Material Safety Data Sheet

RXSOL BIOCIDE MAR (RXSOL-40-4031-025)

1. Product and Company Identifaction

Part Number	RXSOL-40-4031-025
Product Name	RXSOL BIOCIDE MAR

Company Details:

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

Stock Point : Mumbai, Kandla, Kolkata, Chennai, Visakhapatnam, Fujairah, Muscat, Nairobi

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

Product	EINECS / ELINCS NO	SYMBOL	R-PHRASES / NOTAS	% (w/w)
Quaternary Ammonium compound	Proprietary	C, N	R22, R34, R50	10 - 30
Pentane-1,5-dial	111-30-8	C, N	R22, R34, R50	15-40
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	C, N	R22, R34, R50	10-12
Ethylene Glycol	203-473-3	Xn	R22	10 - 30
Isopropanol	200-661-7	F, Xi	R11, R36, R67	10- 5
Quaternary phosphorus compound	Proprietary	T, N	R23, R22, R41,R43, R63, R50	1 - 5
Dipropylene Glycol Monomethyl Ether	252-104-2		OEL	1 - 5

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. Flammable. Harmful if swallowed. Causes burns. May cause sensitization by skin contact

HUMAN HEALTH HAZARDS - ACUTE :	
INHALATION :	Irritating, in high concentrations, to the eyes, nose, throat and lungs.
SKIN CONTACT :	May cause severe irritation or tissue damage depending on the length of exposure and the type of first aid administered. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals
EYE CONTACT	Corrosive. Will cause eye burns and permanent tissue damage
INGESTION :	Not a likely route of exposure. Corrosive; causes chemical burns to the mouth, throat and stomach. Harmful if swallowed. Large quantities may cause kidney damage.
HUMAN HEALTH HAZARDS - CHRONIC	Contains ethylene glycol (EG). Repeated high dose exposure to EG by ingestion (animal studies) has caused kidney damage, brain damage, degeneration of the liver, changes in blood chemistry and circulating blood cells. Prolonged and/or repeated exposures may cause similar effects in humans. Ethylene glycol has been shown to cause developmental and reproductive effects at high dose levels in laboratory animals. The relationship of these results to humans has not been fully established. Prolonged exposure to ethylene glycol may cause central nervous system, kidney and liver effects.
PHYSICAL AND CHEMICAL HAZARDS	Flammable

4. First Aid Measures

INHALATION :	Get medical attention. Remove to fresh air, treat symptomatically
SKIN CONTACT	Get immediate medical attention. Immediately flush with plenty of water for at least 15 minutes. For a large splash, flood body under a shower. Remove contaminated clothing. Wash off affected area immediately with plenty of water. Contaminated clothing, shoes, and leather goods must be discarded or cleaned before re-use
EYE CONTACT	Get immediate medical attention. PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open
INGESTION	Get immediate medical attention. DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink.
NOTE TO PHYSICIAN	Probable mucosal damage may contraindicate the use of gastric lavage. 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 :	50 °C PMCC
EXTINGUISHING MEDIA	Foam, Carbon dioxide, Dry powder, Other extinguishing agent suitable for Class B fires, For large fires, use water spray or fog, thoroughly drenching the burning material. Water mist may be used to cool closed containers
FIRE AND EXPLOSION HAZARD	Combustible Liquid; may form combustible mixtures at or above the flash point. Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition. May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of nitrogen (NOx) under fire conditions. May evolve oxides of phosphorus (POx) under fire conditions

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. Remove sources of ignition. 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. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations)
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 labelled. Do not use, store, spill or pour near heat, sparks or open flame
STORAGE CONDITIONS	Store in suitable labelled containers. Store the containers tightly closed. Store away from heat and sources of ignition. Have appropriate fire extinguishers available in and near the storage area. Connections must be grounded to avoid electrical charges
SUITABLE CONSTRUCTION MATERIAL	HDPE (high density polyethylene), PTFE, FEP (encapsulated), Viton, Stainless Steel 304, Stainless Steel 316L, MDPE (medium density polyethylene), Surface-modified HDPE (high density polyethylene), Nitrile, EPDM, Perfluoroelastomer, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use
UNSUITABLE CONSTRUCTION MATERIAL	Carbon Steel C1018

8. Exposure controls and personal protection

Substance(s)	Method	Analysis	Absorbant
Ethylene Glycol	US NIOSH: 5523	Gas chromatography	XAD-7 / Glass fibre filter OVS tube
Isopropanol	US NIOSH: 1400	Gas chromatography	Charcoal
Dipropylene Glycol Monomethyl Ether	US OSHA: 101	Gas chromatography	Charcoal

BIOLOGICAL EXPOSURE INDICES	
Isopropanol	A biological index of exposure to isopropyl alchohol (CAS 67-63-0) is the detection of acetone in the blood or urine post shift (50mg/l)
ENGINEERING MEASURES	General ventilation is recommended. 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: A-B-E-K-P The applicable European standard can be found in EN 141, EN 143 and EN 371. 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. The applicable European standard can be found in EN 374
SKIN PROTECTION	When handling this product, the use of a chemical resistant suit and rubber boots is recommended. The applicable European standard can be found in EN 467 and EN 345
EYE PROTECTION	When handling this product, the use of a chemical resistant suit and rubber boots is recommended. The applicable European standard can be found in EN 467 and EN 345
EYE PROTECTION	Wear a face shield with chemical splash goggles. The applicable European standard can be found in EN 166
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	Clear Pale Yellow
ODOR	Slight
FLASH POINT	50 °C PMCC
SPECIFIC GRAVITY	1.016 (15 °C)
SOLUBILITY IN WATER	Complete
pH (100 %)	Acidic
MELTING POINT	ASTM D-97 -13 °C

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	Heat and sources of ignition including static discharges
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 alkalies (e.g. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanide, sulfide, hypochlorites, chlorites) may generate heat, splattering or boiling and toxic vapors
HAZARDOUS DECOMPOSITION PRODUCTS	
Under fire conditions	Oxides of carbon, Oxides of nitrogen, Oxides of phosphorus

11. Toxicological information

No toxicity studies have been conducted on this product

SENSITIZATION	Repeated or prolonged contact may cause skin sensitization
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)
TERATOGENICITY	This material is not a teratogen, at low dose levels of 6 or 18 mg/kg/day for rabbits and 15 or 30 mg/kg/day for rats. At a high dose level of 60 mg/kg/day, both species showed fetal toxicity.

For additional information on the hazard of the preparation, please consult section 3 and 12.

12. Ecological information

ECOTOXICOLOGICAL EFFECTS	No toxicity studies have been conducted on this product
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	Component substances have a low potential to bioconcentrate

13. Disposal considerations

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 05*- OFF SPECIFICATION BATCHES AND UNUSED PRODUCTS - Organic 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

14. Transport information

Typical Proper Shipping Names for this product are as follows.

LAND TRANSPORT	
Proper Shipping Name	FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Technical Name(s)	Isopropanol, Quaternary Ammonium compound
UN/ID No	UN 2924
Hazard Class - Primary	3
Hazard Class - Secondary	8
Packing Group	III
ADR/RID H.I.n. :	38
CLASSIFICATION CODE	FC
AIR TRANSPORT (ICAO/IATA)	
Proper Shipping Name	FLAMMABLE LIQUID, CORROSIVE, N.O.S
Technical Name(s) :	Isopropanol, Quaternary Ammonium compound
UN/ID No	UN 2924
Hazard Class - Primary	3
Hazard Class - Secondary	8
Packing Group	III
IATA Cargo Packing Instructions	310
IATA Cargo Aircraft Limit	60 L (Max net quantity per package)
IATA Passenger Packing Instructions	Y309 / 309
IATA Passenger Aircraft Limit	1 L / 5 L
MARINE TRANSPORT (IMDG/IMO)	
Proper Shipping Name	FLAMMABLE LIQUID, CORROSIVE, N.O.S.
Technical Name(s) :	Isopropanol, Quaternary Ammonium compound
UN/ID No	UN 2924

Hazard Class - Primary	3
Hazard Class - Secondary	8
Packing Group	III
OTHER APPLICABLE INFORMATION CEFIC TREMCARD REFERENCE	30GFC-III
EMERGENCY ACTION CODE	3W

15. Regulatory information

CLASSIFICATION AND LABELLING	
GOVERNING DIRECTIVE(S):	Dangerous Substances Directive 67/548/EEC and Dangerous Preparations Directive 1999/45/EC
HAZARD SYMBOLS	CORROSIVE Contains:..Quaternary Ammonium compound Quaternary phosphorus compound
RISK PHRASES	
R10	Flammable.
R22	Harmful if swallowed
R34	Causes burns
R43	May cause sensitization by skin contact
SAFETY PHRASES	
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).
INTERNATIONAL CHEMICAL CONTROL LAWS	
UNITED STATES	The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)
CANADA	This product contains substance(s) which are found on the Non-Domestic Substances List (NDSL), or are not in compliance with other Canadian Acts
EUROPE	The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories
JAPAN	All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Ministry of International Trade & industry List (MITI).

16. Other information

LIST OF RELEVANT R-PHRASES AND NOTAS IN SECTION 2

R11 - Highly flammable.

R22 - Harmful if swallowed.

R23 - Toxic by inhalation.

R34 - Causes burns.

R36 - Irritating to eyes.

R41 - Risk of serious damage to eyes.

R43 - May cause sensitization by skin contact.

R50 - Very toxic to aquatic organisms.

R63 - Possible risk of harm to the unborn child.

R67 - Vapours may cause drowsiness and dizziness.

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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