1. Product and Company Identifaction

Porduct Name	PH Controller Amine Based
Part Number	RXSOL-42-5024-210

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 / Information on ingredients

Pure substance/mixture : Mixture

Chemical Name	Cas No	Concentration: (%)
Monoethanolamine	141-43-5	30 - 60
Methoxypropylamine	5332-73-0	10 - 30

3. Hazards Identification

Signal Word	Danger
Hazard Statements	Harmful if swallowed or if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation.
Precautionary statements	**Prevention**: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well- ventilated area. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. **Response**: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash it before reuse. **Storage**: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

	Disposal: Dispose of contents/ container to an approved waste disposal plant.
Other hazards	None known.

4. First Aid Measures

In case of 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.
In case of 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.
If swallowed	Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
If inhaled	Remove to fresh air. Treat symptomatically. Get medical attention.
Protection of first-aiders	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.
Notes to physician	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	See Section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting Measures

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None known.
Hazardous combustion products	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx)
Specific hazards during firefighting	Not flammable or combustible.
Special protective equipment for firefighters	Use personal 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.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Enviromental Precaution	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For

	large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.
Reference to other sections	For disposal see section 13.

7. Handling and Storage

Advice on protection against fire and explosion	Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
Incompatible materials	Keep away from alkalis, strong oxidizing agents and metals. Provide containment walls of adequate capacity to hold any accidental spills.
Hygiene measures	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. For precautions see section 2.2.
Advice on safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
Conditions for safe storage, including any incompatibilities	Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Moisture sensitive.
Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.
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.

8. Exposure controls and personal protection

Components with workplace control parameters

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Monoethanolamine	141-43-5	PEL (long term)	3 ppm 7.5 mg/m3	SG PEL
		PEL (short term)	6 ppm 15 mg/m3	SG PEL
Monoethanolamine	141-43-5	TWA	3 ppm	ACGIH
		STEL	6 ppm	ACGIH
		TWA	3 ppm 8 mg/m3	NIOSH REL
		STEL	6 ppm 15 mg/m3	NIOSH REL
		TWA	3 ppm 6 mg/m3	OSHA Z1

Engineering measures **:** Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	Safety goggles Face-shield

Hand protection	Wear the following personal protective equipment: Standard glove type. Nitrile butyl-rubber 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.
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.

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

9. Physical and chemical properties

Appearance	Liquid
Colour	Light yellow
Odour	Amine-like
Odor Threshold	No data available
pH	11,(100 %), (25 °C)
Melting point/freezing point	POUR POINT: < -34 °C
Initial boiling point and boiling range	> 100 °C
Flash Point	> 93.3 °C, Method: ASTM D 93, Pensky-Martens closed cup
Evaporation Rate	No data available
Flammability (solid, gas)	Not applicable
Upper/lower explosive limits	no data available
Vapour pressure	0.5 mm Hg, (37.8 °C),
Viscosity	No data available
Density	No data available
Water solubility	Completely soluble
Solubility in other solvents	No data available
Partition coefficient: n- octanol/water	No data available
Auto-ignition temperature	No data available
Thermal decomposition	No data available
Viscosity, dynamic	No data available
Viscosity, kinematic	11.3 mm2/s (38 °C)
Molecular weight	No data available
VOC	No data available

10. Stability and reactivity

Reactivity	No dangerous reaction known under conditions of normal use.
Chemical stability	pressure build-up
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	None known.
Incompatible materials	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 acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Avoid contact with SO2 or acidic bisulfite products, which may react to form visible airborne amine salt particles. Certain amines in contact with nitrous acid, organic or inorganic nitrites or atmospheres with high nitrous oxide concentrations may produce N- nitrosamines, many of which are cancer-causing agents to laboratory animals.
Hazardous decomposition products	In case of fire, hazardous decomposition products may be produced such as: Carbon oxides nitrogen oxides (NOx)

11. Toxicological information

Information on likely routes of exposure	Inhalation, Eye contact, Skin contact

Potential Health Effects

Eyes	Causes serious eye damage.
Skin	Causes severe skin burns. May cause allergic skin reaction.
Ingestion	Harmful if swallowed. Causes digestive tract burns.
Inhalation	Harmful if inhaled. May cause respiratory irritation. May cause nose, throat, and lung irritation.
Chronic Exposure	Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	Redness, Pain, Corrosion
Skin contact	Redness, Pain, Irritation, Corrosion, Allergic reactions
Ingestion	Corrosion, Abdominal pain, Vomiting
Inhalation	Respiratory irritation, Cough

Toxicity

Product

Acute oral toxicity	Acute toxicity estimate: 1,791 mg/kg
Acute inhalation toxicity	Acute toxicity estimate: 3.56 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	No data available

Skin corrosion/irritation	Species: Rabbit Exposure time: 1 hrs Result: Corrosive Test substance: Product Species: Rabbit Exposure time: 1 hrs Result: 2.0 Method: Oedema Test substance: Product Species: Rabbit Exposure time: 1 hrs Result: 4.0 Method: Erythema Test substance: Product
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	Result: May cause an allergic skin reaction.
Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive effects	No reproductive toxic effects expected.
Germ cell mutagenicity	Contains no ingredient listed as a mutagen
Teratogenicity	No data available
STOT - single exposure	May cause respiratory irritation.
STOT - repeated exposure	No data available
Aspiration toxicity	No aspiration toxicity classification

Components

Acute dermal toxicity	Monoethanolamine LD50 rabbit: 1,025 mg/kg Methoxypropylamine LD50 rat: 2,000 mg/kg

Human Hazard Characterization

Based on our hazard characterization, the potential human hazard is: High

12. Ecological information

Ecotoxicity

Environmental Effects	Harmful to aquatic life with long lasting effects.

Product

Toxicity to fish	LC50 Pimephales promelas (fathead minnow): 1,046 mg/l

	Exposure time: 96 hrs Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	LC50 Ceriodaphnia dubia: 141 mg/l Exposure time: 48 hrs Test substance: Product
Toxicity to algae	No data available

Components

Toxicity to algae	Methoxypropylamine EC50 : 31 mg/l Exposure time: 72 h

Components

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	Monoethanolamine NOEC: 0.85 mg/l Exposure time: 21 d

Persistence and degradability

The organic portion of this preparation is expected to be readily biodegradable.
Chemical Oxygen Demand (COD): 800,000 mg/l

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of 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