Material Safety Data Sheet

BISUFITE-BASED OXYGEN SCAVENGER (RXSOL-81-6119-250)

1. Product and Company Identifaction

Product Name	Oxygen Scavenger
Product Type	RXSOL-81-6119-250

Company Details:

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

Stock Point : Mumbai, Gandhidham, Chennai, Visakhapatnam, Kolkata, Fujairah, Muscat, Canada BC, Nairobi Kenya

Phone	+91 22 27815540 / 41 / 42
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2. Composition / informationon ingredients

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous Substance(s)	CAS NO	Composition%
Sodium Bisulphate	7681-38-1	60
Cobalt Chloride	7646-79-9	0.1 - 1
Proprietory Blend of Inhibitor	N/A	30-40

3. Hazards Identification

****EMERGENCY OVERVIEW****

WARNING
Contains Sulfite. Irritating to respiratory system. May cause skin and eye irritation. Causes asthmatic signs and symptoms in hyper-reactive individuals. Avoid breathing vapor. Use with adequate ventilation. Do not take internally. Keep container tightly closed. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin,wash immediately with plenty of water. Protect product from freezing.Wear suitable protective clothing, gloves and eye/face protection.May evolve oxides of sulfur (SOx) under fire conditions. May evolve hydrogen sulfide (H2S) under fire conditions.

PRIMARY ROUTES OF EXPOSURE	Eye, Skin
HUMAN HEALTH HAZARDOUS	CUTE
EYE CONTACT	Can cause mild
SKIN CONTACT	Can cause mild irritation.
INGESTION	May cause asthmatic-like attack.
INHALATION	Can cause mild irritation. Causes asthmatic signs and symptoms in hyper-reactive individuals.
HUMAN HEALTH HAZARDS	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. Chronic exposure to sulfites may cause symptoms of upper respiratory disease and affect sense of taste and smell.

4. First Aid Measures

EYE CONTACT :	Immediately flush with plenty of water for at least 15 minutes. Get medical attention.
SKIN CONTACT :	Immediately flush with plenty of water for at least 15 minutes. If skin irritation persists, obtain medical attention.
INGESTION :	Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If unconsious,do not give anything by mouth, place in the recovery position, check breathing and pulse. If necessary give artifical respiration. Get medical attention.
INHALATION :	Remove to fresh air, treat symptomatically. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Get medical attention.
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 flammable
LOWER EXPLOSION LIMIT :	Not flammable
UPPER EXPLOSION LIMIT :	Not flammable
EXTINGUISHING MEDIA :	Use extinguishing media appropriate for surrounding fire.
FIRE AND EXPLOSION HAZARD :	May evolve oxides of sulfur (SOx) under fire conditions. May evolve hydrogen sulfide (H2S) under fire conditions.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :	May evolve oxides of sulfur (SOx) under fire conditions. May evolve hydrogen sulfide (H2S) under fire conditions.

6. Accidental Release Measures

PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Do not touch spilled material.
Ventilate spill area if possible. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). 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. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations). Contact an approved waste hauler for disposal of contaminated recovered material.

ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

7. Handling and Storage

HANDLING :	Do not take internally. Avoid generating aerosols and mists. Do not get in eyes, on skin, on clothing.
STORAGE CONDITIONS :	Store in a cool well ventilated area away from direct sunlight. Store the containers tightly closed. Evolves sulfur dioxide (SO2) when open to atmosphere. The rate of SO2 evolution increases with temperature and/or transfer of product. Sulfur dioxide may react with vapors from neutralizing amines and may form a visible cloud of amine salt particles.

8. Exposure controls and personal protection

OCCUPATIONAL EXPOSURE LIMITS :
Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

ACGIH/TLV :Substance(s)

Sulfur Dioxide	TWA: 2 ppm , 5.2 mg/m3 STEL: 5 ppm , 13 mg/m3
Sodium Bisulphate	TWA: 5 mg/m3

OSHA/PEL :Substance(s)

Sulfur Dioxide	TWA: 2 ppm , 5 mg/m3 STEL: 5 ppm , 13 mg/m3
Sodium Bisulphate	TWA: 5 mg/m3

ENGINEERING MEASURES :
General ventilation is recommended. Local exhaust ventilation may be necessary when this material is heated or a mist is created.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. An approved respirator must be worn if the occupational exposure limit is likely to be exceeded.

RESPIRATORY PROTECTION :
If significant mists, vapors or aerosols are generated an approved respirator is recommended. An approved respirator must be worn if the occupational exposure limit is likely to be exceeded.

HAND PROTECTION :
Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

SKIN PROTECTION :
Wear impervious apron and boots.

EYE PROTECTION :
Wear a face shield with chemical splash goggles.

HYGIENE RECOMMENDATIONS :
Keep a safety shower available. Keep an eye wash fountain available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

HUMAN EXPOSURE CHARACTERIZATION :
Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

9. Physical and chemical properties

PHYSICAL STATE	Clear solution
APPEARANCE	Solution free From foreign particles.
Molecula Formula	Proprietary Blend
SPECIFIC GRAVITY	1.26 @ 77 °F / 25 °C
SOLUBILITY IN WATER	Completely soluble in water and has strong smell.
pH (100 %)	3.2 - 4

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

10. Stability and reactivity

STABILITY :	Stable under normal conditions.
HAZARDOUS POLYMERIZATION :	Hazardous polymerization will not occur.
CONDITIONS TO AVOID :	High temperatures
MATERIALS TO AVOID :	Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen,permanganate) may generate heat, fires, explosions and/or toxic vapors. 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, Hydrogen sulfide (H2S)

11. Toxicological information

No toxicity studies have been conducted on this product.

SENSITIZATION :	HUMAN HAZARD CHARACTERIZATION :
CARCINOGENICITY :	None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).
HUMAN HAZARD CHARACTERIZATION :	Based on our hazard characterization, the potential human hazard is: Low

12. Ecological information

ECOTOXICOLOGICAL EFFECTS :

The following results are for a similar product.

ACUTE FISH RESULTS :

Species	Exposure	LC50	Test Descriptor
Fathead Minnow	96 hrs	382 mg/l	Similar Product

ACUTE INVERTEBRATE RESULTS :

Species	Exposure	LC50	EC50	Test Descripton
Daphnia magna	48 hrs	728 mg/l		Similar Product

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION
Based on our hazard characterization, the potential environmental hazard is: Low
Based on our recommended product application and the product's characteristics, the potential environmental

exposure is: Moderate

If released into the environment, see CERCLA/SUPERFUND in Section 15.

13. Disposal considerations

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage,disposal or recycling facility.

14. Transport information

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading)specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties,and mode of transportation. Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT :

Proper Shipping Name : Oxygen Scavenger PRODUCT IS NOT REGULATED DURING TRANSPORTATION

AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :Oxygen Scavenger PRODUCT IS NOT REGULATED DURING TRANSPORTATION

MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :Oxygen Scavenger PRODUCT IS NOT REGULATED DURING TRANSPORTATION

15. Regulatory information

NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :
Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium Bisulphate	Respiratory irritant
Sodium Bisulphate	Eye irritant

CERCLA/SUPERFUND, 40 CFR 117, 302 :
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311,312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :
Our hazard evaluation has found this product to be hazardous. The product should be reported under the following

indicated EPA hazard categories:
X Immediate (Acute) Health Hazard
- Delayed (Chronic) Health Hazard
- Fire Hazard
- Sudden Release of Pressure Hazard
- Reactive Hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals.The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :
This product does not contain substances on the List of Toxic Chemicals.

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

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :
When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 173.310 Boiler Water Additives Limitations: no more than required to produce intended technical effect.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :
This product contains the following substances listed in the regulation:

Substance(s)	Citations
Sodium Bisulphate	Sec. 311

CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :
None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :
The following substances are disclosed for compliance with State Right to Know Laws:Sodium Bisulfite 7631-90-5

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :
D2B - Materials Causing Other Toxic Effects - Toxic Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :
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.

16. Other information

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:
* The human risk is: Low
* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in
applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further infomation.

DISCLAIMER OF LIABILITY :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.