

1. Product and Company Identification

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Product Name SILICON TETRACHLORIDE
Part Number RXSOL-19-1439-001

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
Silicon tetrachloride for synthesis	10026-04-7	233-054-0	169,90 g/mol	SiCl ₄

3. Hazards Identification

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Signal Word	Danger
Hazard Statements	H301 + H331 Toxic if swallowed or if inhaled. H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation
Precautionary statements	P261 Avoid breathing mist or vapors. P271 Use only outdoors or in a well-ventilated area. 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 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. 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	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. 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.

4. First Aid Measures

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General advice	First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation fresh air. Immediately call in physician. If breathing stops immediately apply artificial respiration, if necessary also oxygen.

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. 4.2 Most import
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	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Water Foam
Special hazards arising from the substance or mixture	Hydrogen chloride gas silicon oxides Not combustible. Caution! in contact with water product releases: Hydrogen chloride gas Fire may cause evolution of: Hydrogen chloride gas May not get in touch with: Water Ambient fire may liberate hazardous vapours
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	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	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	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
Advice on safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of

Conditions for safe storage including any incompatibilities	vapours/aerosols. Keep workplace dry. Do not allow product to come into contact with water.
Storage conditions	No data available
Storage class	Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Never allow product to get in contact with water during storage. Recommended storage temperature see product label
Specific end use(s)	Storage class (TRGS 510) 6.1D Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects
Advice on general occupational hygiene	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
	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 vapours/aerosols 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 AX 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	Liquid
Colour	Colorless
Odour	No data available
Odor Threshold	No data available
pH	No data available
Melting Point	No data available
Boiling Point	57 °C at 1.013 hPa
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	1,48 g/cm ³ at 20 °C
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	No data available
Explosive properties	No data available
Solubility	No data available
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

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Reactivity	Reacts violently with water.
Chemical stability	Sensitive to moisture
Possibility of hazardous reactions	Violent reactions possible with: Water Risk of explosion with: Alkali metals Exothermic reaction with: dimethyl sulfoxide bases
Conditions to avoid	Avoid moisture.
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 - Rat - male and female - 238 mg/kg (OECD Test Guideline 401) Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Acute toxicity estimate Oral - 238 mg/kg (Calculation method) LC50 Inhalation - Rat - male and female - 1 h - 4,6 mg/l - vapor (OECD Test Guideline 403) Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:., damage of respiratory tract, Lung edema LD50 Dermal - Rabbit - male and female - > 10.000 mg/kg (OECD Test Guideline 402)
Skin corrosion/irritation	Skin - Rabbit Result: Corrosive (OECD Test Guideline 404)
Serious eye damage/irritation	Risk of blindness!
Respiratory or skin sensitization	No data available
Carcinogenicity	Carcinogenicity - No indication of carcinogenic activity
Germ cell mutagenicity	Test Type Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	May cause respiratory irritation
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. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Decomposition of the substance with tissue moisture. Good warning effect due to low odour threshold. Systemic effects:After a latency period: Circulatory collapse Other dangerous properties can not be excluded. This substance should be handled with particular care.

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	Semi-static test LC50 - Danio rerio (zebra fish) - > 245 mg/l - 96 h (OECD Test Guideline 203) The value is given in analogy to the following substances: tetraethyl silicate
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia magna (Water flea) - > 844 mg/l - 48 h (OECD Test Guideline 202) The value is given in analogy to the following substances: tetraethyl silicate
Toxicity	No data available
Toxicity to bacteria	Static test EC50 - activated sludge - > 100 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to algae	Static test EC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201) Remarks: The value is given in analogy to the following substances: tetraethyl silicate
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
Other adverse effects	Biological effects Forms corrosive mixtures with water even if diluted. The following may develop after reaction of the product with water: hydrochloric acid Discharge into the environment must be avoided.

13. Disposal considerations

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Product	No data available
Contaminated packaging	No data available
Waste treatment Method	No data available

14. Transport information

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UN number	ADR/RID:1818	IMDG:1818	IATA:1818
UN proper shipping name	ADR/RID:SILICON TETRACHLORIDE	IMDG:SILICON TETRACHLORIDE	IATA:SILICON TETRACHLORIDE
Transport hazard class(es)	ADR/RID:II	IMDG:II	IATA:II
Packaging group	ADR/RID:-	IMDG:-	IATA:-
Environmental hazards	ADR/RID:No	IMDG:No	IATA:No
Special precautions for user	Tunnel restriction code (E)		
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	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.
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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