

1. Product and Company Identification

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Product Name **RXSOL-16-1022-040**
Product Type Sulphuric (Sulfuric) Acid 40 Kg

Company Details:

RX MARINE INTERNATIONAL
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2. Composition / Information on ingredients

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Name	CAS #	% by Weight
Sulfuric acid	7664-93-9	48 - 51%

Toxicological Data on Ingredients: Sulfuric acid: ORAL (LD50): Acute: 2140 mg/kg [Rat.]. VAPOR (LC50): Acute: 510 mg/m² hours [Rat]. 320 mg/m² hours [Mouse].

3. Hazards Identification

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Potential Acute Health Effects: Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, wheezing, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, pain, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects: CARCINOGENIC EFFECTS: Classified 1 (Proven for human.) by IARC, + (Proven.) by OSHA. Classified A (Proven for human.) by ACGIH. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, lungs, heart, cardiovascular system, upper respiratory tract, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged exposure to spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may result in general deterioration of health by an accumulation in one or many human organs.

4. First Aid Measures

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Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes. Get medical attention immediately.

Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be necessary for the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion:	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion:	Not available.

5. Fire-fighting Measures

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Flammability of the Product:	Non-flammable
Auto-Ignition Temperature:	Not applicable
Flash Points:	Not applicable
Flammable Limits	Not applicable
Products of Combustion	Products of combustion are not available since material is non-flammable. However, products of decomposition are oxides of sulfur. Will react with water or steam to produce toxic and corrosive fumes. Reacts with carbonates to produce carbon dioxide gas. Reacts with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively.
Fire Hazards in Presence of Various Substances:	Combustible materials
Explosion Hazards in Presence of Various Substances:	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of oxidizing materials
Fire Fighting Media and Instructions:	Not applicable
Special Remarks on Fire Hazards:	Metal acetylides (Monocesium and Monorubidium), and carbides ignite with concentrated sulfuric acid. White Phosphorus, Sulfuric acid or its vapor ignites on contact. May ignite other combustible materials. May cause fire when sulfuric acid is mixed with Cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous (III) oxide, and oxidizing agents such as chlorates, halogens, permanganates
Special Remarks on Explosion Hazards:	Mixtures of sulfuric acid and any of the following can explode: p-nitrotoluene, trihydroxydiaminophosphate, perchlorates, alcohols with strong hydrogen peroxide, ammonium tetraperoxychromate, potassium chlorate, potassium permanganate with potassium chloride, carbides, nitro compounds, nitrates, carbides, iodides, picrates, fulminates, dienes, alcohols (when heated) Nitramide decomposes explosively on contact with concentrated sulfuric acid. 1,3,5-Trinitrosohexahydro-1,3,5-triazine + sulfuric acid causes explosive decomposition

6. Accidental Release Measures

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Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Neutralize the residue with a dilute solution of sodium carbonate
Large Spill	Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above that recommended on the MSDS and with local authorities.

7. Handling and Storage

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Precautions:	Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, organic materials, metals, acids, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or plastic drum using a strong polyethylene inner package
Storage	Hygroscopic. Reacts violently with water. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

sulfur, Diisobutylene, p-dimethylaminobenzaldehyde, 1,3-Diazidobenzene, Dimethylbenzylcarbinol + hydroperoxide, Epichlorohydrin, Ethyl alcohol + hydrogen peroxide, Ethylene diamine, Ethylene glycol and other glycols, Ethyleneimine, Hydrogen peroxide, Hydrochloric acid, Hydrofluoric acid, Iodine heptafluoride, Indane + nitric acid, Iron, Isoprene, Mercuric nitride, Mesityl oxide, Mercury nitride, Metals (powdered), Nitromethane, Nitric acid + glycerol, Pentasilver trihydroxydiaminophosphate, Perchlorates, Perchloric acid, Permanganates + benzene, 1-Phenyl-2-methyl-2-propanol, Hydrogen peroxide, Phosphorus, Phosphorus isocyanate, Picrates, Potassium tert-butoxide, Potassium chlorate, Potassium permanganate and other permanganates, halogens, amines, Potassium Permanganate + Potassium chloride, Potassium chlorate, water, Propiolactone (beta)-, Pyridine, Rubidium acetylene carbide, Silver permanganate, Sodium, Sodium cyanide, Sodium hydroxide, Steel, styrene monomer, toluene + nitric acid, Vinyl acetate, Thallium (I) azidodithiocarbonate, Zinc chloride, azides, carbonates, cyanides, sulfides, sulfites, alkali hydrides, carboxylic acid anhydrides, nitriles, olefinic organics, cyclopentadiene, cyano-alcohols, metal acetylides, Hydrogen gas is generated by the action of the acid on most metals (tin, zinc, aluminum, etc.). Concentrated sulfuric acid oxidizes, dehydrates, or sulfonates most organic compounds.

Special Remarks on Corrosivity Non-corrosive to lead and mild steel, but dilute acid attacks most metals. Attacks many metals releasing hydrogen gas.

Polymerization Will not occur

11. Toxicological information

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Routes of Entry	through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute toxicity (LD50): 2140 mg/kg [Rat.]. Acute toxicity of the vapor (LC50): 320 mg/m ³ 2 hours [Mouse]
Chronic Effects on Humans:	CARCINOGENIC EFFECTS: Classified 1 (Proven for human.) by IARC, + (Proven.) by OSHA. Classified A (Proven for human.) by ACGIH. May cause damage to the following organs: kidneys, lungs, heart, cardiovascular system, upper respiratory tract, eyes, teeth
Other Toxic Effects on Humans	Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant), eye contact (corrosive), of ingestion
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Mutagenicity: Cytogenetic Analysis: Hamster, ovary = 4mmol/L Reproductive effects: May cause adverse reproductive effects on animal data. Developmental abnormalities (musculoskeletal) in rabbits at a dose of 20 mg/m ³ for 7 hrs.(RTECS: 10000000) neither embryotoxic, fetotoxic, nor teratogenic in mice or rabbits at inhaled doses producing some maternal toxicity.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: Causes severe skin irritation and burns. Continued contact can cause tissue necrosis. Severe eye irritation and burns. May cause irreversible eye injury. Ingestion: Harmful if swallowed. May cause perforation of the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the stomach, GI bleeding, edema of the stomach, and scarring, and sudden circulatory collapse(similar to acute inhalation). It may also cause systemic toxicity with acute respiratory distress. May cause severe irritation of the respiratory tract and mucous membranes with sore throat, coughing, shortness of breath, lung edema. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Cause corrosive action on mucous membranes. May cause cardiovascular system (hypotension, depressed cardiac output, bradycardia). Circulatory collapse with clammy skin, shallow pulse, shallow respiration, and scanty urine may follow. Circulatory shock is often the immediate cause of death. Chronic Potential Health Effects: Inhalation: Repeated inhalation may affect behavior (muscle contraction or spasticity), urinary system (kidney damage), and cardiovascular system (ischemic heart lesions), and respiratory system/lungs(pulmonary edema, lung damage), teeth (dental discoloration). Prolonged or repeated skin contact may cause dermatitis, an allergic skin reaction

12. Ecological information

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Ecotoxicity	Ecotoxicity in water (LC50): 49 mg/l 48 hours [bluegill/sunfish].
BOD5 and COD	Not available
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available

13. Disposal considerations

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Waste Disposal

Sulfuric acid may be placed in sealed container or absorbed in vermiculite, dry sand, earth, or a similar material. It must be neutralized. Be sure to consult with local or regional authorities (waste regulators) prior to any disposal. Waste must be disposed in accordance with federal, state and local environmental control regulations.

14. Transport information

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DOT Classification

Class 8: Corrosive material

Identification

Sulfuric acid UNNA: 1830 PG: II

Special Provisions for Transport

Not available

15. Regulatory information

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Federal and State Regulations

Illinois toxic substances disclosure to employee act: Sulfuric acid New York release reporting list: Sulfuric acid R
hazardous substances: Sulfuric acid Pennsylvania RTK: Sulfuric acid Minnesota: Sulfuric acid Massachusetts RTK: Sulfuric acid
Jersey: Sulfuric acid California Director's List of Hazardous Substances (8 CCR 339): Sulfuric acid Tennessee R
TSCA 8(b) inventory: Sulfuric acid SARA 302/304/311/312 extremely hazardous substances: Sulfuric acid SARA 302/304/311/312
notification and release reporting: Sulfuric acid CERCLA: Hazardous substances.: Sulfuric acid: 1000 lbs. (453.6 kg)
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26) After
wash immediately with plenty of soap and water (S28) Wear suitable gloves and eye/face protection (S37/39) Avoid
environment. Refer to special instructions/Safety data sheets (S61)

Other Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is in the
Inventory of Existing Commercial Chemical Substances

Other Classifications

WHMIS (Canada):

CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS E: Corrosive liquid

DSCL (EEC)

R35- Causes severe burns. S2- Keep out of the reach of children. S26- In case of contact with eyes, rinse immediately
with water and seek medical advice. S30- Never add water to this product. S45- In case of accident or if you feel unwell, seek
advice immediately (show the label where possible)

HMIS (U.S.A.):

Health Hazard:

3

Fire Hazard

0

Reactivity

2

Personal Protection:

National Fire Protection Association

(U.S.A.):

Health

Flammability

Reactivity

Specific hazard

Protective Equipment:

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate res
ventilation is inadequate. Face shield

16. Other information

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References

Material safety data sheet emitted by: la Commission de la Santé et de la Sécurité du Travail du Québec. -The Sigma
of Chemical Safety Data, Edition II. -Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y.
Reinold, 1987

Other Special

Not available

Considerations

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