

| 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 |
|--------------|--------------|--------------|
| RhoGard | Mixture | RG |

1.2. Relevant identified uses of the substance or mixture and uses advised against: Antifreeze/heat transfer fluid with corrosion inhibitors for all metal components of boilers, hydronic, solar and other metal corrosion-susceptible systems.

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
T 417-862-2600; F 417-862-6410
Email: TalkToUs@RhomarWater.com; Website: www.RhomarWater.com

1.4. Emergency telephone number

CHEM TREC: 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

GHS Pictogram:



Signal Word: **Warning!**

Hazard Statement (GHS Hazard Classification):

- H316:** Causes mild skin irritation (*Skin Corrosion/Irritation: Category 3*).
- H320:** Causes eye irritation (*Serious Eye Damage/Eye Irritation: Category 2B*).
- H302:** Harmful if swallowed (*Acute Toxicity/Oral: Category 4*).

Precautionary Statements:

- P264 + P270:** Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.
- P305 + P351 + P338 + P337 + P313:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- P332 + P313:** If skin irritation occurs: Get medical advice/attention.
- P301 + P331 + P312:** IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a POISON CENTER/doctor/physician if you fell unwell.
- 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, % |
|--|--------------|-----------|
| Propylene glycol | 57-55-6 | 61 - 64 |
| Alkaline filming corrosion inhibitors* | PROPRIETARY* | 1.8 – 2.5 |
| Reserve alkalinity booster | PROPRIETARY* | <1 |
| Presto Brilliant Blue dye | - | <0.01 |
| Water | 7732-18-5 | Balance |

* The specific chemical identities of the alkaline filming corrosion inhibitors, dispersant and reserve alkalinity booster are a Rhomar Water trade secret and are thus 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. Avoid overexposure of this product to the eyes and skin. Do not ingest RhoGard.

Eye contact : Immediately flush thoroughly with plenty of water for 15 minutes while lifting the lower and upper eyelids occasionally. Seek medical attention if eye irritation occurs.

Skin contact : Wash off with soap and plenty of water. Rinse thoroughly with water. Seek medical attention if irritation occurs. Remove and wash contaminated clothing before reuse.

Inhalation : Move to fresh air. If breathing stops, administer artificial respiration. If symptoms persist, call a physician immediately.

Ingestion : Clean mouth with water. Drink plenty of water afterwards. Do not induce vomiting. Consult physician.

4.2. Indication of any immediate medical attention and special treatment needed: None

Note to Physician: Contains propylene glycol, dispersants and alkaline filming corrosion inhibitors. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

NFPA

Flammability 1
Health 1



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. Or that which is appropriate for the 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 (SCBA) which are 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. Use safety glasses and impervious gloves as a minimum for personal protection. 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:** No special precautions needed when handling the product but use of proper personal protective equipment is encouraged. Avoid contact with the eyes and prolonged or repeated skin contact. Observe standard industrial hygiene practices. 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 place. Avoid storing RhoGard with strong acids and oxidizers. See Section 10, STABILITY AND REACTIVITY for more specific information.
- 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

| Chemical Name | Type of listing | Regulation | Value |
|------------------|-----------------|-------------|----------------------|
| Propylene glycol | TWA | OHSA - WEEL | 10 mg/m ³ |

- 8.1. **Exposure controls**
- Eye/face protection** : Wear dust and splash proof 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. Wear impervious clothing.
- 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. Safety shower and eyewash station should be located in the immediate work place.

| |
|--|
| SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES |
|--|

9.1. Information on basic physical and chemical properties

| | | | |
|-------------------------------------|--|--|---------------------------|
| Physical state | Lightly viscous liquid | Specific Gravity (H₂O=1) | 1.04 – 1.05 |
| Appearance | Clear, blue | Evaporation Rate (H₂O = 1) | 1.0 |
| Odor | Little to none | Vapor Pressure | No data available |
| pH | 8.0 – 8.5 | Vapor Density (Air = 1) | No data available |
| Boiling Point (760 mmHg) | ~107 °C (225 °F) | Partition Coefficient | No data available |
| Freezing Point | -51.1 °C (-60.0 °F) | Water Solubility | Miscible, 100% Literature |
| Decomposition temperature | No data available | Flammability Limits (solid, gas) | Not applicable to liquids |
| Oxidizing properties | No data available | Autoignition Temperature | No test data available |
| Flash Point | 104°C (219°F), Pensky-Martens Closed Cup ASTM D93 based on Propylene glycol | | |
| Flammability/explosive limit | Lower: 2.6 % Vol; upper: 12.5 % Vol Literature Propylene glycol (25°C, 760 mmHg) | | |
| Molecular Weight | 76.09g/mol, based on major component, Propylene glycol | | |

- 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 and handling conditions
- 10.3. **Possibility of hazardous reactions:** Polymerization will not occur
- 10.4. **Conditions to avoid** : Exposing this product to elevated temperatures can cause it to decompose generating gases which can cause pressure buildup in closed systems.
- 10.5. **Incompatible materials** : Avoid contact with strong oxidizers, strong acids, strong bases
- 10.6. **Hazardous decomposition products:** None

| |
|--|
| SECTION 11: TOXICOLOGICAL INFORMATION |
|--|

Information on toxicological effects

| Chemical name | Exposure route | Test specimen | Lethal Dose (LD ₅₀) | Reference |
|------------------|------------------------------|------------------------|---------------------------------|------------|
| Propylene glycol | Oral | Rat | 8,000 – 46,000 mg/Kg | Literature |
| | | Mouse | 23,000-24,900 mg/Kg | |
| | | Guinea pig | 18,000-20,000 mg/Kg | |
| | Skin | Rabbit | Non-irritant | |
| | Eye | Rabbit | Non-irritant | |
| RhoGard | Eye, Respiratory, oral, skin | 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 |
|------------------|--|
| Propylene glycol | Acute LC ₅₀ > 51,400 mg/L (96 hour; Fathead minnow - <i>Pimephales promelas</i>) Acute EC ₅₀ > 1,000 mg/L (48 hour; Water flea - <i>Daphnia magna</i>) Acute EC ₅₀ > 19,000 mg/L (96 hour; Fresh water algae – <i>Pseudokirchneriella subcapitata</i>) |
| RhoGard | 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 likely high due to its 100 % miscibility with water
- 12.5. **Other adverse effects:**
None known

SECTION 13: DISPOSAL CONSIDERATIONS

- 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.
- 13.4 **Physical properties that may affect disposal activities:** RhoGard doesn't meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity and none of its ingredients are listed in 40 CFR 261.33
- 13.5 **Chemical properties that may affect disposal activities:** Toxicity Characteristic Leaching Procedures (TCLP) has not been performed on RhoGard.

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

International Transport regulations: This product is not covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID)

Domestic Transport regulations : **DOT (USA)** - Not regulated; **TDG (Canada)** - Not regulated; **MEX (Mexico)** - Not regulated. RhoGard is non-hazardous by DOT standards.

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: This product is not known to contain any chemicals at levels subject to the reporting requirements of SARA (1986) Title III, Sections 313

SARA 311/312: Acute health hazard: No
Chronic health hazard: No

SARA 302: This product is not known to contain any chemicals subject to the reporting requirements of SARA (1986) Title III, Sections 302 or Section 304.

15.2. US State regulations

Pennsylvania Worker and Community-Right-To-Know Act (Act 159 of 1984): Propylene glycol (CAS RN 57-55-6) is herein listed to meet the additional requirements of the Pennsylvania State Law

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 | 01/30/2009 | 12/07/2015 | 3 |

LEGEND:

| | |
|--|---|
| <p>CAS : Chemical Abstracts Service</p> <p>TWA : Time Weighted Average</p> <p>IMDG : International Maritime Dangerous Goods</p> <p>WEEL : Workplace Environmental Exposure Limit</p> <p>NTP : National Toxicity Program</p> <p>SARA : Superfund Amendments and Reauthorization Act</p> <p>OSHA : Occupational Safety and Health Administration</p> <p>IARC : International Agency for Research on Cancer</p> <p>NIOSH : National Institute for Occupational Safety and Health</p> <p>ACGIH : American Conference of Government Industrial Hygienists</p> | <p>CFR : Code of Federal Regulations</p> <p>DOT : Department of Transport</p> <p>IATA : International Air Transport Association</p> <p>TDG : Transport of Dangerous Goods</p> <p>DSL : Domestic Substances List</p> <p>OHSA : Occupational Health and Safety Act</p> <p>TCSA : Toxic Substances Control Act</p> <p>MSHA : Mine Safety and Health Administration</p> <p>ADR & RID: European Agreements Concerning International Carriage of Dangerous Goods by Rail and by Road</p> |
|--|---|

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. RHOMAR HTF LLC, DBA RHOMAR WATER ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE TO USERS OR THIRD PARTIES CAUSED BY THE MATERIAL. USERS ASSUME ALL RISKS ASSOCIATED WITH THE USE OF THE MATERIAL.