Keep out of reach of children.
- P501** : Dispose of contents/container in accordance with applicable federal, state and local laws.

Reference: GHS Purple Book-Annex 3

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS #	Amount, %
Ethylene glycol	107-21-1	20 - 60
Corrosion inhibitors*	BLEND*	0.5 - 1.0
Water	7732-18-5	Balance

* The specific chemical identities of the corrosion inhibitors is a Rhomar Water trade secret and has thus been withheld.

SECTION 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: If there exists a significant potential for exposure, refer to **Section 8** for personal protective equipment

Eye contact : Immediately flush thoroughly with plenty of water for 15 minutes

Skin contact : Wash off with soap and plenty of water. Rinse thoroughly with water. Remove and wash contaminated clothing before reuse.

Inhalation : Move to fresh air. If symptoms persist, call a physician

Ingestion : Clean mouth with water. Drink water to dilute contents. Do not induce vomiting. Consult physician

4.2. Note to Physician: Contains ethylene glycol and alkaline corrosion inhibitors. Treat symptomatically. Immediate medical attention is important. Ethylene glycol may cause significant acidosis, renal, respiratory, and CNS toxicity.

SECTION 5: FIREFIGHTING MEASURES**NFPA**

Flammability 1
Health 2



Stability and reactivity 0
Physical hazard -

- 5.1. Suitable extinguishing media:** Non-combustible. Use alcohol-resistant foam or dry carbon dioxide or media compatible with surrounding fire.
- 5.2. Unsuitable extinguishing media:** Do not use direct water stream as it may aggravate the spread of the fire thus posing a fire hazard.
- 5.3. Special hazards arising from the substance or mixture:** Thermal decomposition may result in smoke which may contain harmful combustion products such as carbon monoxide and carbon dioxide among others
- 5.4. Advise for firefighters:** Wear self-contained breathing apparatus, NIOSH/MSHA (approved or equivalent) and full protective gear for firefighting if necessary

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1. Personal precautions, protective equipment and emergency procedures:** Ensure adequate ventilation. Avoid breathing vapors or mist. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION for more information.
- 6.2. Environmental precautions:** Do not let the product enter sewers, waterways, into soil and groundwater systems. Prevent further leakage if safe to do so. See Section 12, ECOLOGICAL INFORMATION for additional information.
- 6.3. Methods and material for containment and cleaning:** Dam up the area of accidental release to contain large spills. Mechanically collect spillage in suitable containers for disposal. For small spills, adsorb with sawdust or any inert adsorbent material. For additional information, see Section 13, DISPOSAL CONSIDERATIONS.

SECTION 7: HANDLING AND STORAGE

- 7.1. Precautions for safe handling:** For industrial and institutional use only. No special precautions needed when handling the product. See Section 8, EXPOSURE CONTROLS/PERSONAL PROTECTION.
- 7.2. Conditions for safe storage, including any incompatibilities:** Store in original container. Keep storage container tightly closed in a well ventilated, cool and dry place. See Section 10, STABILITY AND REACTIVITY for more information. Although not a principal hazard, keep away from sources of ignition, heat, and oxidizing agents. Vapor inhalation may alter blood pH causing loss of consciousness. Use with adequate mechanical ventilation. Do not cut, drill, weld, or grind on or near this container. Avoid all contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near workplace.
- 7.3. Specific end use(s):** Apart from the uses mentioned in Section 1.2, no other specific uses are prescribed.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION



Control parameters

This product contains ethylene glycol which has the following occupational exposure limits:

Chemical Name	Type of listing	Regulation	Value
Ethylene glycol	STEL	OSHA - PEL	125 mg/m ³
	Ceiling	OSHA; NIOSH	50 mg/L
	STEL	ACGIH - TLV	127 mg/m ³
	Ceiling, Aerosol	ACGIH	100 mg/m ³

8.1. Exposure controls

Eye/face protection : Wear goggles or safety glasses with side shields.

Skin/body protection : Use gloves chemically resistant to this product such as those made from butyl or nitrile rubber when prolonged contact with material could occur.

Respiratory protection : Wear suitable personal respiratory protection and protective suit in case of mist, aerosol or spray exposure.

8.2. **Engineering controls** : Adequate ventilation should be ensured.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Lightly viscous liquid	Specific Gravity (H₂O=1)	1.08 – 1.09 g/cm ³
Appearance	Clear	Evaporation Rate	0.01 (Butyl acetate = 1)
Odor	Little to none	Vapor Pressure (in mmHg)	2.2 at 68 °F (20 °C)
pH (as is)	9.5 – 10.5	Vapor Density (Air = 1)	No data available
Boiling Point (at 760 mmHg)	~216 to 232 °F (~102 to 111 °C)	Freezing Point	+8 to <-60 °F (-13.2 to <-51 °C)
Water Solubility	Miscible, 100%	Partition Coefficient	-1.93 (Octanol/Water)
Decomposition temperature	No data available	Flammability Limits (solid, gas)	Not applicable to liquids
Oxidizing properties	No data available	Autoignition Temperature	427 °C (801 °F) (Ethylene glycol)
Flash Point	126.7 °C (260 °F), Pensky-Martens Closed Cup ASTM D93 based on Ethylene glycol		
Flammability/explosive limit	Lower: 3.2 % Vol; upper: 15.3 % Vol Literature Ethylene glycol (at 25°C, 760 mmHg)		
Molecular Weight	No data available		

9.2. **Other information** : None available

SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity** : No data available

10.2. **Chemical stability** : Stable under recommended storage conditions

10.3. **Possibility of hazardous reactions**: Polymerization will not occur

10.4. **Conditions to avoid** : Exposure to elevated temperatures can cause it to decompose generating gases which can cause pressure buildup in closed systems. Ethylene glycol mist in air is a moderate fire and explosion hazard.

10.5. **Incompatible materials** : Avoid contact with strong oxidizers, strong acids, strong bases

SECTION 11: TOXICOLOGICAL INFORMATION
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10.6. Hazardous decomposition products: Carbon monoxide, carbon dioxide

Information on toxicological effects

Acute toxicity:

Chemical name	Exposure route	Test specimen	Lethal Dose (LD ₅₀)	Reference
Ethylene glycol	Oral	Rat	6,000 - 13,000 mg/Kg	Literature
	Dermal	Rat	> 22,270 mg/Kg	
	Inhalation	Rat	> 3.95 mg/L/7H	
	Dermal	Rabbit	10,626 mg/Kg	
RhoTherm 921 RTU	No test data available			

Chronic effects:

Carcinogenicity: No ingredient of this product in levels $\geq 0.1\%$ is identified and listed by OSHA, ACGIH, NTP, IARC or Mexico as a known or suspected carcinogen

Mutagenic, reproductive, developmental, target organ or neurological effects: No information available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Aquatic Toxicity

Chemical Name	Description of ecological effect
Ethylene glycol	LC ₅₀ – 46,000 – 51,100 mg/L (<i>Daphnia magna</i>); LC ₅₀ – 27,540 mg/L (Bluegill sunfish); LC ₅₀ – 18,000 – 46,000 mg/L (Rainbow trout); LC ₅₀ – 51,000 mg/L (Fathead minnow)
RhoTherm 921 RTU	No test data available

12.2. Persistence and degradability: This product is readily biodegradable

12.3. Bioaccumulative potential : No data available

12.4. Mobility in soil : Mobility potential of product in soil is very high due to its 100 % miscibility with water

12.5. Other adverse effects : None known

SECTION 13: DISPOSAL CONSIDERATIONS
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13.1 Unused/uncontaminated product : Contact a licensed: Recycler. Reclaimer. Incinerator.

13.2 Waste disposal methods : Whenever possible, minimize waste. Waste should be disposed of in accordance with all laws and regulations pertaining to this product in your area of jurisdiction.

13.3 Contaminated packaging : Decontaminate empty containers. Treat decontamination fluid as waste and dispose as above. You may take the containers for local recycling.

NOTE: Do not dump into any sewers, on the ground, or into any water body. All disposal practices must be in compliance with all federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are solely the responsibility of the waste generator.

SECTION 14: TRANSPORT INFORMATION
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Domestic Transport regulations: DOT (USA) and TDG (Canada) – UN3082; Hazard Class: 9; Packing group: III; Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Contains Ethylene glycol), Reportable Quantity (RQ) – 8,197 to 50000 lbs of product. Poison Inhalation hazard: No.

NOTE: Not regulated if shipped in containers or means of containment with less than 5,000 lbs as Ethylene glycol.

International Transport regulations: The international regulation on the transport of dangerous goods (IMDG/IMO, IATA/ICAO, ADR/RID) – Not Regulated

NOTE: This information is not intended to convey all specific regulatory or operational requirements relating to the transportation of this product. Additional transportation information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of this material.

SECTION 15: REGULATORY INFORMATION

15.1. US Federal regulations

SARA 313: Ethylene glycol (CAS RN 107-21-1) is subject to the reporting requirements of SARA (1986) Title III, Section 313.

SARA 311/312: Acute health hazard: Yes
Chronic health hazard: Yes

SARA 302: This product is not known to contain any chemicals subject to the reporting requirements of SARA (1986) Title III, Sections 302 or regulations contained in 40 CFR 302.

15.2. US State regulations

Worker and Community-Right-To-Know Acts: Ethylene glycol (CAS RN 107-21-1) is listed because of the additional requirements of the States of Pennsylvania, New Jersey, and Massachusetts Laws.

Proposition 65: This product does not contain chemicals listed in the State of California as carcinogens, reproductive toxins at levels requiring a warning under this statute.

15.3. Worldwide Chemical Inventory Status :

All the ingredients in this product are listed in USA's TCSA, and Canada's DSL inventories

SECTION 16: OTHER INFORMATION

Prepared by	Preparation date	Revision date	Revision number
Rhomar HTF LLC, dba Rhomar Water	12/23/2015	12/23/2015	1

LEGEND:

CAS: Chemical Abstracts Service

TWA: Time Weighted Average

IMDG: International Maritime Dangerous Goods

WEEL: Workplace Environmental Exposure Limit

NTP: National Toxicity Program

CFR: Code of Federal Regulations

DOT: Department of Transport

IATA: International Air Transport Association

TDG: Transport of Dangerous Goods

DSL: Domestic Substances List

SARA: Superfund Amendments and Reauthorization Act

OHS: Occupational Health and Safety Act

OSHA: Occupational Safety and Health Administration

TCSA: Toxic Substances Control Act

IARC: International Agency for Research on Cancer

MSHA: Mine Safety and Health Administration

NIOSH: National Institute for Occupational Safety and Health

ACGIH: American Conference of Government Industrial Hygienists

ADR & RID: European Agreements Concerning International Carriage of Dangerous Goods by Rail and by Road

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