Material Safety Data Sheet

Oxygen Scavanger Boiler - Hot water 210 (RXSOL-16-5016-210)

1. Product and Company Identifaction

Part Number	RXSOL-16-5016-210
Product Name	Oxygen Scavanger

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Stock Point : Mumbai, Kandla, Chennai, Visakhapatnam, Kolkata, Fujairah, Muscat Oman, Canada BC

Phone	+91 22 65113333 / 5555 / 9999 / 27611360
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2. Composition / informationon ingredients

This product is classified as dangerous in accordance with the Preparations Directive 1999/45/EC.

Product	EINECS / ELINCS NO	CAS NO	SYMBOL	R-PHRASES / NOTAS	% (w/w)
Carbohydrazide 1,3-Diaminourea	207-837-2	479-89-7			1-2
Ammonium Bisulfite	233-469-7	10192-30-0	xi	R31, R36/37/38	60 - 90

Refer to Section 16 for descriptions of relevant risk phrases and Notas.

3. Hazards Identification

HAZARD CLASSIFICATION :	This product is classified as dangerous in accordance with the Preparations Directive 1999/45/EC. Contact with acids liberates toxic gas. Irritating to eyes, respiratory system and skin
HUMAN HEALTH HAZARDS - ACUTE :	
INHALATION :	Not a likely route of exposure. Irritating to the eyes, nose, throat and lungs. Causes asthmatic signs and symptoms in hyper-reactive individuals.
SKIN CONTACT :	Can cause moderate irritation
EYE CONTACT	Irritating, and may injure eye tissue if not removed promptly
INGESTION :	Not a likely route of exposure. There may be irritation to the gastro-intestinal tract. May cause asthmatic-like attack.

HUMAN HEALTH HAZARDS - CHRONIC	Ingestion of sulfite can cause a severe allergic reaction in asthmatics and some sulfite sensitive individuals. The resulting symptoms can include difficulty in breathing, flushed skin and a rash

4. First Aid Measures

INHALATION :	Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice
SKIN CONTACT	Immediately flush with plenty of water for at least 15 minutes. If symptoms develop, seek medical advice.
EYE CONTACT	Immediately flush eye with water for at least 15 minutes while holding eyelids open. If symptoms develop, seek medical advice
INGESTION	Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If reflexive vomiting occurs, rinse mouth and repeat administration of water.
NOTE TO PHYSICIAN	Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition

5. Fire-fighting Measures

FLASH POINT :	Not applicable
EXTINGUISHING MEDIA	Not expected to burn. Use extinguishing media appropriate for surrounding fire.
FIRE AND EXPLOSION HAZARD	Not flammable or combustible.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING	In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit

6. Accidental Release Measures

PERSONAL PRECAUTIONS	Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.
METHODS FOR CLEANING UP	SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal.
ENVIRONMENTAL PRECAUTIONS	Do not contaminate surface water

7. Handling and Storage

HANDLING	Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled
STORAGE CONDITIONS	Store in suitable labeled containers. Store the containers tightly closed. Amine and sulphite products should not be stored within close proximity or resulting vapors may form visible airborne particles. Avoid direct sunlight. At temperatures greater than 50'C may decompose exothermically with release of sulphur dioxide. 18 month shelf life under given storage conditions
SUITABLE CONSTRUCTION MATERIAL	Teflon, Perfluoroelastomer, PTFE, TFE, FEP (encapsulated), HDPE (high density polyethylene), Viton, Neoprene, Polypropylene, Stainless Steel 304, Stainless Steel 316L, Nitrile, EPDM
UNSUITABLE CONSTRUCTION MATERIAL	Brass, Aluminum, Mild steel, Carbon Steel C1018

8. Exposure controls and personal protection

MONITORING MEASURES

A small volume of air is drawn through an absorbant or barrier to trap the substance(s) which can then be desorbed or removed and analyzed as referenced below

Substance(s)	Method	Analysis	Absorbant
Sulfur Dioxide	US NIOSH: 6004	Ion chromatography	Cellulose ester filter treated with Sodium Bicarbonate

ENGINEERING MEASURES	The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces
PERSONAL PROTECTION	
GENERAL ADVICE	The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and workclothes protecting arms, legs and body be used. In addition any person visiting an area where this product is handled should at least wear safety glasses with side-shields. The applicable European standard can be found in EN 166 .
RESPIRATORY PROTECTION	Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: E The applicable European standard can be found in EN 140, EN 137, EN 143 and EN 14387. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection
HAND PROTECTION	When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.
SKIN PROTECTION	When handling this product, the use of overalls, a chemical resistant apron and rubber boots is recommended.

EYE PROTECTION	Wear chemical splash goggles.
HYGIENE RECOMMENDATIONS	Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke

9. Physical and chemical properties

PHYSICAL STATE	Liquid
APPEARANCE	Yellow Clear
ODOR	Pungent
FLASH POINT	Not applicable
SPECIFIC GRAVITY	1.16 (20 °C)
SOLUBILITY IN WATER	Complete
pH (100 %)	5.3
VISCOSITY	Calculated 1.6 cst (20 °C)
MELTING POINT	-20 °C
INITIAL BOILING POINT	100 °C Calculated
VAPOR PRESSURE	3.2 kPa (25 °C)
EVAPORATION RATE	1.5 (BuAc = 1)

Note: These physical properties are typical values for this product and are subject to change

10. Stability and reactivity

STABILITY	This material is unstable at elevated temperatures, which may cause exothermal decomposition
HAZARDOUS POLYMERIZATION	Hazardous polymerization will not occur
CONDITIONS TO AVOID	At temperatures greater than 50°C may decompose exothermically with release of Sulphur dioxide gas
MATERIALS TO AVOID	SO2 may react with vapors from neutralizing amines and may produce a visible cloud of amine salt particles., Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors
HAZARDOUS DECOMPOSITION PRODUCTS	
Under fire conditions	Oxides of sulfur

11. Toxicological information

No toxicity studies have been conducted on this product

SENSITIZATION	Sulfites can cause an allergic reaction in sensitive individuals

CARCINOGENICITY	None of the substances in this product are listed as carcinogens by the International Agency for Research onCancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

For additional information on the hazard of the preparation, please consult section 2 and 12.

12. Ecological information

ECOTOXICOLOGICAL EFFECTS

MOBILITY	The environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages (Air-5%, Water- 30 - 50%, Soil/Sediment- 50 - 70%) The portion in water is expected to be soluble or dispersible
PERSISTENCY AND DEGRADATION	The organic portion of this preparation is expected to be readily biodegradable
BIOACCUMULATION POTENTIAL	This preparation or material is not expected to bioaccumulate

13. Disposal considerations

If this preparation becomes a waste, the final user must define and assign the appropriate only authorized contractors. Ensure compliance with EC, national and local regulations.

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage. This product is ashless and can be burned directly in appropriate equipment. This product is NOT suitable for disposal via municipal sewers, drains, natural streams or rivers.

Empty drums should be taken for recycling, recovery, or disposal through a suitably qualified or licensed contractor.

EUROPE WASTE CODE	16 03 03* - OFF SPECIFICATION BATCHES AND UNUSED PRODUCTS - Inorganic wastes containing dangerous substances. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code
NATIONAL REGULATIONS FRANCE	
Waste Code	Relevant

14. Transport information

Not classified as hazardous for transport. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT

Proper Shipping Name	PRODUCT IS NOT REGULATED DURING TRANSPORTATION.

AIR TRANSPORT (ICAO/IATA)

Proper Shipping Name	PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name	PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. Regulatory information

CLASSIFICATION AND LABELLING

GOVERNING DIRECTIVE(S):	Dangerous Substances Directive 67/548/EEC and Dangerous Preparations Directive 1999/45/EC.
HAZARD SYMBOLS	IRRITANT
	Contains:..Ammonium Bisulfite

RISK PHRASES

R31	Contact with acids liberates toxic gas.
R36/37/38 -	Irritating to eyes, respiratory system and skin

SAFETY PHRASES

S23 -	Do not breathe vapor
S24/25 -	Avoid contact with skin and eyes.
S26 -	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S28	After contact with skin, wash immediately with plenty of water
S37/39 -	Wear suitable gloves and eye/face protection.

NATIONAL REGULATIONS FRANCE

Table of occupational diseases, Article L461-4. Social Security Code- Decree 11/2/2003: Not-applicable.

Dangerous or Poisonous Substances and Preparations: Relevant.

Special medical supervision - Decree of 11 July 1977: Not-applicable.

Work Restrictions:

Fair labor standards act, Article R234-9 and 10 (women): Not-applicable.

Fair labor standards act, Article R234-16, 20 and 21 (young workers): Relevant.

Fair labor standards act, Decree of the 8/10/90 (temporary work and contract last given): Not-applicable.

Classified Industrial Sites (ICPE): Not-applicable. Water Discharge: Relevant.

NATIONAL REGULATIONS RUSSIAN FEDERATION

The law of Russian Federation "About the sanitary-epidemiological safety of the population", 30 March 1999 N 52-FZ.

The law of Russian Federation "About the safety of the dangerous industrial objects", 21 July 1997 No. 116-FZ.

The law of Russian Federation "About protection of the rights of the consumers", 07 February 1992 N 2300-1.

The law of Russian Federation "Basics of the legislation of Russian Federation about occupational safety", 6 August 1993 N 5600-1.

The law of Russian Federation "About the industrial regulation", 27 December 2002 N 184-FZ.

GOST 30333-2007: Chemical production safety passport. General requirements.

GOST 19433-88: Dangerous goods. Classification and marking.

GOST 12.1.007-76 (Occupational safety standards system. Noxious substances. Classification and general safety

requirements).

INTERNATIONAL CHEMICAL CONTROL LAWS

EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

Safety Data Sheet according to Regulation (EC) No 1907/2006.

UNITED STATES :

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADA :

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

JAPAN

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

16. Other information

LIST OF RELEVANT R-PHRASES AND NOTAS IN SECTION 3

R23 - Toxic by inhalation.

R31 - Contact with acids liberates toxic gas.

R34 - Causes burns.

R36/37/38 - Irritating to eyes, respiratory system and skin.

The information provided about the product on this Safety Data Sheet has been compiled from knowledge of the individual constituents The data given here is based on current knowledge and experience. This Safety Data Sheet describes the product in terms of safety requirements and does not signify any warranty with regard to the product's properties.The data given here only applies when product used for proper application(s). The productis not sold as suitable for other applications - usage in such may cause risks not mentioned in this sheet. Do not use for other application(s) without seeking advice from manufacturer.

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