Material Safety Data Sheet

ISOAMYL ALCOHOL (RXSOL-19-1325-025)

1. Product and Company Identifaction

Product Name	ISOAMYL ALCOHOL
Part Number	RXSOL-19-1325-025

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

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2. Composition / informationon ingredients

Chemical Name	CAS	EC number	Weight	Formula
Isobutyraldehyde	123-51-3	204-633-5	= 100 %	$C_5H_{12}O$

3. Hazards Identification

Signal Word	Danger
Hazard Statements	H226 Flammable liquid and vapor. H315 Causes skin irritation. H318 Causes serious eye damage. H332 Harmful if inhaled. H335 May cause respiratory irritation.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Classification of the substance or mixture	Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.
Supplemental Hazard Statements	None.
Other hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Repeated exposure may cause skin dryness or cracking.

4. First Aid Measures

General advice	Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air.
Eye Contact	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
Swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Skin Contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Inhalation	Remove patient to fresh air, keep warm and at rest and get medical assistance in necessary.
Ingestion	Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.
Most important symptoms and effects, both acute and delaye	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

5. Fire-fighting Measures

Flammability	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Suitable extinguishing media	Carbon dioxide (CO2) Foam Dry powder
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.
Special hazards arising from the substance or mixture	Carbon oxides Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.
Further information	Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Hazardous combustion products	Fire may cause the evolution of Sulphur oxides, nitrogen oxides.
Advice for firefighters	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Protective Equipment	Use personal protective equipment.
Specific Hazards Arising from the Chemical	Oxides of phosphorus Sodium oxides Not combustible. Fire may cause evolution of: Oxides of phosphorus Ambient fire may liberate hazardous vapours.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Spillage	Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas dike if needed. Eliminate all ignition sources. Call for assistance on disposal.
Enviromental Precaution	Do not let product enter drains. Risk of explosion.
Methods and materials for containment and cleaning	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

7. Handling and Storage

Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.
Incompatible materials	Keep away from alkalis, strong oxidizing agents and metals. Provide containment walls of adequate capacity to hold any accidental spills.
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
Precautions for safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Storage class	Storage class (TRGS 510): 3: Flammable liquids
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Advice on general occupational hygiene	Advice on safe handling Observe label precautions. Change contaminated clothing. Wash hands after working with substance.
Requirements for storage	Keep in cool and store under shade.

8. Exposure controls and personal protection

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, longterm	inhalation	Local and systemic effects	73,16 mg/m3
Worker DNEL, acute	inhalation	Local and systemic effects	292 mg/m3
Consumer DNEL, longterm	inhalation	Local and systemic effects	15,4 mg/m3
Consumer DNEL, acute	inhalation	Local and systemic effects	256,4 mg/m3

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,255 mg/l
Sea water	0,0255 mg/l
Aquatic intermittent release	2,55 mg/l
Fresh water sediment	1,05 mg/kg
Sea sediment	0,105 mg/kg
Soil	0,061 mg/kg

Exposure controls	Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Control parameters	Ingredients with workplace control parameters Contains no substances with occupational exposure limit values.
Engineering Control	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles
Body Protection	Flame retardant antistatic protective clothing.
Skin protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 30 min Material tested:KCL 741 Dermatril®
Respiratory protection	Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
Other Protection Measure	Handle in accordance with good industrial hygiene and safety practice.
Control of environmental exposure	Do not let product enter drains. Risk of explosion.

9. Physical and chemical properties

Physical state	Clear, liquid
Colour	Colorless
Odour	No data available
Odor Threshold	No data available
pH	5,6 at 25 g/l at 20 °C
Melting Point	-117 °C - lit.
Boiling Point	130 °C - lit.
Flash Point	43,5 °C - closed cup
Evaporation Rate	Not Applicable
Flammability (solid, gas)	No data available
Explosive limits	No Data Available
Upper/lower flammability or explosive limits	8 %(V) / 1,2 %(V)
Autoignition temperature	335 °C at 1.013 - 1.017 hPa
Decomposition temperature	No data available

Vapour pressure	ca.3 hPa at 20 °C - OECD
Density	0,809 g/cm3 at 25 °C - lit.
Relative Density	No data available
Relative vapor density	2,49 - (Air = 1.0)
Freezing point	No data available
Viscosity kinematic / dynamic	5,32 mm2/s at 20 °C / 4,3 mPa.s at 20 °C
Partition coefficient	log Pow: 1,35 at 23 °C
Explosive properties	No data available
Solubility	60 g/l at 25 °C
Ignition temperature	No information available.
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	Vapor/air-mixtures are explosive at intense warming.
Stability	The product is chemically stable under standard ambient conditions (room temperature) . Stable under recommended storage conditions.
Possibility of hazardous reactions	Risk of ignition or formation of inflammable gases or vapours with: Strong oxidizing agents Strong acids strong reducing agents Exothermic reaction with: alkaline substances Strong bases
Conditions to avoid	Heating.
Incompatible materials	Rubber
Hazardous decomposition products	In the event of fire: see section 5

11. Toxicological information

Acute toxicity	Oral: No data available Acute toxicity estimate Inhalation - 11,1 mg/l - vapor (Expert judgment) Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Dermal: No data available
Skin corrosion/irritation	Skin - Rabbit Result: Moderate skin irritation - 24 h Remarks: (RTECS)
Serious eye damage/eye irritation	Eyes - Rabbit Result: Risk of serious damage to eyes. Remarks: (External MSDS)
Respiratory or skin sensitization	No data available
Carcinogenicity	No data available
Germ cell mutagenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Special Remarks on other Toxi Effects on Humans	Acute Potential Health Effects: Skin: Causes skin irritation. May cause skin sensitization, an allergic reation, which becomes evident upon re-exposure to this material. Eyes: Causes eye irritation. Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, and diarrhea. May be harmful if swallowed. Inhalation: Causes respiratory tract irritation. May cause chemical pneumonitis and pulmonary edema, inflammation, edema of bronchi and larynx. Chronic Potential Health Effects: Repeated or prolonged skin exposure may cause allergic reactions in sensitive individuals. Repeated or prolonged exposure by inhalation may affect respiration and metabolism.
Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: NQ4025000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Further hazardous properties cannot be excluded but unlikely when the product is handled appropriately. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

Bioaccumulative potential	No data available

Persistence and degradability	Theoretical oxygen demand 2.740 mg/g Remarks: (Lit.) Ratio BOD/ThBOD 55 % Remarks: (Lit.)
Toxicity to fish	Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 700 mg/l - 96 h (OECD Test Guideline 203) Remarks: (IUCLID)
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia magna (Water flea) - 277 mg/l - 48 h (Regulation (EC) No. 440/2008, Annex, C.2) Remarks: (above the solubility limit in the test medium)
Toxicity to algae	Static test ErC50 - Desmodesmus subspicatus (green algae) - 83,7 mg/l - 72 h (DIN 38412) Remarks: (above the solubility limit in the test medium)
Toxicity to bacteria	EC50 - Pseudomonas putida - 2.500 mg/l - 17 h Remarks: (IUCLID)
Mobility in soil	No Information available
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Other adverse effects	Discharge into the environment must be avoided.

13. Disposal considerations

Disposal methods	The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging	Dispose of as unused product.
Waste treatment Method	No data available

14. Transport information

UN number	ADR/RID:1105	IMDG:1105	IATA: 1105
UN proper shipping name	ADR/RID:Pentanols	IMDG : Pentanols	IATA: Pentanols
Transport hazard class(es)	ADR/RID: 3	IMDG: 3	IATA: 3
Packaging group	ADR/RID: III	IMDG: III	IATA: III
Environmental hazards	ADR/RID: NO I	MDG: NO	IATA: NO
Further information	No data available		

15. Regulatory information

Inventory status	Components are on the following inventories: Polymaleic acid: - US TSCA, Canadian DSL, EU EINECS, Australian AICS, Korean, Philippine PICCS and Chinese Xi irritant R 36/38 Irritant to eyes & skin R 41 Risk of serious damage to eyes S24/25 Avoid contact with skin and eyes S26/28 In case of contact eyes & skin, rinse with plenty water and seek medical advice Section 312/313: Not listed. Not listed under California proposition 65.
Safety, health and environmental regulations/legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
National legislation	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS : FLAMMABLE LIQUIDS
Other regulations	Take note of Dir 94/33/EC on the protection of young people at work.
Chemical Safety Assessment	Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work.

16. Other information

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.