

Safety Data Sheet

Sulfuric Acid, Concentrated

Section 1 - Chemical Product and Company Identification

SDS Name: Sulfuric Acid, Concentrated

Catalog Numbers: SO-789, G-452-2

Company Identification: Transene Company, Inc., DBA ROWLEY BIOCHEMICAL Inc.
10 ELECTRONICS AVENUE
DANVERS, MA 01923

For information, call: 978-739-4883

Emergency Number: 800-424-9300

For CHEMTREC assistance, call: 800-424-9300

Section 2 - Hazards Identification

GHS Classifications

H290-Corrosive to metals: 1

H300-Acute toxicity, oral: 1

H314-Skin corrosion/irritation: 1A

H318-Serious eye damage/eye irritation: 1

H330-Acute toxicity, inhalation: 2

H335-Specific target organ toxicity, single exposure; Respiratory tract irritation: 3

Consists of ingredients of unknown acute dermal toxicity.

Pictograms or Hazard Symbols and Hazard Statement(s):



Signal Word: Danger

Hazard Statements:

H290-May be corrosive to metals

H300-Fatal if swallowed

H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage
H330-Fatal if inhaled
H335-May cause respiratory irritation

Precautionary Statements:

P234-Keep only in original packaging.
P260-Do not breathe dust/fume/gas/mist/vapours/spray.
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.
P264-Wash thoroughly after handling.
P270-Do not eat, drink, or smoke when using this product.
P271-Use only outdoors or in a well-ventilated area.
P280-Wear protective gloves/protective clothing/eye protection/face protection.
P284-In case of inadequate ventilation wear respiratory protection.
P301+P310-If swallowed: Immediately call a Poison Center/doctor.
P301+P330+P331-If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340-If inhaled: Remove person to fresh air and keep 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/doctor.
P312-Call a Poison Center/doctor if you feel unwell.
P330-Rinse mouth.
P363-Wash contaminated clothing before reuse.
P390-Absorb spillage to prevent material damage.
P403+P233-Store in a well-ventilated place. Keep container tightly closed.
P405-Store locked up.
P406-Store in a corrosion resistant container with a resistant inner liner.
P501-Dispose of contents/container in accordance with all local/regional/national/international regulations.

Section 3 - Composition, Information on Ingredients

| CAS# | Chemical Name | Percent |
|-----------|---------------|-----------|
| 7664-93-9 | Sulfuric Acid | 90-98 v/v |
| 7732-18-5 | Water | Balance |

Section 4 - First Aid Measures

Eye Exposure: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Get immediate medical attention.

Dermal Exposure: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Get immediate medical attention.

Oral Exposure: If swallowed, clean mouth with water and get immediate medical advice. Do NOT induce vomiting.

Inhalation Exposure: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get immediate medical attention.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use dry chemical, carbon dioxide, dry sand, or alcohol-resistant foam. Do not put water on leaked material. Do not use water to extinguish.

Hazardous Combustion Products: Sulfur oxides, hydrogen gas, irritating and toxic fumes and gases.

Flash Point: Not applicable

Autoignition Temperature: Not available

Explosion Limits, Lower: Not available

Upper: Not available

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 2

Note: Reacts violently with water.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s):

Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation. Do not breathe mist/vapors/spray.

Methods for Cleaning up: Neutralize spilled material with alkaline material (soda ash, lime). Absorb with sand, earth, or vermiculite. Do not use water. Carefully sweep up and containerize for proper disposal. Do not release to the environment. Do not release to drains.

Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Wash thoroughly after handling. Use only under a chemical fume hood. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Do not breathe mist/vapors/spray. Keep in a tightly closed and non-metal container. Store in a cool, dry, and well-ventilated area. Protect from direct sunlight. Keep away from water. Keep away from incompatible materials. Residue in empty containers may still be hazardous.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate chemical-resistant protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Exposure Limits:

| Chemical Name | ACGIH - TLV | NIOSH - IDLH | OSHA - Final PELs |
|--------------------------------|---------------------------|--|-------------------------|
| Sulfuric Acid CAS#7664-93-9 | 0.2 mg/m ³ TWA | 1 mg/m ³ TWA 15 mg/m ³ IDLH | 1 mg/m ³ TWA |

OSHA Vacated PELs: Sulfuric Acid: TWA 1 mg/m³

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Clear, colorless

Odor: Odorless

Vapor Pressure: 1mm Hg at 145.8°C (295°F)

Odor Threshold: Not available

Vapor Density: 3.4 (Air=1.0)

pH: <1

Relative Density: 1.84 g/cm³ at 25°C (77°F)

Melting point/freezing point: 3°C (37.4°F)

Solubility: Miscible in water

Boiling Point: 290°C (554°F)

Flash Point: Not applicable

Evaporation Rate: Not available

Flammability (solid, gas): Not applicable

Partition coefficient: n-octanol/water: Not available

Autoignition Temperature: Not available

Decomposition Temperature: >150°C (302°F)

Viscosity: Not available

Specific Gravity/Density: 1.84

Section 10 - Stability and Reactivity

Chemical Stability: Stable in closed containers under normal storage and handling conditions. Reacts violently with water.

Conditions to Avoid: Incompatible materials, ignition sources, and excess heat. Exposure to moist air or water. Direct sunlight.

Incompatibilities with other materials: Water, organic materials, strong acids, strong bases, metals, alcohols, strong oxidizing agents, reducing agents, potassium chlorate, potassium perchlorate, potassium permanganate, sodium, lithium, halogens, metal acetylides, oxides, hydrides, cyanides, finely powdered metals, metal oxides, amines, hydroxides, sulfides, sulfites, formaldehyde, chlorates, carbides, carbonates, picrates, alkali compounds, and nitrates.

Hazardous Decomposition Products: Sulfur oxides, hydrogen gas, irritating and toxic fumes and gases.

Section 11 - Toxicological Information

CAS#7664-93-9 Sulfuric Acid: RTECS#: WS560000

LD50 Oral: 2140 mg/kg (rat)

LD50 Dermal: Not available

LC50 Inhalation: 0.375 mg/L 4h (rat)

Investigated as a tumorigen, mutagen, and reproductive effecter.

Carcinogenicity: Sulfuric Acid CAS#7664-93-9 is not listed by OSHA. Sulfuric Acid ("strong inorganic acid mists containing sulfuric acid") is listed by IARC (Group 1, Carcinogenic to Humans), NTP (Known Carcinogen), ACGIH (A2, Suspected Human Carcinogen), and California Prop. 65 as a carcinogen.

Information on the likely routes of exposure: Routes of entry anticipated: oral, dermal, inhalation, and eye.

Epidemiology: Not available.

Teratogenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects: Not available.

Neurotoxicity: Not available.

Mutagenicity: Not available.

Specific Target Organ Toxicity, Single Exposure: Respiratory system.

Specific Target Organ Toxicity, Repeated Exposure: Not available.

Symptoms associated with exposure: This material causes burns by all exposure routes. Corrosive material. Contact with eyes may cause serious eye damage including burns, corneal lesions, blindness, blurred vision, redness, pain, watering, and severe tissue burns. Ingestion may cause severe burns, swelling, stomach pains, nausea, vomiting, diarrhea, severe damage to the delicate tissue and danger of perforation. Inhalation of liquid aerosols and mists causes severe burns to the mucous membranes and upper respiratory tract. May cause coughing, nose/throat irritation, labored breathing, and lung edema. Skin contact may cause severe skin burns, redness, pain, blistering, and scabs. Strong inorganic acid mists containing sulfuric acid can cause cancer. Long term exposure to mist or vapors may damage teeth. May be fatal if swallowed or inhaled.

The toxicological properties of this material have not been thoroughly investigated.

Section 12 - Ecological Information

Ecotoxicity: Do not release to the environment. Do not release to drains. Harmful effect due to pH shift. Harmful effects to aquatic organisms.

CAS#7664-93-9 Sulfuric Acid:

LC50, freshwater fish: >500 mg/L 96h static (brachydanio rerio)

LC50, freshwater fish: 42 mg/L (gambusia affinis)(mosquito fish)

LC50, flounder: 100-330 mg/L 48h (platichthys flesus)(European flounder)

LC50, common shrimp: 70-80 mg/L 48h (crangon)

EC50, algae: >100 mg/L 72h static (desmodesmus subspicatus)(green algae)

EC50, water flea: >100 mg/L 48h static (daphnia magna)

Persistence and degradability: Not available.

Bio-accumulative potential: Not available.

Mobility: Will likely be mobile in the environment due to its water solubility.

Section 13 - Disposal Considerations

DISPOSAL: Dispose of in accordance with all federal, state, and local regulations.

Section 14 - Transport Information

DOT

Proper shipping name: Corrosive liquid, Acidic, Inorganic, N.O.S (Sulfuric Acid)

UN1830

PG II

Hazard Class 8

Section 15 - Regulatory Information

Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

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| Section 16 - Additional Information |
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SDS Creation Date: 12-16-21

Revision #1: 12-14-22

Revision #2: 2-13-25

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