

1. Product and Company Identification

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Product Name Trisodium Citrate Dihydrate
Part Number RXSOL-60-1050-025

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
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2. Composition / Information on ingredients

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Product name	Cas No	EC No	Weight	Formula
tri-Sodium citrate dihydrate	6132-04-3	200-675-3	294,10 g/mol	$\text{Na}_3\text{C}_6\text{H}_5\text{O}_7 \cdot 2\text{H}_2\text{O}$

3. Hazards Identification

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Signal Word	No data available
Hazard Statements	No data available
Precautionary statements	No data available
Classification of the substance or mixture	No data available
Supplemental Hazard Statements	No data available
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

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General advice	No data available
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. Call a physician immediately
Inhalation	No data available
Ingestion	No data available
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

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Flammability	No data available
Suitable extinguishing media	Water Foam Carbon dioxide (CO2) 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 Sodium oxides Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.
Further information	Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Hazardous combustion products	No data available
Advice for firefighters	In the event of fire, wear self-contained breathing apparatus..
Protective Equipment	No data available
Specific Hazards Arising from the Chemical	No data available

6. Accidental Release Measures

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Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Spillage	No data available
Personal Protection	No data available
Environmental 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
Reference to other sections	For disposal see section 13.

7. Handling and Storage

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Advice on protection against fire and explosion	No data available
Incompatible materials	No data available
Hygiene measures	No data available
Advice on safe handling	For precautions see section 2.2.
Conditions for safe storage including any incompatibilities	No data available
Storage conditions	Tightly closed. Dry. Recommended storage temperature see product label.
Storage class	Storage class (TRGS 510) 11 Combustible Solids
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Advice on general occupational hygiene	No data available

8. Exposure controls and personal protection

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Exposure controls	Personal protective equipment
Engineering Control	No data available
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	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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: butyl-rubber Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested: Butoject® (KCL 898) 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 EN 16523-1 please 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: 0,4 mm Break through time: 120 min Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Respiratory protection

Required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2 The entrepreneur 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

No data available

9. Physical and chemical properties

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Physical state	Solid
Colour	White
Odour	Odorless
Odor Threshold	No data available
pH	7,5 - 9 at 29,4 g/l at 25 °C
Melting Point	300 °C
Boiling Point	No data available
Flash Point	No data available
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data Available
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Vapour pressure	No data available
Viscosity	No data available
Density	No data available
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	No data available
Explosive properties	No data available
Solubility	29,4 g/l at 20 °C - completely soluble
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

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Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Chemical stability	The product is chemically stable under standard ambient conditions (room temperature)
Possibility of hazardous reactions	Violent reactions possible with Strong oxidizing agents
Conditions to avoid	No data available
Incompatible materials	No data available
Hazardous decomposition products	In the event of fire: see section 5

11. Toxicological information

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Acute toxicity	LD50 Oral - Mouse - male and female - 5.400 mg/kg (OECD Test Guideline 401) Inhalation LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402)
Skin corrosion/irritation	Skin - Rabbit No skin irritation - 4 h (OECD Test Guideline 404) (anhydrous substance)
Serious eye damage/irritation	Eyes - Rabbit No eye irritation - 72 h (OECD Test Guideline 405) (anhydrous substance)
Respiratory or skin sensitization	Maximization Test - Guinea pig negative (OECD Test Guideline 406) (anhydrous substance)
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 negative Test Type: Micronucleus test Test system Human lymphocytes Metabolic activation without metabolic activation Method OECD Test Guideline 487 Result: positive Test Type dominant lethal test Species Rat Application Route: Oral Method: Regulation (EC) No. 440/2008, Annex, B.22 Result negative Test Type: Chromosome aberration test Species Rat Cell type: Bone marrow Application Route: Oral Method: OECD Test Guideline 475 Result: negative
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
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. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

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Persistence and degradability	The methods for determining the biological degradability are not applicable to inorganic substances.
Toxicity to fish	LC50 - Poecilia reticulata (guppy) - > 18.000 - 32.000 mg/l - 96 h (anhydrous substance) (IUCLID)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 5.600 - 10.000 mg/l - 48 h (anhydrous substance) (IUCLID)
Toxicity	No data available
Toxicity to bacteria	No data available
Toxicity to algae	No data available
Products Biodegradation	No data available
Mobility in soil	No data 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

13. Disposal considerations

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Product	See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.
Contaminated packaging	No data available
Waste treatment Method	No data available

14. Transport information

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UN number	ADR/RID:-	IMDG:-	IATA:-
UN proper shipping name	ADR/RID:Not dangerous goods	IMDG:Not dangerous goods	IATA:Not dangerous goods
Transport hazard class(es)	ADR/RID:-	IMDG:-	IATA:-
Packaging group	ADR/RID:-	IMDG:-	IATA:-
Environmental hazards	ADR/RID:No	IMDG:No	IATA:No
Special precautions for user	No data available		
Further information	No data available		

15. Regulatory information

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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.
Other regulations	No data available
Chemical Safety Assessment	A Chemical Safety Assessment was not carried out for this substance.

16. Other information

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Other Information	<p>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 we assume 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 we 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.</p> <p>DISCLAIMER OF LIABILITY :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.</p>
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