

1. Product and Company Identification

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Product Name : Isothiazolinone Bactericide

Part Number : RXSOL-33-8936-005

Company Details:

RX MARINE INTERNATIONAL

105, A wing , BSEL , TECH PARK.

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2. Composition / Information on ingredients

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| Name of Substance | Cas Number | Wt.% |
|-------------------|------------|---------|
| Isothiazolinones | 26172-55-4 | 14-16 % |
| Proprietary Blend | --- | 84-86 % |

3. Hazards Identification

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Signal Word

Danger

Hazard Statements

H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.

Precautionary statements - prevention

Do not breathe dust/fume/gas/mist/ vapors / spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with plenty of water /shower. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see below).Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. Specific treatment (see below). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Collect spillage.
Storage: Store locked up. Store in corrosive resistant stainless steel container with a resistant inner liner.
Disposal: Dispose of contents/ container to an approved waste disposal plant.

4. First Aid Measures

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| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. |
| Inhalation: | If inhaled, If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. |
| Ingestion: | If swallowed, do not induce vomiting. Allow victim to rinse his mouth and then to drink 2-4 cupfuls of water. Never give anything by mouth to an unconscious person. Call a physician. |
| Notes to Physicians | Treat symptomatically. |

5. Fire-fighting Measures

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| Flammability | Non Flammable. |
| Flash Point | Not Applicable |
| Suitable extinguishing media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Protective Equipment | Use personal protective equipment. |
| Hazardous combustion products | Decomposition products may include the following materials: Nitrogen oxides (NOx) ,Sulfur oxides. |
| Advice for firefighters | Wear self-contained breathing apparatus. Wear full protective equipment. |
| Specific extinguishing methods | Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.Cool containers / tanks with water spray. Minimize exposure.Contain run-off. |

6. Accidental Release Measures

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| Personal precautions, protective equipment and emergency procedures | Wear a NIOSH approved (or equivalent) respirator (with organic vapor/ acid gas cartridge and a dust/mist filter)during spill clean-ups and deactivation of this material. MATERIAL IS CORROSIVE. Protective clothing, including chemical splash goggles, nitrile or butyl rubber full length gloves, rubber apron, or clothing made of nitrile or butyl rubber, and rubber overshoes must be worn during spill clean-ups and deactivation of this material. If material comes in contact with the skin during cleanup operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information. |
| Enviromental Precaution | Do not allow contact with soil, surface or ground water. |
| Methods and materials for containment and cleaning up | Absorb the spill with spill pillows or inert solids such as clay or vermiculite, and transfer contaminated materials to suitable containers for disposal. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deactivate any residual active ingredient. Let stand for 30 minutes. Flush the spill area with copious amounts of water to chemical sewer (if in accordance with local procedures, permits and regulations). DO NOT add deactivation solution to the waste pail to deactivate the adsorbed material. See SECTION 13, "Disposal Considerations", for information regarding the disposal of contained materials. |

7. Handling and Storage

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Advice on safe handling

Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Use only with adequate ventilation. Wash hands thoroughly after handling. This material is corrosive. See section 8, Exposure Controls/Personal Protection, prior to handling.

Storage

The maximum recommended storage temperature for this material is 55°C/131°F. The minimum recommended storage temperature for this material is 10°C/32°F. Store in a well ventilated area. Do not store this material in containers made of the following: steel.

Advice on general occupational hygiene

Wash hands after use. Do not to eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas.

8. Exposure controls and personal protection

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Engineering Control

Use local exhaust ventilation with a minimum capture velocity of 150 ft/min. (0.75 m/sec.) at the point of dust or mist evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the

American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust

Personal Protection

Eye protection : Wear eye protection/ face protection.

Hand protection : Wear the following personal protective equipment: Standard glove type. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Skin protection :Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Other Protection:

Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.



Gloves Suit

9. Physical and chemical properties

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Form

Liquid

Colour

Pale yellow to Amber.

Odour

Slight

Boiling point / range

100°C

Flash Point

Not applicable, Does not sustain combustion.

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| Freezing Point | -33°C |
| pH | 1.0 - 3.0 |
| Upper explosion limit | Not Applicable |
| Lower explosion limit | Not Applicable |
| Explosive properties | No data available |
| Vapor pressure | 0.0027 mmHg |
| Relative vapor density | 0.6 |
| Relative density | 1.29 - 1.31 |
| Water solubility | Soluble |
| Solubility in other solvents | No data available |
| Viscosity, dynamic | 16.000 mPa.s at 25°C (77°F) |
| Percent volatility | 60 - 64 % Water |
| NOTE: | The physical data presented above are typical values and should not be construed as a specification. |

10. Stability and reactivity

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| Reactivity | None |
| Stability | Stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Incompatible materials | Avoid contact with the following: - oxidizing agents - reducing agents - amines - mercaptans |
| Hazardous Decomposition | Decomposition products may include the following materials: Nitrogen oxides (NOx) Sulfur oxides |
| Condition to Avoid | None Known |
| Polymerization | Will not occur. |

11. Toxicological information

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| Acute Data | Acute Oral LD50, rat: 457mg/kg Acute Dermal LD50, rabbit: 660mg/kg Skin Irritation - rabbit: Corrosive (product) Eye Irritation - rabbit: Corrosive (product) Acute 4 Hr Inhalation - rat: 0.33 mg/L Active ingredient |
| Carcinogenicity Data | Non-carcinogenic |
| Mutagenicity Data | collective data indicate non-mutagenic.. |
| Reproductive/Teratology Data | Teratogenicity: not teratogenic. |
| Sensitization Data | Sensitization:skin sensitizer |
| Respiratory | No data available |
| Reproductive effects | No data available |
| Germ cell mutagenicity | No data available |

12. Ecological information

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| Elimination information | Biodegradability Biodegradation (aquatic metabolism): CAS # 26172-55-4 t 1/2 anaerobic = 4.8 hr, CAS # 26172-55-4 t 1/2 aerobic = |
|-------------------------|---|

Physico-chemical removability
Ecotoxicity effects Toxicity to fish

17.3 hr, CAS # 2682-20-4 t 1/2 aerobic = 9.1hr
Activated Sludge Respiration Inhibition EC50: 4.5 mg/L
LC50 Oncorhynchus mykiss (rainbow trout) 96 h 0.19 mg/l Active ingredient
Toxicity to fish LC50 Lepomis macrochirus (Bluegill sunfish) 96 h 0.28 mg/l Active ingredient
Toxicity to algae EC50 Marine algae (Skeletonema costatum) 0.003 mg/l Active ingredient
Toxicity to algae EC50 Algae (Selenastrum capricornutum) 0.018 mg/l Active ingredient
Toxicity to aquatic invertebrates EC50 Daphnia magna 48 h 0.16 mg/l
No data available
No data available

13. Disposal considerations

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Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

Waste Disposal

The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility

14. Transport information

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| UN Number | 2922 |
| Proper shipping name | Corrosive liquids, toxic, n.o.s. (5-Chloro-2-methyl-4isothiazolin-3-one) |
| Class | 8 |
| Packing Group | II |
| Environmentally hazardous | No |
| International Maritime Dangerous Goods Code (IMDG) : Not Regulated | |

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| Class | 8 |
| Packing Group | II |
| Environmentally hazardous | No |

15. Regulatory information

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|----------------------|--|
| Label Classification | Label Classification and labeling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments (2001/60/EC and 2006/8/EC). Hazard symbol and Indication of danger |
| Contain | Mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) |
| R-phrases(s) | R-phrases(s) R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R34 Causes burns. R43 May cause sensitization by skin contact. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| S-phrases(s) | S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |

EU. EINECS(EINECS)

S57 Use appropriate container to avoid environmental contamination. S60 This material and its container must be disposed of as hazardous waste. For professional users only.

This product satisfies all the requirements of the European Inventory of Existing Chemical Substances (EINECS). US. Toxic Substances Control Act (TSCA): This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from U.S. Toxic Substances Control Act (TSCA) Inventory listing requirements

16. Other information

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Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.

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