Material Safety Data Sheet

Chloramine T trihydrate (RXSOL-61-6395-500)

1. Product and Company Identifaction

Product Name	Chloramine T trihydrate
Product Type	RXSOL-61-6395-500

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

Phone	+91 22 65113333/ 5555 / 9999 / 27611360 / 27815540
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2. Composition / informationon ingredients

Substance
Formula CHO * H2O (Hill)
EC-No. 201-069-1
Molar mass 210.14 g/mol
Hazardous components (REGULATION (EC) No 1272/2008)
Chemical Name (Concentration)
CAS-No. Registration number Classification
Citric acid monohydrate (= 100 %)
5949-29-1 *)
Eye irritation, Category 2, H319
*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
For the full text of the H-Statements mentioned in this Section, see Section 16.
Hazardous components (1999/45/EC)
Chemical Name (Concentration)
CAS-No. Classification
Citric acid monohydrate (= 100 %)
5949-29-1 Xi, Irritant; R36
For the full text of the R-phrases mentioned in this Section, see Section 16.

3. Hazards Identification

Classification of the substance or mixture:
Classification (REG?LA?ION (EC) No 1272/2008): Acute toxicity, Category 4, Oral, H302 Skin corrosion, Category 1B, H314Respiratory sensitisation, Category 1, H334For the full text of the H-Statements mentioned in this Section, see Section 16.
Classification (67/548/EEC or 1999/45/EC): R31
Xn Harmful R22
C Corrosive R34
R42
For the full text of the R-phrases mentioned in this Section, see Section 16.
Label elements:
Labelling (REG?LA?ION (EC) No 1272/2008):
Hazard statements:H302 Harmful if swallowed.H314 Causes severe skin burns and eye damage.H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.E?H031 Contact with acids liberates toxic gas.
Precautionary statements:
Prevention: P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NO ? induce vomiting. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.P304 + P340 IF INHALED: Remove victim to fresh air

and keep at rest in a position comfortable forbreathing.
P308 + P310 IF exposed or concerned: immediately call a POISON CEN ?ER or doctor/ physician.
Hazard statements:H314 Causes severe skin burns and eye damage. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary statements: P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NO ? induce vomiting.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P311 IF exposed or concerned: Call a POISON CEN ?ER or doctor/ physician.
Other hazards: None known.

4. First Aid Measures

Description of first aid measures:
General advice: First aider needs to protect himself.
After inhalation: fresh air. Consult a physician.
After skin contact: wash off with plenty of water. Remove contaminated clothing. Call a ysicianimmediately.
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise. Most important symptoms and effects, both acute and delayed Irritation and corrosion, Cough, Shortness of breath Risk of lindness!
Indication of any immediate medical attention and special treatment needed: No information available

5. Fire-fighting Measures

Extinguishing media:
Suitable extinguishing media: Water, 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 mixtureCombustible:
In the event of decomposition: danger of explosion Development of hazardous combustion gases or vapours possible in the event of fire.Fire may cause evolution ofSulphur oxides, Hydrogen chloride gas, nitrogen oxides
Advice for firefighters:
Special protective equipment 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.
Further information:Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire xtinguishing water from contaminating surface water or the ground water system.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:
Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
Advice for emergency responders: Protective equipment see section 8.
Environmental precautions: Do not empty into drains. Methods and materials for containment and cleaning up Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). ?ake up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
Reference to other sections : Indications about waste treatment see section 13.

7. Handling and Storage

Precautions for safe handling:
Advice on safe handling: Work under hood. Do not inhale substance/mixture. Observe label precautions.
Hygiene measures: Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.Conditions for safe storage, including any incompatibilities
Storage conditions: ?ightly closed. Dry.
Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons. Recommended storage temperature see product label.
Specific end use(s): Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls and personal protection

Control parameters: Contains no substances with occupational exposure limit values.
Exposure controls:
Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
Individual protection measures: Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective

supplier.
Eye/face protection:
Safety glasses:
Hand protection full contact:
Glove material: Nitrile rubber
Glove thickness: 0.11 mm
Break through time: > 480 min
splash contact:
Glove material: Nitrile rubber
Glove thickness: 0.11 mm
Break through time: > 480 min
The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact). The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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.
Other protective equipment protective clothing:
Respiratory protection: required when dusts are generated.
Empfohlener Filtertyp: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances 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.
Environmental exposure controls: Do not empty into drains.

9. Physical and chemical properties

Information on basic physical and chemical properties:

Form	solid
Colour	light yellow
Odour	slight chlorine
Odour Threshold	No information available.
pH	8 - 10 at 50 g/l 20 °C
Melting point	decomposes
Boiling point/boiling range	not applicable
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.

Density	No information available.
Relative density	No information available.
Water solubility	150 g/l at 25 °C
Partition coefficient: noctanol/water	log Pow: 0.84 (calculated)(anhydrous substance) Bioaccumulation is not expected. (Lit.)
Auto-ignition temperature	No information available.
Decomposition temperature	> 60 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

Other data: Bulk density 540 - 680 kg/m³

10. Stability and reactivity

Reactivity: Risk of dust explosion
Chemical stability: releases water of crystallisation when heated. Possibility of hazardous reactions.
Violent reactions possible with: Metals, Oxidizing agents, Bases, Reducing agents
Conditions to avoid: Temperatures above melting point.
Incompatible materials: Metals
Hazardous decomposition products: no information available

11. Toxicological information

Acute oral toxicity
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.Acute inhalation toxicity.
Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract Acute dermal toxicity This information is not available.
Skin irritation: Mixture causes burns.
Eye irritation: Mixture causes serious eye damage. Risk of blindness!
Sensitisation: This information is not available.
Germ cell mutagenicity: This information is not available.
Carcinogenicity: This information is not available.
Reproductive toxicity: This information is not available.
Teratogenicity: This information is not available.
Specific target organ toxicity : single exposure This information is not available.
Specific target organ toxicity: repeated exposure This information is not available.
Aspiration hazard: This information is not available.
Further information: Substance which occurs in the human body under physiological conditions.Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

Toxicity to fish:
LC50 Leuciscus idus (Golden orfe): 440 - 760 mg/l; 96 h (anhydrous substance) (IUCLID) Toxicity to daphnia and other aquatic invertebrates EC5 E.sulcatum: 485 mg/l; 72 h (anhydrous substance) (maximum permissible toxic concentration) (Lit.) EC50 Daphnia magna (Water flea): ca. 120 mg/l; 72 h (anhydrous substance) (IUCLID) Toxicity to algae IC5 M.aeruginosa 80 mg/l; 8 d (anhydrous substance) (maximum permissible toxic concentration) (Lit.)
Toxicity to bacteria
EC5 Pseudomonas putida: > 10,000 mg/l; 16 h (anhydrous substance) (Lit.)
Persistence and degradability: Biodegradability 98 %; 2 dOECD Test Guideline 302B (anhydrous substance)Readily eliminated from water Biochemical Oxygen Demand (BOD) 481 mg/g (5 d) (External MSDS) Chemical Oxygen Demand (COD) 685 mg/g (External MSDS)

Theoretical oxygen demand (ThOD) 686 mg/g (Lit.)
Bioaccumulative potential: Partition coefficient: n-octanol/water log Pow: -1.72 (20 °C) OECD Test Guideline 117 (anhydrous substance)
Bioaccumulation is not expected.
Mobility in soil: No information available.
Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
Other adverse effects:
Additional ecological information: Harmful effect due to pH shift. Discharge into the environment must be avoided.

13. Disposal considerations

Disposal considerations:
Waste treatment methods: Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC aswell as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.See for processes regarding the return of chemicals and containers, or contact us there if you have further questions

14. Transport information

Land transport (ADR/RID): Not classified as dangerous in the meaning of transport regulations.
Inland waterway transport (ADN): Not relevant
Air transport (IATA): Not classified as dangerous in the meaning of transport regulations.
Sea transport (IMDG): Not classified as dangerous in the meaning of transport regulations.Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not relevant

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulations

Major Accident Hazard	96/82/EC
Legislation	Directive 96/82/EC does not apply
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
Regulation (EC) No 850/2004 of the European Parliament and of not regulated the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals	not regulated
Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of ? 0.1 % (w/w).

National legislation

Storage class	8B

Chemical Safety Assessment:
For this product a chemical safety assessment was not carried out.

16. Other information

Full text of H-Statements referred to under sections 2 and 3.
H314 Causes severe skin burns and eye damage.
Full text of R-phrases referred to under sections 2 and 3
R34 Causes burns.
Training advice:
Provide adequate information, instruction and training for operators.
Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	C	Corrosive
R-phrase(s)	34	Causes burns.
S-phrase(s)	26-36/37/39-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at.surface water or the ground water system.