

1. Product and Company Identification

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Product Name Sulfuric Acid
Part Number RXSOL-19-1104-025

Company Details:

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

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Chemical Name	Cas No	EC No	Weight	Formula
Sulfuric acid 98% for the determination of nitrogen	7664-93-9	231-639-5	98,08 g/mol	H ₂ SO ₄

3. Hazards Identification

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Signal Word	Danger
Hazard Statements	H300 + H310 Fatal if swallowed or in contact with skin.
Precautionary statements	P262 Do not get in eyes, on skin, or on clothing. P280 Wear protective gloves/ protective clothing. P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth. P302 + P352 + P310 IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.
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

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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. Call in physician.
Eye Contact	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
Swallowed	After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.
Skin Contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

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 delay	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	May be combustible at high temperature.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Do NOT use water jet.
Special hazards arising from the substance or mixture	Sulfur oxides Not combustible. Fire may cause evolution of: Sulfur oxides 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	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

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Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. 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.
Environmental Precaution	Do not let product enter drains.
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 and neutralising material (e.g. Chemizorb® H?, Merck Art. No. 101595). Dispose of properly. Clean up affected area.
Reference to other sections	For disposal see section 13.

7. Handling and Storage

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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	No metal containers. Tightly closed. Recommended storage temperature see product label.
Storage class	Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials
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

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Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Acute local effects	0,1 mg/m ³
Workers	Inhalation	Long-term local effects	0,05 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Sea water	0,00025 mg/l
Fresh water	0,0025 mg/l
Sea sediment	0,002 mg/kg
Fresh water sediment	0,002 mg/kg
Onsite sewage treatment plant	8,8 mg/l

Exposur controls	No specific additional engineering controls are required. Provide good natural or artificial ventilation.
Exposur controls	No specific additional engineering controls are required. Provide good natural or artificial ventilation.
Engineering Control	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles
Body Protection	Acid-resistant 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). Full contact Material: Viton® Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M) 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: 120 min Material tested:Butoject® (KCL 898)
Respiratory protection	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
Control of environmental exposure

Handle in accordance with good industrial hygiene and safety practice.
Do not let product enter drains.

9. Physical and chemical properties

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Physical state	Clear, Liquid
Colour	Colorless
Odour	No data available
Odor Threshold	Not Applicable
pH	0,3 at 49 g/l at 25 °C
Melting Point	-20 °C
Boiling Point	ca.335 °C at 1.013 hPa
Flash Point	6 °C - closed cup
Evaporation Rate	Not Applicable
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	ca.0,0001 hPa at 20 °C
Viscosity	No data available
Density	1,84 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	at 20 °C soluble
Ignition temperature	No information available.
Particle characteristics	No data available

10. Stability and reactivity

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Reactivity	strong oxidising agent
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	A risk of explosion and/or of toxic gas formation exists with the following substances: Violent reactions possible with: Alkali metals alkali compounds Ammonia Aldehydes acetonitrile Alkaline earth metals alkalines Acids alkaline earth compounds Metals metal alloys Oxides of phosphorus phosphorus hydrides halogen-halogen compounds oxyhalogenic compounds permanganates nitrates Carbides combustible substances organic solvent acetylidene Nitriles organic nitro compounds anilines Peroxides picrates nitrides lithium silicide iron(III) compounds bromates chlorates Amines perchlorat
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Animal/vegetable tissues, MetalsContact with metals liberates hydrogen gas
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 - 2.140 mg/kg (sulphuric acid)
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Skin corrosion/irritation	Remarks: (ECHA) Inhalation: Corrosive to respiratory system. (sulphuric acid) Dermal: No data available
Serious eye damage/irritation	Skin - Rabbit (sulphuric acid) Result: Extremely corrosive and destructive to tissue. Remarks: (IUCLID)
Respiratory or skin sensitization	Remarks: Causes serious eye damage.
Carcinogenicity	No data available
Germ cell mutagenicity	No data available
Reproductive toxicity	Test Type: Ames test (sulphuric acid) Test system: Salmonella typhimurium Result: negative Remarks: (HSDB)
Specific target organ toxicity - single exposure	No data available
Additional Information	No data available
	RTECS: UF9625000 Lung irritation, Cyanosis, Central nervous system depression 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	Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 75 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (sulphuric acid) (OECD Test Guideline 202)
Toxicity	Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 1.520 mg/l - 96 h
Toxicity to bacteria	EC10 - Bacteria - 14 mg/l - 72 h Remarks: (Lit.) EC5 - E.coli - 15.000 mg/l Remarks: (Lit.) (maximum permissible toxic concentration)
Toxicity to algae	static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h (sulphuric acid) (OECD Test Guideline 201)
Products Biodegradation	The methods for determining the biological degradability are not applicable to inorganic substances.
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	No data available
Other adverse effects	No data available .

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.
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14. Transport information

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UN number	ADR/RID:1830 IMDG:1830 IATA: 1830
UN proper shipping name	ADR/RID:SULPHURIC ACID IMDG:SULPHURIC ACID IATA:SULPHURIC ACID
Transport hazard class(es)	ADR/RID: 8 IMDG: 8 IATA:8
Packaging group	ADR/RID: II IMDG: II IATA:II
Environmental hazards	ADR/RID: No IMDG: No IATA: No
Special precautions for user	No data available
Further information	Not classified as dangerous in the meaning of transport regulations.

15. Regulatory information

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

Other regulations

Chemical Safety Assessment

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Take note of Dir 94/33/EC on the protection of young people at work.

A Chemical Safety Assessment has been carried out for this substance.

16. Other information

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Other Information

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.

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