

Section 1. Product and Company Identification

Product Name Sulfuric Acid
CAS Number 7664-93-9

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Section 2. Hazards Identification

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Corrosive to metals (Category 1): H290
Skin corrosion (Category 1A): H314
Serious eye damage (Category 1): H318

GHS Label Elements

Pictograms:



Signal word: DANGER

Hazard and precautionary statements

Hazard statements

H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.

Precautionary statements

P234: Keep only in original container.
P264: Wash skin thoroughly after handling.
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 + P310: If Inhaled, remove person to fresh air and keep comfortable for breathing.
Immediately call a poison center or doctor/ physician.



P305 + P351 + P338 + P310: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/ physician.

P363: Wash contaminated clothing before reuse.

P390: Absorb spillage to prevent material damage.

P405: Store locked up.

P406: Store in corrosive resistant stainless steel container with a resistant inner liner.

P501: Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition / Information on Ingredients

Common Name Sulfuric Acid
Formula H_2SO_4
CAS Number 7664-93-9

COMPONENT	CAS NUMBER	CONCENTRATION
Sulfuric Acid	7664-93-9	6 - 100%

Section 4. First Aid Measures

Skin: Immediately flush skin with plenty of water, for at least 15 minutes, while removing contaminated clothing and shoes. Get immediate medical attention! Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.

Eye: Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get immediate medical attention!

Inhalation: Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen. Keep affected person warm and at rest. Get immediate medical attention!

Ingestion: If victim is conscious and alert, give 1-3 glasses of water to dilute stomach contents. Rinse mouth out with water. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs keep head below hips to prevent aspiration and monitor for breathing difficulty. Keep affected person warm and at rest. Get immediate medical attention!

Section 5. Firefighting Measures

Hazardous combustion products: Decomposes to form sulfur dioxide and sulfur trioxide.

Extinguishing media: Use carbon dioxide or dry chemical to extinguish fire.

Basic firefighting procedures: Do not add water to acid. Water applied directly results in evolution of heat and splattering of acid. Acid can react with metals to liberate flammable hydrogen



gas, especially when diluted with water. Evacuate area and fight fire from a safe distance. Use water spray to cool adjacent structures and to protect personnel. Do not get water inside sulfuric acid containers. Shut off source of flow if possible. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Unusual fire & explosion hazards: Material will not burn. Reacts with most metals to produce hydrogen gas which can form an explosive mixture with air

Section 6. Accidental Release Measures

Emergency action: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire. Evacuate area endangered by release as required. (See "Exposure Control/Personal Protection" [Section #8])

Environmental precautions: If product is released to the environment, take immediate steps to stop and contain release. Caution should be exercised regarding personnel safety and exposure to the released product. Notify local authorities and the National Response Center, if required.

Spill or leak procedure: Keep unnecessary people away. Isolate area for at least 50 - 100 meters (160 - 330 feet) to preserve public safety. For large spills, consider initial evacuation for at least 300 meters (1000 feet). Large spills may be neutralized with dilute alkaline solutions of soda ash or lime. Stop leak when safe to do so.

Section 7. Handling and Storage

Handling: This material should be stored and shipped in plastic or plastic lined containers. Do not use with materials or equipment sensitive to acidic solutions. Do not eat, drink or smoke in areas of use or storage.

Storage: Avoid contact with combustible materials, water, metals and alkalis. Store in a vented container. Sulfuric acid reacts with most metals to produce hydrogen gas which can form an explosive mixture with air. Empty containers may contain product residue. Do not reuse without adequate precautions.

Section 8. Exposure Controls / Personal Protection

Engineering controls: Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

Personal Protection Equipment (PPE)

Eye Protection: Wear chemical safety goggles and face shield. Have eye washing facilities readily available where eye contact can occur.

Skin Protection: Avoid skin contact with this material. Use appropriate chemical protective gloves when handling. Additional protection may be necessary to prevent skin contact including use of apron, gauntlets, boots, impervious protective suit and face shield or splash goggles. Provide safety showers at any location where skin contact can occur.



Use good personal hygiene.

Respiratory Protection: A NIOSH/MSHA approved air purifying respirator with an appropriate acid gas cartridge or canister may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Exposure Limits / Health Hazards:

1 mg/m³ 8-Hour TWA (OSHA)
1 mg/m³ 8-Hour TWA (ACGIH)
3 mg/m³ 15-Min STEL (ACGIH)

Section 9. Physical and Chemical Properties

Appearance and Odor: Colorless to cloudy oily looking liquid, almost odorless

Boiling Point: 6 - 85% (215 - 440°F [102 - 227°C])

Boiling Point: 93% (541°F [283°C])

Boiling Point: 96% (600°F [316°C])

Boiling Point: 99% (625°F [329°C])

Specific Gravity: 6-85% - 1.04-1.79, 93% - 1.84, 96% - 1.84, 99% - 1.84

Vapor Pressure: (6-85% - 48-<1, 93%-<1, 96%-<1, 99%-<1) (mmHg at 100°F)

Solubility in Water: 100%

pH Value: < 1

Freezing Point: 6-85% = 30°-(-40°F [-1°-(-30°C)], 85%=46°F [8°C], 93%=-20°F [-29°C], 96%=5.5°F [-15°C], 99%=40°F [4°C])

Molecular Weight: 98.08

Chemical Family: Mineral Acid

Section 10. Stability and Reactivity

Stability/Incompatibility: Avoid contact with water. Incompatible with combustible materials, water, metals and alkalis. See precautions under "Handling & Storage" [Section #7]

Hazardous Reactions/Decomposition Products: Decomposes to form sulfur dioxide and sulfur trioxide

Section 11. Toxicological Information

Routes of exposure: Inhalation, ingestion, skin and eye contact.

LD50: Sulfuric Acid, Rat, Oral, 2140mg/kg.

Toxicological information: Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: kidney, liver, teeth, respiratory and



cardiovascular systems. Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: attacks enamel of teeth, vomiting, clammy skin, weak and rapid pulse. Other symptoms of exposure may include the following: shallow respiration, chronic bronchitis, lung function changes and scanty urine.

Carcinogenicity: IARC has determined that there is sufficient evidence for the carcinogenicity of occupational exposure to strong inorganic acid mists containing sulfuric acid in humans (IARC Class 1).

Pre-existing conditions aggravated by exposure: Pre-existing medical conditions which may be aggravated by exposure include disorders of the skin and respiratory system

Section 12. Ecological Information

Environmental mobility (soil & air): When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Ecotoxicity

Aquatic toxicity range: Slightly to moderately toxic

Bluegill sunfish, 48 Hour; LC50: 49mg/L (Tap water, 20°C)

Flounder, 48 Hour; LC50: 100 - 330mg/L (Aerated water, conditions of bioassay not specified)

Shrimp, 48 Hour; LC50: 80 - 90mg/L (Aerated water, conditions of bioassay not specified)

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

US Department of transportation (DOT) requirements General Transportation Information for Bulk Shipments

Proper Shipping Name: Sulfuric Acid

Hazard Class: 8

UN/NA Code: UN 1830, UN 2796

Packaging Group: PG II

Labels Required: Corrosive

Placards Required: Corrosive, UN 1830 (>51%), UN 2796 (≤51%)

Reportable Quantity: See Regulatory Information [Section #15]

General Transportation Information for Non-Bulk Shipments

Proper Shipping Name: Sulfuric Acid



Hazard Class: 8

UN/NA Code: UN 1830, UN 2796

Packaging Group: PG II

Labels Required: Corrosive

Reportable Quantity: See Regulatory Information [Section #15]

(The above description may not cover shipping in all cases. Please consult 49 CFR 172.101 for specific shipping information)

Section 15. Regulatory Information

Federal regulations: All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory. This product, as supplied, contains sulfuric acid, a Hazardous Substance as per 40 CFR Part 302.4 and an Extremely Hazardous Substance as per 40 CFR Part 344. The reportable quantity for sulfuric acid is 1,000 pounds. Any release of this product equal to or exceeding the reportable quantity must be reported to the National Response Center (800- 424-8802) and appropriate state and local regulatory agencies as described in 40 CFR Part 302.6 and 40 CFR 355.40, respectively. Failure to report may result in substantial civil and criminal penalties. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. This product contains one or more components designated as hazardous substances or toxic pollutants under Section 112 of the Clean Air Act. There may be specific regulations at the local, regional or state/provincial level that pertain to this product.

HCS Classification: Oxidizing material, Highly toxic material, Corrosive material, Carcinogen, Target organ effects.

State regulations: Based on available information this product contains components or chemicals currently known to the state of California to cause cancer. Reformulation, use or processing of this product may affect its composition and require re-evaluation.

SARA Title III Ratings

Immediate Hazard: X

Delayed Hazard: X

Reactivity Hazard: X

NFPA Ratings

Health: 3

Flammability: 0

Reactivity: 2

Special Hazards: W

HMIS Ratings

Health: 3

Flammability: 0

Reactivity: 2



Following ingredients of this product are listed in SARA 313: Sulfuric Acid 7664-93-9

DEA Listing: This product is a DEA List 2 Chemical.

DEA Chemical Code: 6552

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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