Material Safety Data Sheet

Sulphuric Acid Concentrate (RXSOL-19-1104-040)

1. Product and Company Identifaction

Product Name	Sulphuric (Sulfuric) Acid Conc
Product Type	RXSOL-19-1104-040

Company Details:

RX MARINE INTERNATIONAL

105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Stock Point : Mumbai, Kolkata, Chennai, Gandhidham, Visakhapatnam, Fujairah, Muscat

Phone	+91 22 27815541 / 42
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2. Composition / informationon ingredients

Ingredient	CAS No	Percent	Hazardous
SULPHURIC ACID	7664-93-9	98%	Yes
WATER	7732-18-5	Remainder	-

3. Hazards Identification

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Not classified as a Physical Hazard

Health Hazards

Skin Corrosion/Irritation: Category 1A

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word DANGER

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Prevention statements

H314 Causes severe skin burns and eye damage.

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P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response statements

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment is advised - see first aid instructions.

P363 Wash contaminated clothing before reuse.

Storage statements

P405 Store locked up.

Disposal statements

P501 Dispose of contents/container in accordance with relevant regulations.

4. First Aid Measures

NEW ZEALAND POISONS INFORMATION CENTRE 0800 POISON (0800 764 766)

NZ EMERGENCY SERVICES: 111

SWALLOWED

• For advice, contact a Poisons Information Centre or a doctor at once.

• Urgent hospital treatment is likely to be needed.

• If swallowed do NOT induce vomiting.

• If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

EYE

? If this product comes in contact with the eyes:

• Immediately hold eyelids apart and flush the eye continuously with running water.

• Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

• Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

• Transport to hospital or doctor without delay.

SKIN

? If skin or hair contact occurs:

• Immediately flush body and clothes with large amounts of water, using safety shower if available.

• Quickly remove all contaminated clothing, including footwear.

• Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.

• Transport to hospital, or doctor.

INHALED

• If fumes or combustion products are inhaled remove from contaminated area.

• Lay patient down. Keep warm and rested.

• Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.

• Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained.

Perform CPR if necessary.

• Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.

• Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).

• As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.

• Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.

NOTES TO PHYSICIAN

? For acute or short term repeated exposures to strong acids:

• Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.

• Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling

• Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.

• Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

5. Fire-fighting Measures

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code

2P

2 Fine Water Spray.

P Risk of violent reaction or explosion. Wear liquid-tight chemical protective clothing and breathing apparatus. Dilute spill and run-off.

6. Accidental Release Measures

MINOR SPILLS

• Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.

• Check regularly for spills and leaks.

• Clean up all spills immediately.

• Avoid breathing vapours and contact with skin and eyes.

• Control personal contact by using protective equipment.

• Contain and absorb spill with sand, earth, inert material or vermiculite.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

7. Handling and Storage

PROCEDURE FOR HANDLING

• DO NOT allow clothing wet with material to stay in contact with skin.

• Avoid all personal contact, including inhalation.

• Wear protective clothing when risk of exposure occurs

.• Use in a well-ventilated area.

• WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.

SUITABLE CONTAINER

• DO NOT use aluminium or galvanised containers.

• Check regularly for spills and leaks.

• Lined metal can, lined metal pail/ can.

• Plastic pail.

• Polyliner drum.

• Packing as recommended by manufacturer. For low viscosity materials

• Drums and jerricans must be of the non-removable head type.

• Where a can is to be used as an inner package, the can must have a screwed enclosure. . STORAGE REQUIREMENTS

• Store in original containers.

• Keep containers securely sealed.

• Store in a cool, dry, well-ventilated area.

• Store away from incompatible materials and foodstuff containers

8. Exposure controls and personal protection

EXPOSURE CONTROLS

Source	Material	TWA mg/m³	Notes New
Zealand Workplace Exposure	sulfuric acid (Sulphuric acid)	1	A2 CARCINOGEN

Standards (WES)

PERSONAL PROTECTION RESPIRATOR Type E-P Filter of sufficient capacity

EYE • Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure

• Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted

• Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.

• Alternatively a gas mask may replace splash goggles and face shields.

HANDS/FEET

• Elbow length PVC gloves.

• When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. Suitability and durability of glove type is dependent on usage.

Important factors in the selection of gloves include: such as:

• frequency and duration of contact,

• chemical resistance of glove material,

• glove thickness and

• dexterity.

OTHER

• Overalls.

• PVC Apron.

• PVC protective suit may be required if exposure severe.

• Eyewash unit.

ENGINEERING CONTROLS

? Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

9. Physical and chemical properties

Appearance VISCOUS CLEAR TO BROWN LIQUID

Odour SLIGHT ODOUR

Flammability NON FLAMMABLE

Flash point NOT RELEVANT

Boiling point 335°C

Melting point 10°C

Evaporation rate NOT AVAILABLE

pH 1 (10% solution)

Vapour density 3.4 (Air = 1)

Specific gravity 1.84

Solubility (water) SOLUBLE

Vapour pressure 0.011 kPa @ 25°C (Approximately)

Upper explosion limit NOT RELEVANT

Lower explosion limit NOT RELEVANT

Partition coefficient NOT AVAILABLE

Autoignition temperature NOT AVAILABLE

Decomposition temperature NOT AVAILABLE

Viscosity 24 mPa·s @ 20°C

Explosive properties NOT AVAILABLE

Oxidising properties NOT AVAILABLE

Odour threshold NOT AVAILABLE

10. Stability and reactivity

10.1 Reactivity

May be corrosive to metals.

10.2 Chemical stability

Potential for exothermic hazard.

10.4 Conditions to avoid Avoid contact with incompatible substances.

10.5 Incompatible materials Incompatible with oxidising agents (e.g. hypochlorites), alkalis (e.g. sodium hydroxide) and some metals. Incompatible with cyanides, sulphides and carbides and amines.

10.6 Hazardous decomposition products

May evolve toxic gases (sulphur oxides) when heated to decomposition.

11. Toxicological information

POTENTIAL HEALTH EFFECTS ACUTE HEALTH EFFECTS SWALLOWED

? The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.

? The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.

EYE

? When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.

? Direct eye contact with acid corrosives may produce pain, lachrymation, photophobia and burns. Mild burns of the epithelia generally recover rapidly and completely.

SKIN

? The material can produce severe chemical burns following direct contact with the skin.

CHRONIC HEALTH EFFECTS

? Repeated or prolonged exposure to acids may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Occupational exposure to strong inorganic acid mists containing sulfuric acid is designated by IARC to be carcinogenic, increased risk of laryngeal cancer being seen with chronic exposures. Repeated minor exposures to mists can cause erosion of teeth and inflammation of the upper respiratory tract leading to chronic bronchitis.

TOXICITY AND IRRITATION

? Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. WARNING: For inhalation exposure ONLY: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS The International Agency for Research on Cancer (IARC) has classified occupational exposures to respirable (5 um) crystalline silica as being carcinogenic to humans . This classification is based on what IARC considered sufficient evidence from epidemiological studies of humans for the carcinogenicity of inhaled silica in the forms of quartz and cristobalite.

12. Ecological information

12.1 Toxicity Sulphuric acid is harmful to aquatic life in very low concentrations.

May cause corrosion and deterioration of many common materials found in the environment (eg steel, limestone).

12.2 Persistence and degradability Sulfuric acid is a strong mineral acid that dissociates readily in water to sulfate ions and hydrated protons, and is totally miscible with water.

12.3 Bioaccumulative potential Sulphuric acid is not anticipated to accumulate in living tissues.

12.4 Mobility in soil Sulphuric acid is miscible with water and its dilution will increase the velocity of downward movement in the soil where it may dissolve the soil material. Avoid contaminating waterways.

12.5 Other adverse effects

13. Disposal considerations

• Recycle where possible Otherwise ensure that:

• licenced contractors dispose of the product and its container.

• disposal occurs at a licenced facility.

14. Transport information

Land Transport UNDG:

Class or division:	8	Subsidiary risk:	None
UN No.:	1830	UN packing group:	II

Shipping Name: SULPHURIC ACID with more than 51% acid

Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	1830	Packing Group:	II

Special provisions None

Shipping Name: SULPHURIC ACID

Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	None
UN Number:	1830	Packing Group:	: II
EMS Number:	F- A , S- B	Special provisions	None
Limited Quantities:	1 L		

Shipping Name: SULPHURIC ACID with more than 51% acid

15. Regulatory information

REGULATIONS Regulations for ingredients sulfuric acid (CAS: 7664-93-9) is found on the following regulatory lists; "GESAMP/EHS Composite List - GESAMP Hazard Profiles","IMO IBC Code Chapter 17: Summary of minimum requirements","IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk","International Air Transport Association (IATA) Dangerous Goods Regulations","International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List","International Council of Chemical Associations (ICCA) - High Production Volume List","New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals","New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data","New Zealand Hazardous Substances and New Organisms (HSNO) Act - Scheduled Toxic Substances","New Zealand Inventory of Chemicals (NZIoC)","New Zealand Workplace Exposure Standards (WES)","OECD Representative List of High Production Volume (HPV) Chemicals","United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances - Table II", "United Nations List of Precursors and Chemicals Frequently used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control - Table II" No data for Sulphuric Acid 98% Specific advice on controls required for materials used in New Zealand can be found at http://www.ermanz.govt.nz/search/registers.html

16. Other information

The information provided about the product on this Safety Data Sheet has been compiled from knowledge of the individual constituents.The data given here is based on current knowledge and experience. This Safety Data Sheet describes the product .in terms of safety requirements and does not signify any warranty with regard to the product's properties The data given here only applies when product used for proper application(s). The product is not sold as suitable for other applications - usage in such may cause risks not mentioned in this sheet. Do not use for other.