

LIQUID LIGHTNING

Material Safety Data Sheet

Chem Trec Emergency 800-424-9300

Product Name: Sulfuric Acid (H₂SO₄)
CAS Number: 7664-93-9
Synonyms: Sulphuric Acid; Oil of Vitriol; Dipping Acid; Vitriol
Brown Oil; Hydrogen Sulfate
DOT Shipping Description: Sulfuric Acid, 8, UN 1830, PGII, RQ

II. Hazards Identification / Health Hazard Data

Hazard Communication Status: Corrosive
Hazardous Components: Sulfuric Acid 93.2%
Acute Health Effects: **General** – Reacts with all body tissue and eyes to produce severe burns and/or blindness.
Inhalation – Exposure to mists may cause irritation of nose, throat and lungs, cough, headache, nausea, weakness. Symptoms may be delayed.
Ingestion – Harmful or Fatal if swallowed. Product will severely burn the digestive tract. Damage may appear days after exposure.
Chronic Health Effects: **Inhalation** – Repeated exposure may cause severe shortness of breath, chronic bronchitis, chronic inflammation of the nose and throat, corrosion/discoloration of teeth.
Skin Contact – Repeated exposure to mist or low concentrated liquid may cause dermatitis.

Hazards Information:

TSCA Inventory Status:

Acute: Yes	SARA Extremely Hazardous Substance: Yes
Chronic: Yes	CERLCA Hazardous Substance: Yes
Fire: No	SARA Toxic Chemical: No
Reactivity: Yes	Carcinogens: None
Pressure: No	

	<u>NFPA</u>	<u>NPCA-HMIS</u>
Health	3	3
Flammability	0	0
Reactivity	2	

III. First Aid

Eye or Skin Contact: Immediately flush with water for at least 15 minutes, while removing contaminated clothing. Get medical attention immediately. Apply cold, wet compresses; repeat flushing with cold water.

Inhalation: Remove from exposed area to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: DO NOT induce vomiting. If conscious, give large quantities of water. Get medical attention immediately.

IV. Fire and Explosion Hazard Data

Flash Point: Non flammable.
Extinguishing Media: Dry chemical or carbon dioxide. Water reacts violently with concentrated acid giving off heat.
Special Fire Fighting Procedures: Generates heat upon addition of water, with possible splattering. Wear self-contained breathing apparatus and full protective clothing. Thoroughly decontaminate equipment after use.
Unusual Fire and Explosion Hazard: Will react with most metals, especially when dilute, to produce explosive Hydrogen gas. Will react with organic materials with evolution of heat and sulfur dioxide.

V. Storage and Handling

Handling: Employees must be properly trained to handle sulfuric acid. Avoid breathing vapors or mist. Do not add water to contents. Do not smoke in a sulfuric acid storage area. Use non-sparking tools and vapor-proof type electrical fixtures.
Storage: Keep out of sun and away from heat sparks and flame. Keep away from incompatible material. Storage tanks must be ventilated. Do not add water to concentrated acid.

VI. Accidental Release Measures/Waste Disposal

Spills: Keep people away. Prevent contact with skin. Wear full protective equipment when handling sulfuric acid. Keep combustibles away from spilled material. Dike flow of spilled material with sand, gravel or whatever is available. Contact appropriate Federal, State or local officials. After obtaining approval from Federal, State or local officials, neutralize spill with soda ash or lime to a pH of 7. Prevent liquid from entering sewers or waterways.
Disposal: Follow Federal, State and local regulations for disposal. Make sure spilled material is neutralized to a pH of 7 and disposed of in an approved site. If not diluted and neutralized, this waste would be a hazardous waste (RCRA Hazardous Waste No. D002-Corrosive) as designated in 40 CFR 261. Reportable quantity is 1,000 pounds (based on sulfuric acid content.)

VII. Applicable Control Measures

Engineering Controls: General ventilation must be provided.
Personal Protective Equipment:
Eye Protection: Wear chemical safety goggles. Have eye bath and safety shower immediately available.
Skin Protection: Wear full length face shield/chemical splash goggles

combination, acid-proof gauntlet gloves, apron and boots, long-sleeved wool, acrylic or polyester clothing, acid-proof suit and hood.

Respiratory Protection:

Use NIOSH approved equipment with full-face piece when airborne exposure limits are exceeded.

Exposure Limits:

PEL (OSHA): 1 mg / m³, 8 Hr. TWA

TLV (ACGIH): 1 mg / m³, 8 Hr. TWA, A2 STEL 3 mg.m³, A2

VIII. Typical Physical Properties

Appearance:	Colorless, oily liquid	Odor:	None
Boiling Point:	535°F (279°C)	Solubility in water:	Completely miscible
Melting Point:	-31°F (-35° C)	pH:	< 1
Vapor Pressure:	< 0.6 mm Hg @ 100°F	Specific Gravity:	1.835
	< 0.3 mm Hg @ 77°F	Vapor Density:	3.4

IX. Reactivity Data

Chemical Stability:

Product is stable but reacts violently with water and organic materials with evolution of heat.

Hazardous Polymerization:

Will not occur.

Incompatibility:

Vigorous reactions with water, alkaline solutions, metals, metal powder, carbides, chlorates, fuminates, nitrates, picrates, combustible organic materials.

Hazardous Decomposition Products:

Hazardous gases evolve on contact with cyanides, sulfides, carbides. Hydrogen gas (highly flammable/explosive limits 4-75% by volume) is generated by the action of sulfuric acid on most metals.

Decomposition:

Releases sulfur dioxide at extremely high temperatures.

X. Transportation Information

Proper Shipping Name:	Sulfuric Acid	Hazardous Class:	8
DOT Label:	Corrosive	Reportable Quantity:	1000 Pounds
UN Number:	1830	Packing Group:	II

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