Sulfuric Acid, Concentrated, ACS

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: **Sulfuric Acid, Concentrated, ACS**

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: **S25597**

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc
9 Barnhart Drive, Hanover, PA 17331
(717) 632-1291

Supplier Details:

Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064
(724)517-1954

Emergency telephone number:

Fisher Science Education
Emergency Telephone No.: 800-535-5053

SECTION 2: Hazards identification

Classification of the substance or mixture:



Corrosive
Skin corrosion, category 1A
Serious eye damage, category 1
Corrosive to metals, category 1

Acute hazards to the aquatic environment, category 3
Skin Corrosion 1A.
Corrosive to metals. 1.
Eye corrosion 1.
Acute aquatic toxicity 3.

Signal word: Danger

Hazard statements:

May be corrosive to metals.
Causes severe skin burns and eye damage.
Causes serious eye damage.
Harmful to aquatic life.

Precautionary statements:

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash ... thoroughly after handling.
Do not breathe dust/fume/gas/mist/vapours/spray.
Keep only in original container.
Avoid release to the environment.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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.
Specific treatment (see supplemental first aid instructions on this label).
Absorb spillage to prevent material damage.
Store locked up.
Store in a corrosive resistant/... container with a resistant inner liner.
Dispose of contents/container to ....

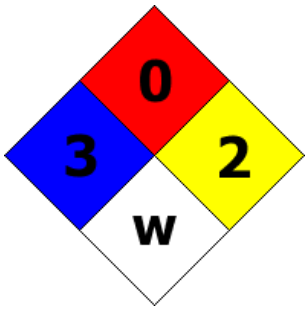
Other Non-GHS Classification:

WHMIS

E 

D2A 

NFPA/HMIS



NFPA SCALE (0-4)

Health	3
Flammability	0
Physical Hazard	2
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3: Composition/information on ingredients

Ingredients:		
CAS 7664-93-9	Sulfuric Acid	>98 %
		Percentages are by weight

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Provide oxygen if breathing is difficult. Seek immediate medical advice.

After skin contact:

Rinse thoroughly. Rinse/flush exposed area gently using water for at least 30 minutes. Seek immediate medical attention. Remove contaminated clothing and discard. Neutralize the soaking solution with sodium hydroxide solution.

After eye contact:

Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Rinse/flush exposed eye(s)

gently using water for at least 30 minutes. Seek immediate medical attention. Rinse under the eyelids during flushing.

After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Do not induce vomiting. Seek immediate medical attention.

Most important symptoms and effects, both acute and delayed:

Irritation. Nausea. Headache. Shortness of breath. Burning of eyes or skin. Coughing. Strong inorganic acid mists containing sulfuric acid can cause cancer. Lung damage, chronic bronchitis. Damage to teeth and stomach.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician. Use of soap may assist with neutralization on exposed skin in conjunction with flushing.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use dry Chemical, foam, or carbon dioxide to extinguish fire.

Unsuitable extinguishing agents:

Do not use water directly on sulfuric acid.

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors. Poisonous sulfur oxides are combustion products. Aerosols or mist may be produced in a fire. Sulfuric acid may ignite combustibles.

Advice for firefighters:

Protective equipment:

Use respiratory protective device against the effects of fumes/dust/aerosol. Wear protective equipment for fire and chemical resistance.

Additional information (precautions):

Containers may explode.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Neutralize with lime or soda ash. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Always obey local regulations. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Do not use water. Neutralize with lime or soda ash. Add water to slurry. Decant water to drain with excess water. Dispose of remaining solid as normal refuse.

Reference to other sections: None

SECTION 7: Handling and storage

Precautions for safe handling:

Prevent formation of aerosols. Do not mix with bases. Wash hands after handling. Avoid contact with skin and eyes. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. Wear protective clothing and equipment. Do not handle with incompatibles (see Section 10). Avoid inhalation of vapour or mist.

Conditions for safe storage, including any incompatibilities:

Protect from freezing. Keep container tightly closed. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Do not store near incompatible materials (see Section 10). Store away from reducing agents.

SECTION 8: Exposure controls/personal protection



Control Parameters: 7664-93-9, Sulfuric Acid, OSHA PEL: 1mg/m3.
7664-93-9, Sulfuric Acid, ACGIH TLV: 0.2 mg/m3.

Appropriate Engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood. Ensure eyewash and safety showers are available.

Respiratory protection: Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable. Use under a fume hood. Respirator with acid gas cartridges.

Protection of skin: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. Wear protective equipment to prevent contact with skin, eyes, or hair.

Eye protection: Safety glasses with side shields or goggles. Face shield.

General hygienic measures: Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear, colorless liquid	**Explosion limit lower**: **Explosion limit upper**:	Not determined Not determined
Odor:	Odorless	**Vapor pressure at 20°C**:	<0.00120 mmHg
Odor threshold:	Not determined	**Vapor density**:	Not determined
pH-value:	<0.03	**Relative density**:	Not determined
Melting/Freezing point:	11C	**Solubilities**:	Soluble in water.
Boiling point/Boiling range:	105-325C	**Partition coefficient (n-octanol/water)**:	Not determined
Flash point (closed cup):	Not determined	**Auto/Self-ignition temperature**:	Not determined

Evaporation rate:	>1	**Decomposition temperature**:	Not determined
Flammability (solid, gaseous):	Not combustible but an oxidizer	**Viscosity**:	a. Kinematic: Not determined b. Dynamic: Not determined
Density at 20°C:	Not determined **Specific Gravity:**1.84		

SECTION 10: Stability and reactivity

Reactivity:

Reacts violently with water with evolution of heat. Corrosive to metals.

Chemical stability:

No decomposition if used and stored according to specifications.

Possible hazardous reactions:

Reacts violently or explosively with incompatibles. Reacts with most metals to produce hydrogen gas, which may form explosive mixtures with air.

Conditions to avoid:

Store away from incompatible substances. excess heat. Incompatible Materials.

Incompatible materials:

Organics. Metals. Strong acids. Strong bases. Alcohols. Chlorine. halogenated compounds. Combustible materials. water. Amines. Chlorates. Alkalines. Carbides. Fulminates. Reducing agents. Nitrates. Acetic acid. Oxidizing agents.

Hazardous decomposition products:

Oxides of sulfur. Carcinogenic mists/aerosols. Oxygen.

SECTION 11: Toxicological information

Acute Toxicity:

Oral:

7664-93-9 LD50 Rat: 2140 mg/kg

Inhalation:

7664-93-9 LD50 Rat: 510 mg/m3 - 2h

Chronic Toxicity:

Oral:

Repeated exposure can cause damage to teeth and upset stomach

Inhalation:

Repeated exposure may cause bronchitis to develop with coughing, phlegm, and/or shortness of breath

Corrosion Irritation:

Dermal:

7664-93-9 Rabbit - Extremely corrosive and destructive to tissue.

Ocular:

7664-93-9 Rabbit - Corrosive to eyes.

Sensitization: No additional information.
Numerical Measures: No additional information.
Carcinogenicity:

Strong inorganic acid mists containing sulfuric acid: IARC Group 1

Mutagenicity: No additional information.
Reproductive Toxicity: No additional information.

SECTION 12: Ecological information

Ecotoxicity:

7664-93-9: EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h

7664-93-9: LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h

Persistence and degradability:

Not applicable for test method.

Bioaccumulative potential:

Not Bioaccumulative.

Mobility in soil:

Aqueous solution has high mobility in soil.

Other adverse effects:

Concentrated sulfuric acid has moderate acute and chronic toxicity to aquatic life, which is driven by the pH of the aquatic environment, as a result of the presence of the acid. Small quantities will be neutralized by natural alkalinity.

SECTION 13: Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14: Transport information

US DOT

UN Number:
ADR, ADN, DOT, IMDG, IATA 1830

Limited Quantity Exception: None

Bulk:
RQ (if applicable): None
Proper shipping Name: Sulfuric Acid Solution.
Hazard Class: 8
Packing Group: II.
Marine Pollutant (if applicable): No additional information.
Comments: None

Non Bulk:
RQ (if applicable): None
Proper shipping Name: Sulfuric Acid Solution.
Hazard Class: 8
Packing Group: II.
Marine Pollutant (if applicable): No additional information.
Comments: None




SECTION 15: Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Reactive, Acute, Chronic

SARA Section 313 (Specific toxic chemical listings):

7664-93-9 Sulfuric acid.

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7664-93-9 sulfuric acid 1000 lb.

Proposition 65 (California):

Chemicals known to cause cancer:

7664-93-9 sulfuric acid.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 1%):

7664-93-9 Sulfuric acid.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages

incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG International Maritime Code for Dangerous Goods.
PNEC Predicted No-Effect Concentration (REACH).
CFR Code of Federal Regulations (USA).
SARA Superfund Amendments and Reauthorization Act (USA).
RCRA Resource Conservation and Recovery Act (USA).
TSCA Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.
IATA International Air Transport Association.
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH American Conference of Governmental Industrial Hygienists.
CAS Chemical Abstracts Service (division of the American Chemical Society).
NFPA National Fire Protection Association (USA).
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).

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