SAFETY DATA SHEET

STEAMASTER™ TABLETS

Concentrated, economical treatment

Section 1 – Product and Company Information

Product Name
Steamaster™ Tablets

Product Codes
68732

Chemical Family
Organic/Inorganic

Use
Boiler water treatment

Manufacturer's Name
The RectorSeal Corporation
2601 Spenwick Drive
Houston, Texas 77055 USA

Date of Validation
January 23, 2015

Date of Preparation
October 8, 2012

HMIS Codes

Health	2
Flammability	0
Reactivity	1
PPI	B

Emergency Telephone No.
Chemtrec 24 Hours
(800)-424-9300 USA
(703)-527-3887 International

Technical Service Telephone No.
(800)-231-3345 or (713)-263-8001

Section 2 – Hazards Identification

EMERGENCY OVERVIEW

OSHA Hazards
Oxidizer, Carcinogen, Target Organ Effect, Toxic by ingestion, Irritant

Target Organs
Blood, Cardiovascular system., Smooth muscle.

GHS CLASSIFICATION

Oxidizing solids (Category 3)
Acute toxicity, Oral (Category 3)
Eye irritation (Category 2A)
Acute aquatic toxicity (Category 1)

Physical Hazards:
Oxidizer

Potential Health Effects
Inhalation - May be harmful if inhaled. Causes respiratory tract irritation.
Skin - May be harmful if absorbed through skin. Causes skin irritation.
Eyes - Causes eye irritation.
Ingestion - Toxic if swallowed.

GHS Label elements, including precautionary statements

GHS03: Oxidizing
GHS06: Toxic
GHS09: Environmental Hazard
Signal Word: **Danger**

Hazard statement(s)
H272 - May intensify fire; oxidiser.
H301 - Toxic if swallowed.
H319 - Causes serious eye irritation.
H400 - Very toxic to aquatic life.

Precautionary statement(s)
P220 - Keep/Store away from clothing/ combustible materials.
P273 - Avoid release to the environment.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Summary Of Acute Hazards

Harmful if swallowed, inhaled or absorbed through skin. Causes irritation to skin, eyes and respiratory tract.

Route Of Exposure, Signs And Symptoms

INHALATION
Toxic. Causes irritation to the respiratory tract and systemic poisoning with symptoms paralleling ingestion.

EYE CONTACT
May cause irritation, redness and pain.

SKIN CONTACT
Causes irritation, redness and pain. May be absorbed through the skin causing systemic poisoning; symptoms may parallel ingestion.

INGESTION
Toxic. Can irritate the mouth, esophagus, stomach, etc. Excessive amounts affect the blood and blood vessels. Signs and symptoms of nitrite poisoning include intense cyanosis, nausea, dizziness, vomiting, collapse, spasms of abdominal pain, rapid heart beat, irregular breathing, coma, convulsions, and death due to circulatory collapse. **Estimated lethal dose 1 to 2 grams.**

SUMMARY OF CHRONIC HAZARDS
Repeated exposure through any route may cause symptoms similar to acute toxicity.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Individuals with pre-existing or chronic diseases of the eyes, skin and respiratory system may have increased susceptibility to excessive exposure.

Section 3 – Composition/Information on Ingredients

Ingredient:	Sodium Nitrite
Percentage By Weight:	44.04
CAS Number:	7632-00-0
EC#:	231-555-9
Ingredient:	Sodium Triphosphate
Percentage By Weight:	23.52
CAS Number:	7758-29-4
EC#:	231-838-7
Ingredient:	Sodium Metasilicate
Percentage By Weight:	1.34
CAS Number:	6834-92-0
EC#:	229-912-9
Ingredient:	Citric Acid
Percentage By Weight:	3.36
CAS Number:	77-92-9
EC#:	201-069-1

Section 4 – First Aid Measures

If inhaled:	If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.
If on skin:	Immediately wash with soap and water. Remove and wash any contaminated clothing.
If in eyes:	Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.
If swallowed:	If swallowed, call a physician or poison control immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Section 5 – Fire Fighting Measures

Note: Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Increases the flammability of any combustible material.

Extinguishing Media
Non-combustible. Use agents appropriate for surrounding fires.

Special Fire Fighting Procedures: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Decomposition of sodium nitrite may leave a caustic residue.

Unusual Fire And Explosion Hazards: Contact with oxidizable substances may cause extremely violent combustion. May explode when heated to 537°C (1000°F) or on severe impact or on contact with cyanides, ammonium salts, cellulose, lithium, potassium plus ammonia, and sodium thiosulfate.

Section 6 – Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Sweep up excess material to prevent footing hazard. Discard in trash.

Section 7 – Handling and Storage

Precautions To Be Taken In Handling And Storing: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Other Precautions: Avoid prolonged or repeated contact with skin or clothing.

KEEP OUT OF REACH OF CHILDREN.

Section 8 – Exposure Controls/Personal Protection

Ingredient	Units
Sodium Nitrite	
ACGIH TLV:	N/D
OSHA PEL:	N/D
Sodium Triphosphate	
ACGIH TLV:	N/D
OSHA PEL:	N/D

Sodium Metasilicate

ACGIH TLV:	N/D
OSHA PEL:	N/D

Citric Acid

ACGIH TLV:	N/D
OSHA PEL:	N/D

Respiratory Protection (Specify Type): Normally none required. Use NIOSH/MSHA approved particulate respirator for nuisance dust.

Ventilation – Local Exhaust: Acceptable.

Special: N/A

Mechanical (General): Acceptable.

Other: N/A

Protective Gloves: Wear rubber gloves.

Eye Protection: Safety glasses (ANSI Z-87.1 or equivalent)

Other Protective Clothing Or Equipment: Coveralls recommended.

Work/Hygienic Practices: Where use can result in skin contact, wash exposed areas thoroughly before eating, drinking, smoking, or leaving work area. Launder contaminated clothing before reuse.

Section 9 – Physical and Chemical Properties

Boiling point:	N/A
Specific gravity (H20 = 1):	Solid
Vapor pressure (mmHg):	N/A
Melting point:	N/D
Vapor Density (Air = 1):	N/A
Evaporation rate (Ethyl Acetate = 1):	N/A
Appearance/Odor:	Tablets/No distict odor
Solubility in water:	Soluble
Volatile Organic Compounds (VOC) Content (theoretical percentage by weight):	0% or (0 g/L)
Flash point:	None
Lower explosion limit:	N/D
Upper explosion limit:	N/D

Section 10 – Stability and Reactivity

Stability: This material is stable in closed containers at room temperature. Material slowly oxidizes to sodium nitrate when exposed to air. Very hygroscopic.

Conditions To Avoid: Heat, flame, ignition sources, shock, friction, incompatibles.

Incompatibility (Materials To Avoid): Reacts vigorously with reducing materials and is incompatible with many substances including ammonium salts, cellulose, cyanides, lithium, potassium plus ammonia, sodium thiosulfate, aminoguanide salts, butadiene, phthalic acid, phthalic anhydride, reducants, sodium amide, sodium disulphite, sodium thiocyanate, urea, wood and organic matter.

Hazardous Decomposition Products: Oxides of nitrogen.

Hazardous Polymerization: Will not occur.

Section 11 – Toxicology Information

Chronic Health Hazards

No ingredient in this product is an IARC, NTP or OSHA Lister carcinogen.

Toxicology Data

Ingredient Name

Sodium Nitrite	
Oral-Rat LD50:	85 mg/kg
Inhalation-Rat LC50:	5500 mg/m3
Sodium Triphosphate	
Oral-Rat LD50:	6500 mg/kg
Inhalation-Rat:	N/D
Sodium Metasilicate	
Oral-Rat LD50:	2000-3000 mg/kg
Inhalation-Rat LCLo:	N/D
Citric Acid	
Oral-Rat LD50:	3 g/kg
Inhalation-Rat LCLo:	N/D

Section 12 – Ecological Information

Ecological Data

Ingredient Name:	**Sodium Nitrite**
Food Chain Concentration Potential:	None
Waterfowl Toxicity:	N/A
BOD:	None
Aquatic Toxicity:	17.1 ppm/24 hr/minnow

Ecological Data (cont.)

Ingredient Name:	**Sodium Triphosphate**
Food Chain Concentration Potential:	N/D
Waterfowl Toxicity:	N/D
BOD:	N/D
Aquatic Toxicity:	N/D

Ingredient Name:	**Sodium Metasilicate**
Food Chain Concentration Potential:	None
Waterfowl Toxicity:	N/A
BOD:	None
Aquatic Toxicity:	2320 ppm/96 hr/mosquito fish/TLm

Ingredient Name:	**Citric Acid**
Food Chain Concentration Potential:	None
Waterfowl Toxicity:	N/A
BOD:	40%
Aquatic Toxicity:	894 ppm/4 hr/goldfish

Section 13 – Disposal Considerations

Waste Classification: Non-regulated solid waste

Disposal Method: Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14 – Transportation Information

DOT:	UN1479, Oxidizing substances, solid, n.o.s., (Sodium Nitrite), Class 5.1, PGIII, LTD QTY, ERG#140
Ocean (IMDG):	UN1479, Oxidizing substances, solid, n.o.s.,(Sodium Nitrite),Class 5.1, PGIII, LTD QTY, EMS-No: F-A, S-Q
Air (IATA):	UN1479, Oxidizing substances, solid, n.o.s.,(Sodium Nitrite), Class 5.1, PGIII, LTD QTY, ERG#140

Section 15 – Regulatory Information

Regulatory Data

Ingredient Name:	**Sodium Nitrite**
SARA 313	Yes
TSCA Inventory	Yes
CERCLA RQ	100 lb.
RCRA Code	N/A

Ingredient Name:	**Sodium Triphosphate**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Ingredient Name:	**Sodium Metasilicate**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Ingredient Name:	**Citric Acid**
SARA 313	No
TSCA Inventory	Yes
CERCLA RQ	N/A
RCRA Code	N/A

Section 16 – Other Information

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). The information herein is given in good faith, but no warranty, expressed or implied is made.

Consult RectorSeal for further information: (713) 263-8001