Material Safety Data Sheet

Methyl Methacrylate Monomer (RXSOL-81-1372-210)

1. Product and Company Identifaction

Product Name	Methyl Methacrylate Monomer
Part Number	RXSOL-19-1382-210

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
Methyl Methacrylate	80-62-6	201-297-1	= 100 %	$C_5H_8O_2$

3. Hazards Identification

Signal Word	Danger
Hazard Statements	H225 Highly flammable liquid and vapor. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation.
P280 Wear protective gloves.P305 + P351 + P338	Wear eye protection/ face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
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.

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. 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. Consult a physician.
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	May be combustible at high temperature.
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. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.
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	Has a fire-promoting effect due to the release of oxygen. 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.
Personal Protection	Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8.
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 safe handling	Keep workplace dry. Do not allow product to come into contact with water.
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	For precautions see section 2.2.
Conditions for safe storage, including any incompatibilities	Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.
Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Recommended storage temperature see product label.
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	EC number	Health effect	Value
Worker DNEL, longterm	inhalation	Systemic effects	210 mg/m3
Worker DNEL, longterm	dermal	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,94 mg/l

Exposure controls	No specific additional engineering controls are required. Provide good natural or artificial ventilation.
Engineering Control	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Body Protection	Flame retardant antistatic protective clothing.
Skin protection	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: butyl-rubber Minimum layer thickness: 0,7 mm Break through time: 60 min Material tested:Butoject® (KCL 898)
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	Liquid
Colour	Colorless
Odour	Pungent
Odor Threshold	Not Applicable
pH	No data available
Melting Point	48 °C at ca.1.013 hPa
Boiling Point	100,36 °C at ca.1.013,25 hPa
Flash Point	10 °C - closed cup
Evaporation Rate	Not Applicable
Flammability (solid, gas)	No data available
Explosive limits	No Data Available
Upper/lower flammability or explosive limits	12,5 %(V) / 2,1 %(V)
Autoignition temperature	435 °C at 1.013,25 hPa
Decomposition temperature	No data available
Viscosity,dynamic	0,53 mPa.s at 20 °C
Vapour pressure	37 hPa at 20 °C
Density	0,94 g/cm3 at 20 °C
Relative Density	0,94 at 20 °C
Relative Vapour Density	3,5 at 20 °C
Freezing point	No data available
Specific Gravity	No data available
Partition coefficient	log Pow: 1,38 at 20 °C

Explosive properties	No data available
Solubility	15,3 g/l at 20 °C
Ignition temperature	No information available.
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	Vapors may form explosive mixture with air.
Stability	The product is chemically stable under standard ambient conditions (room temperature) . Contains the following stabilizer(s): hydroquinone monomethyl ether (0,01 %)
Possibility of hazardous reactions	Risk of ignition or formation of inflammable gases or vapours with: Strong oxidizing agents Exothermic reaction with: Amines polymerisation initiators Ammonia Risk of explosion with: Aldehydes
Conditions to avoid	Heat, flames and sparks. Heat. Contamination Keep away from direct sunlight. Heat, flames and sparks. Extremes of temperature and direct sunlight. Warming.
Incompatible materials	Rubber, various plastics, Strong oxidizing agents
Hazardous Polymerization	In the event of fire: see section 5

11. Toxicological information

Acute toxicity	LD50 Oral - Rat - 7.872 mg/kg Remarks: (RTECS) LC50 Inhalation - Rat - male and female - 4 h - 29,8 mg/l - vapor Remarks: (ECHA) LC50 Inhalation - Rat - 4 h - 78.000 mg/m3 LD50 Dermal - Rabbit - male - > 5.000 mg/kg (OECD Test Guideline 402)
Skin corrosion/irritation	Skin - Rabbit Result: Irritating to skin. - 4 h Remarks: (ECHA)
Serious eye damage/eye irritation	Eyes - Rabbit Result: No eye irritation Remarks: (ECHA)
Respiratory or skin sensitization	Local lymph node assay (LLNA) - Mouse Result: Causes sensitization. (OECD Test Guideline 429)
Carcinogenicity	No data available
Germ cell mutagenicity	Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: in vivo assay Species: Mouse Application Route: Inhalation Method: OECD Test Guideline 478 Result: negative
Reproductive toxicity	May damage the unborn child. Suspected of damaging fertility.
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.
Additional Information	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. Repeated dose toxicity - Rat - male - Oral - NOAEL (No observed adverse effect level) - >= 124,1 mg/kg Remarks: (ECHA) Central nervous system depression, Drowsiness, Irritability, Dizziness, Ataxia., narcosis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

Persistence and degradability	Biodegradability aerobic - Exposure time 14 d Result: 94 % - Readily biodegradable. (OECD Test Guideline 301C) Biochemical Oxygen Demand (BOD) 140 mg/g
Bioaccumulative potential	No data available
Toxicity to fish	Flow-through test LC50 - Lepomis macrochirus (Bluegill sunfish) - 191 mg/l - 96 h Remarks: (ECHA) static test LC50 - Lepomis macrochirus (Bluegill sunfish) - 283 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	Flow-through test NOEC - Daphnia magna (Water flea) - 48 mg/l - 48 h Remarks: (ECHA) flow-through test EC50 - Daphnia magna (Water flea) - 69 mg/l - 48 h Remarks: (ECHA)

Toxicity to algae	Static test EC50 - Pseudokirchneriella subcapitata - > 110 mg/l - 72 h (OECD Test Guideline 201) static test NOEC - Pseudokirchneriella subcapitata - > 110 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	Static test EC50 - activated sludge - 440 mg/l - 3 h (OECD Test Guideline 209) Remarks: The value is given in analogy to the following substances: Lithium amide
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	No data available

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	See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport information

UN number	ADR/RID:1247		IMDG: 1247		IATA:1247
UN proper shipping name	ADR/RID: Methyl methacrylate monomer, stabilized IMDG:Methyl methacrylate monomer, stabilized IATA:Methyl methacrylate monomer, stabilized				
Transport hazard class(es)	ADR/RID:	3	IMDG:	3	IATA: 3
Packaging group	ADR/RID:	II	IMDG:	II	IATA: II
Environmental hazards	ADR/RID:	No	IMDG:	No	IATA: No
Special precautions for user	Tunnel restriction code : (C/E)				
Further information	Not classified as dangerous in the meaning of transport regulations.				
Transport in bulk according to IMOinstruments	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.
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
Other regulations	Take note of Dir 94/33/EC on the protection of young people at work.
Chemical Safety Assessment	A Chemical Safety Assessment has been carried out for this substance.

16. Other information

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Other Information

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