Material Safety Data Sheet

BIOCIDE LXE 100 (RXSOL-33-3346-025)

1. Product and Company Identifaction

Product Name	BIOCIDE LXE 100
Part Number	RXSOL-33-3346-025

Company Details:

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

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

Phone	+91 22 20871200 - 1400
Fax	+91 22 27612100 :::AOH :0091 9821214367
Email	mail@rxmarine.com
Website	www.rxmraine.com

2. Composition / informationon ingredients

Chemical nature: Aqueous solution of organic and inorganic compounds This product is a mixture.

Component	CAS No.	Concentration
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	>= 1.1 - = 1.35 %
2-Methyl-4-isothiazolin-3-one	2682-20-4	>= 0.35 - = 0.45 %
Magnesium Chloride	7786-30-3	>= 1.0 - = 1.2 %
Magnesium dinitrate	10377-60-3	>= 1.4 - = 2.0 %
Water	7732-18-5	>= 95.0 - = 96.0 %

3. Hazards Identification

Hazard classification: This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Skin corrosion - Category 1B
Serious eye damage - Category 1
Skin sensitisation - Category 1

Label elements

Signal Word	Danger
Hazards	Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Precautionary Statements	**Prevention** Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician. 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 or doctor/ physician. If skin irritation or rash occurs: Get medical advice/ attention. Wash contaminated clothing before reuse. **Storage** Store locked up. **Disposal** Dispose of contents/ container to an approved waste disposal plant.
Other hazards	No data available

4. First Aid Measures

Description of first aid measures

Inhalation	Move to fresh air. Give artificial respiration if breathing has stopped. If symptoms persist, call a physician.
Skin contact	IMMEDIATELY get under a safety shower. Remove contaminated clothing. Wash off with soap and water. Immediate medical attention is required. Wash contaminated clothing before reuse. Do not take clothing home to be laundered. Discard contaminated shoes, belts, and other articles made of leather.
Eye contact	Rinse immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Ingestion	Drink 1 or 2 glasses of water. IMMEDIATELY see a physician. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.
Indication of any immediate medical attention and special treatment needed	
Notes to physician	MATERIAL IS CORROSIVE. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock and convulsions maybe necessary.

5. Fire-fighting Measures

Suitable extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	No data available
Special hazards arising from the substance or mixture	
Hazardous combustion products	No data available
Unusual Fire and Explosion Hazards	Combustion generates toxic fumes of the following: hydrogen chloride Nitrogen oxides (NOx) sulfur oxides
Advice for firefighters	
Fire Fighting Procedures	Cool containers/tanks with water spray. Minimize exposure. Do not breathe fumes. Contain run-off.
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.

6. Accidental Release Measures

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 clean-up operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information.
Environmental precautions	Do not allow material to contaminate ground water system. Prevent product from entering drains.
Methods and material for containment and cleaning up	WARNING: KEEP SPILLS AND CLEAN-UP RESIDUALS OUTOF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. Adsorb 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 deac tivate 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

Precautions for safe handling	This material is corrosive. For personal protection see section 8. Do not handle material near food, feed or drinking water.
Conditions for safe storage	Keep in a well-ventilated place. The product as supplied may evolve gas (largely carbon dioxide) slowly. To prevent the buildup of pressure the product is packaged in specially vented containers, where necessary. Keep this product in the original container when not in use. Container must be stored and transported in an upright position to prevent spilling the contents through the vent, where fitted. Do not store this material in containers made of the following: steel Do not store this material near food, feed or drinking water. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all MSDS and label warnings even after container is emptied. Expiration date based only on retention of >95% actives during storage at 20ºC-25ºC (68ºF-77ºF).
Storage temperature	1 - 55 °C (34 - 131 °F)

8. Exposure controls and personal protection

Exposure controls

Engineering controls	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 systems.
Protective measures	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Individual protection measures

Eye/face protection	Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.
Skin protection	
Hand protection	Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): butyl-rubber Nitrile rubber PVC gloves >1 mm thickness Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water. NOTE: Material is a possible skin sensitizer.
Other protection	Wear as appropriate: Chemical resistant apron complete suit protecting against chemicals
Respiratory protection	Typical use of this material does not result in workplace exposures that exceed the exposure limits listed in the Exposure Limit Information Section. For those special workplace conditions where the listed exposure limits are exceeded, a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed. For concentrations up to 10 times the exposure limit, wear a properly fitted NIOSH approved (or equivalent) half-mask or full facepiece air purifying respirator equipped with organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters. For those unlikely situations where exposure may greatly exceed the listed exposure limits (i.e. greater than 10- fold), or in any emergency situation, wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode or a full facepiece airline respirator in the pressure demand mode with emergency escape provision. See SECTION 6, Accidental Release Measures, for respirator and protective clothing requirements for spill clean-up and decontamination of this material.

9. Physical and chemical properties

Appearance	
Physical state	Liquid
Color	Colorless to yellow
Odor	Pungent
Odor Threshold	No data available
pH	2.0 - 4.0
Melting point/range	3.00 °C (26.60 °F)
Freezing point	No data available
Boiling point (760 mmHg)	ca.100.00 °C (212.00 °F)
Flash point	Not applicable
Evaporation Rate (Butyl Acetate = 1)	1.00
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not Applicable
Upper explosion limit	Not Applicable
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	ca.0.6200
Relative Density (water = 1)	1.0200
Water solubility	completely soluble
Partition coefficient: noctanol/water	log Pow: 0.401 Method Not Specified.
Auto-ignition temperature	Not applicable
Decomposition temperature	No data available
Dynamic Viscosity	3.000 mPa.s at 25.00 °C (77.00 °F)
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	95.00 - 96.00 % Water

10. Stability and reactivity

Reactivity	No data available
Chemical stability	No data available
Possibility of hazardous reactions	Stable under recommended storage conditions. Product will not undergo polymerization.
Conditions to avoid	No data available
Incompatible materials	Avoid contact with the following: Oxidizing agents Amines Reducing agents Mercaptans.
Hazardous decomposition products	Nitrogen oxides (NOx) Sulphur oxides hydrogen chloride

11. Toxicological information

Acute toxicity	**Acute oral toxicity** LD50, Rat, female, 3,310 mg/kg LD50, Rat, male, > 5,000 mg/kg **Acute dermal toxicity** LD50, Rabbit, > 5,000 mg/kg **Acute inhalation toxicity** LC50, Rat, 4 Hour, dust/mist, > 5 mg/l Estimated.
Skin corrosion/irritation	This material is corrosive.
Serious eye damage/eye irritation	Corrosive
Sensitization	Has caused allergic skin reactions when tested in guinea pigs. For respiratory sensitization: No relevant data found.
Specific Target Organ Systemic Toxicity (Single Exposure)	Product test data not available. Refer to component data.

Specific Target Organ Systemic Toxicity (Repeated Exposure)	Product test data not available. Refer to component data.
Carcinogenicity	Did not cause cancer in laboratory animals.
Teratogenicity	Did not show teratogenic effects in animal experiments.
Reproductive toxicity	In animal studies, did not interfere with reproduction.
Mutagenicity	Not mutagenic when tested in bacterial or mammalian systems.
Aspiration Hazard	Product test data not available. Refer to component data.

12. Ecological information

General Information

Toxicity	
5-Chloro-2-methyl-4-isothiazolin-3-one	
Toxicity to fish	Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested). LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 0.19 mg/l, OECD Test Guideline 203 or Equivalent LC50, Bluegill sunfish (Lepomis macrochirus), 96 Hour, 0.28 mg/l
Acute toxicity to aquatic invertebrates	EC50, Daphnia magna (Water flea), 48 Hour, 0.16 mg/l
Acute toxicity to algae/aquatic plants	NOEC, Selenastrum capricornutum (green algae), Growth rate, 0.0099 mg/l EC50, Algae (Selenastrum capricornutum), 72 Hour, Growth rate, 0.018 mg/l
Toxicity to bacteria	EC50, Bacteria, 16 Hour, 5.7 mg/l
Chronic toxicity to aquatic invertebrates	NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0.172000 mg/l LOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0.572000 mg/l
2-Methyl-4-isothiazolin-3-one	
Acute toxicity to fish	Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested). LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 4.77 mg/l, OECD Test Guideline 203 or Equivalent
Acute toxicity to aquatic invertebrates	LC50, Daphnia magna (Water flea), 48 Hour, 0.93 - 1.9 mg/l
Acute toxicity to algae/aquatic plants	EC50, Algae (Selenastrum capricornutum), 72 Hour, Growth rate, 0.158 mg/l, OECD Test Guideline 201
Chronic toxicity to aquatic invertebrates	NOEC, Daphnia magna, 21 d, 0.04 mg/l
Magnesium Chloride	
Acute toxicity to fish	Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). LC50, Gambusia affinis (Mosquito fish), static test, 96 Hour, 16,500 mg/l, Method Not Specified.
Acute toxicity to aquatic invertebrates	EC50, Daphnia magna (Water flea), 24 Hour, 3,190 mg/l, Directive 84/449/EEC, C.2
Acute toxicity to algae/aquatic plants	EC50, alga Scenedesmus sp., 72 Hour, Biomass, 2,200 mg/l, OECD Test Guideline 201 or Equivalent
Magnesium dinitrate	
Acute toxicity to fish	Not expected to be acutely toxic to aquatic organisms. For similar material(s): LC50, Poecilia reticulata (guppy), 96 Hour, > 100 mg/l
Acute toxicity to aquatic invertebrates	For similar material(s): EC50, Daphnia magna, 48 Hour, > 100 mg/l
Acute toxicity to algae/aquatic plants	For similar material(s): ErC50, Algae, 72 Hour, Growth rate, > 100 mg/l

13. Disposal considerations

Disposal methods	Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations. (See 40 CFR 268)

14. Transport information

DOT

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s.(5-Chloro-2-methyl-4- isothiazolin-3-one)
UN number	UN 3265
Class	8
Packing group	II

Classification for SEA transport (IMO IMDG)

Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.(5-Chloro2-methyl-4-isothiazolin-3-one)
UN number	UN 3265
Class	8
Packing group	II
Marine pollutant	5-Chloro-2-methyl-4-isothiazolin-3-one
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO)

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s.(5-Chloro-2-methyl-4- isothiazolin-3-one)
UN number	UN 3265
Class	8
Packing group	II

15. Regulatory information

OSHA Hazard Communication Standard	This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312	Acute Health Hazard
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)	
Section 103	This material is regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)and the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304. This material is or contains chemical(s) listed in 40 CFR Table 302.4 or nondesignated RCRA ICR substance(s). (Nondesignated ICR substances apply to materials that will not be reused.) The Reportable Quantity(s) (RQ) are listed below. Releases in excess of its reportable quantity must be reported to the National Response Center (1-800-424-8802) and to the appropriate state and local emergency response organizations. D002, 100lbs.
Pennsylvania	Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.
United States TSCA Inventory (TSCA)	This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.
Federal Insecticide, Fungicide and Rodenticide Act	EPA Registration Number: 707-133 This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label: DANGER Corrosive Causes irreversible eye damage and skin burns May cause allergic skin reaction Harmful if inhaled Harmful if swallowed or absorbed through the skin This chemical is toxic to aquatic plants, fish and aquatic invertebrates.

16. 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 weassume 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 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.

Other Information

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