

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
BoilerGard 921	Mixture	BG-921

1.2. **Relevant identified uses of the substance or mixture and uses advised against:** Closed recirculating loop systems scale and corrosion 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
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:



Word: **Warning**

Hazard Statement:

- H315:** Causes skin irritation (*Skin corrosion/irritation: Category 2*).
- H319:** Causes serious eye irritation (*Serious eye damage/eye irritation: Category 2A*).
- H302:** harmful if swallowed (*Acute Toxicity/Oral: Category 4*).
- H272:** May intensify fire; oxidizer (*Oxidizing Liquids: Category 3*)
- 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*)
- H402:** Harmful to aquatic life (*Hazardous to aquatic life/Acute toxicity: Category 3*)

Precautionary Statements:

- P260:** Do not breathe mist or vapor.
- P264:** Wash hands and exposed skin thoroughly after handling.
- P270:** Do not eat, drink or smoke when using this product.
- P280:** Wear protective gloves/clothing, eye/face protection.
- P273:** Avoid release to the environment.
- P390:** Absorb spillage to prevent material damage.

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.

P302 + P352+ P361 + P363 + P333 + P313: IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing, wash before reuse. If skin irritation occurs: Get medical advice/attention

P301 + P330 + P331 + P312: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you fell unwell.

P233: Take any precaution to avoid mixing with combustibles, mineral acids, metals such as aluminium, zinc and tin, and open flames or sparks. Keep the container tightly closed. Keep only in original container

P370 + P378: IN CASE OF FIRE: Use alcohol-resistant foam or dry carbon dioxide or media compatible with surrounding fire for extinction. Evacuate area.

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	Common Name/Synonym	CAS #	Amount, %
Sodium nitrite	N/A	7632-00-0	22-25
Corrosion inhibitors*	N/A	Blend*	1.3 – 2.5
Sodium hydroxide	Caustic soda	1310-73-2	1 – 2
Deminerlized water	N/A	7732-18-5	Balance
Red dye			<0.01

* The specific identities of the polymeric dispersants is a Rhomar Water trade secret and is thus withheld.

SECTION 4: FIRST AID MEASURES

- 4.1. **General advice:** If there exists potential for exposure, refer to **Section 8** for personal protective equipment.
- 4.2. **Effects of overexposure:**

Acute overexposure: May cause corrosion to the skin and eyes. Its ingestion is toxic.

Chronic overexposure: Multiple reproductive tests indicate sodium nitrite is not teratogenic. Fetal toxicity has been demonstrated in pregnant animals fed toxic doses due to the formation of methemoglobin.
- 4.3. **Description of first aid measures:**

Eye contact : Immediately flush thoroughly with plenty of water while lifting the lower and upper eyelids occasionally. Seek medical attention.

Skin contact : Wash off with soap and plenty of water while removing contaminated clothes and shoes. Rinse thoroughly with water. Seek medical attention. Wash contaminated clothing before reuse.

Inhalation : Move to fresh air. If breathing stops, administer artificial respiration to maintain breathing. If breathing is difficult, oxygen should be administered provided a qualified operator is present. Immediately get medical attention if any symptoms exist.

Ingestion : Wash mouth with water. If person is conscious, give them 2 – 4 cups of drinking water. DO NOT INDUCE VOMITING. Get immediate medical attention. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.
- 4.4. **Note to Physician:** Contains sodium nitrite and alkaline corrosion inhibitors. Treat as symptoms may be.

SECTION 5: FIREFIGHTING MEASURES

NFPA

Health 2
Flammability 0



Stability and reactivity 1
Physical hazard OX

- 5.1. **Suitable extinguishing media:** Non-combustible. Use extinguishing media appropriate for the surrounding fire.
- 5.2. **Unsuitable extinguishing media:** Not flammable. Do not dry chemicals containing ammonium phosphate.
- 5.3. **Special hazards arising from the substance or mixture:** Material does not burn but is an oxidizing agent and will support combustion of other materials. Sodium nitrite decompose above 608 °F releasing toxic nitrogen oxides.
- 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:** Prevent spills from entering 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 inert adsorbent material. Dispose material in accordance with federal, state and local laws. For additional information, see Section 13, DISPOSAL CONSIDERATIONS.
- 6.4. **Emergency procedures:** Spills and releases may have to be reported to federal and/or local authorities. See Section 15.

SECTION 7: HANDLING AND STORAGE

- 7.1. **Precautions for safe handling:** Observe standard industrial hygiene practices. Proper personal protective equipment required while handling this product. Avoid contact with the eyes and prolonged or repeated skin contact. Avoid breathing mists or vapors. 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 and dry place. Do not expose the product to excessive heat. Keep out of reach of children. Protect from physical damage. Avoid storing BoilerGard 921 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
Sodium nitrite; 22 - 25% <i>(The exposure limits are for Particulates Not Otherwise Classified)</i>	ACGIH	TWA (Inhalable fraction)	10 mg/m ³
		TWA (Respirable fraction)	3 mg/m ³
	OSHA	TWA (Total dust)	15 mg/m ³
		TWA (Respirable fraction)	5 mg/m ³
Sodium hydroxide; 1 - 2%	ACGIH	ACGIH Ceiling	2 mg/m ³

- 8.1. **Exposure controls**
- Eye/face protection** : Wear dust and splash proof goggles or safety glasses with side shields as described by OSHA's eye and face protection regulation found in 29 CFR 1910.133
- 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
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9.1. **Information on basic physical and chemical properties**

Physical state	Liquid	Specific Gravity (H₂O=1), g/mL	1.13– 1.18
Appearance	Clear, red	Evaporation Rate (H₂O = 1)	No data available
Odor	Odorless	Odor threshold	No data available
pH (as is)	11.5 – 13.5	Vapor Pressure	No data available
pH of a 1% solution	Not established	Vapor Density (Air = 1)	No data available
Boiling Point, 760 mmHg	104.4°C (220°F)	Relative density (Air = 1)	1.14 g/mL
Freezing Point	-2.2 °C (28 °F)	Partition Coefficient	No data available
Decomposition temperature	608 °F (Sodium nitrite)	Water Solubility	Complete
Oxidizing properties	No data available	Flammability Limits (solid, gas)	Not applicable to liquids
Flammability/explosive limit	No data available	Autoignition Temperature	1000 °F (Sodium nitrite)
Viscosity	No data available	Flash Point	No data 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 above 608 °F can cause it to decompose generating toxic nitrogen oxides
- 10.5. **Incompatible materials** : Avoid contact with strong acids, reducing agents (particularly cyanides, thiocyanates and thiosulfates) as well as ammonium compounds.
- 10.6. **Hazardous decomposition products:** None at the recommended storage conditions.

SECTION 11: TOXICOLOGICAL INFORMATION
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Information on toxicological effects

Chemical name	Exposure route	Test specimen	Lethal Dose (LD ₅₀)	Reference
Sodium nitrite	Oral	Rat	157.9 mg/Kg	Literature
		Mouse	175 mg/Kg	
	Skin	Rabbit	Non-irritant	
	Eye	Rabbit	Eye irritant	
Sodium hydroxide	Dermal	Rabbit	1350 mg/Kg	
BoilerGard 921	Skin, oral, eye, respiratory	No test data available		

Chronic effects

Short-term exposure: Irritating to the eyes. May be harmful if ingested.

Long-term exposure: Repeated exposure may cause permanent tissue damage

Symptoms associated with exposure: Redness, itching, burning (from least to the most severe)

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
Sodium nitrite	LC ₅₀ – 0.94-1.92mg/L (96 hour; Onchorhynchus mykiss); EC ₅₀ – 12.5 mg/L (48 hour; Water flea); NOEC – 100 mg/L (72 hour; Green algae)
Sodium hydroxide (1310-73-2)	LC ₅₀ > 45.4 mg/L (96 hour; Fresh water fish)
BoilerGard 921	No test data available

12.2. **Persistence and degradability:** No data available

12.3. **Bioaccumulative potential** : No data available

12.4. **Mobility in soil** : Mobility potential of product is likely to be high due to its 100 % miscibility in water

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.

13.4 **Physical properties that may affect disposal activities:** BoilerGard 921 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 BoilerGard 921.

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 covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID); UN1500, Sodium nitrite, 5.1, (6.1), Packing Group III.

Domestic Transport regulations:

DOT (USA) – UN1500, Sodium nitrite, 5.1, (6.1), Packing Group III.

TDG (Canada) – UN1500, Sodium nitrite, 5.1 (6.1), Packing Group III.

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

US Federal regulations

SARA 313: An ingredient in this product, sodium nitrite, is subject to the reporting requirements of SARA (1986) Title III, Section 313 or regulations contained in 40 CFR 372 under Congressional Mandate.

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 Section 304.

15.2. **US State regulations**

Worker and Community-Right-To-Know Act: Sodium nitrite (CAS RN 7632-00-0) and sodium hydroxide (CAS RN 1310-73-2) are listed in the Pennsylvania, Massachusetts, Minnesota, New Jersey, California States right to know lists

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	09/13/2013	12/23/2015	3

LEGEND:

CAS	: Chemical Abstracts Service	CFR	: Code of Federal Regulations
TWA	: Time Weighted Average	DOT	: Department of Transport
IMDG	: International Maritime Dangerous Goods	IATA	: International Air Transport Association
WEEL	: Workplace Environmental Exposure Limit	TDG	: Transport of Dangerous Goods
NTP	: National Toxicity Program	DSL	: Domestic Substances List
SARA	: Superfund Amendments and Reauthorization Act	OHSA	: 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	ADR & RID	: European Agreements Concerning International Carriage of Dangerous Goods by Rail and by Road
ACGIH	: American Conference of Government Industrial Hygienists		

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