Safety Data Sheet
Sulfuric Acid, 1N

Section 1 - Chemical Product and Company Identification

SDS Name: Sulfuric Acid, 1N
Catalog Numbers: SO-1231
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
H314-Skin corrosion/irritation: 1A
H318-Serious eye damage/eye irritation: 1
H335-Specific target organ toxicity, single exposure; Respiratory tract irritation: 3

3% of the mixture 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
H314-Causes severe skin burns and eye damage
H318-Causes serious eye damage
H335-May cause respiratory irritation

Precautionary Statements:

P234-Keep only in original packaging.
P260-Do not breath dust/fume/gas/mist/vapours/spray.
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.
P264-Wash thoroughly after handling.
P271-Use only outdoors or in a well-ventilated area.
P280-Wear protective gloves/protective clothing/eye protection/face protection.
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.
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 corrosive 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	3 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. Obtain 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. Seek immediate medical attention.

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

Inhalation Exposure: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Seek 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, hydrogen chloride fumes, 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: 2; Flammability: 0; Instability: 1

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. Store in a cool, dry, and well-ventilated area. Keep in a tightly closed and non-metal container. Protect from direct sunlight. 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/m3 TWA	1 mg/m3 TWA 15 mg/m3 IDLH	1 mg/m3 TWA

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

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: Colorless
Odor: Odorless
Vapor Pressure: Not available
Odor Threshold: Not available
Vapor Density: Not available
pH: Approx. 0.3
Relative Density: Not available
Melting point/freezing point: Not available
Solubility: Miscible in water
Boiling Point: Not available
Flash Point: Not available
Evaporation Rate: Not available
Flammability (solid, gas): Not available
Partition coefficient: n-octanol/water: Not available
Auto-ignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity: Not available
Specific Gravity/Density: Not available

Section 10 - Stability and Reactivity

Chemical Stability: Stable in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, ignition sources, and excess heat. 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, cyanides, sulfides, sulfites, formaldehyde, chlorates, carbides, carbonates, picrates, alkali compounds, nitrates.
Hazardous Decomposition Products: Sulfur oxides, hydrogen gas, hydrogen chloride fumes, irritating and toxic fumes and gases.

Section 11 - Toxicological Information

CAS#7664-93-9 Sulfuric Acid: RTECS#: WS5600000
LD50 Oral: 2140 mg/kg (rat)
LD50 Dermal: Not available
LC50 Inhalation: 0.375 mg/L (rat) 4h
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 by 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, and 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, lung edema. Skin contact may cause severe skin burns, redness, pain, blistering, scabs. Strong inorganic acid mists containing sulfuric acid can cause cancer. Long term exposure to mist or vapors may damage teeth.

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)(western mosquito fish)
LC50, flounder: 100-330 mg/L 48h (platichthys flesus)(European flounder)
LC50, common shrimp: 70-80 mg/L 48h (crangon)
EC50, water flea: >100 mg/L 48h static (daphnia magna)
EC50, algae: >100 mg/L 72h static (desmodesmus subspicatus)(green algae)

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 Solution)
UN3264
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.

Section 16 - Additional Information

SDS Creation Date: 5-29-19
Revision #1: 12-14-22
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

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