

Sulfuric Acid, 50% v/v (1:1)

Safety Data Sheet



Section 1

Product Description

Product Name:	Sulfuric Acid, 50% v/v (1:1)
Manufacturer number	SA1940-A
Distributor:	Best Sanitizers, Inc. PO Box 1360 Penn Valley, CA 95946
Chemical Information Emergency:	1.800.255.3924
Aquaphoenix Scientific	

Section 2

Hazard Identification

Classification of the substance or mixture:

Carcinogenicity	Category 1A
Skin Corrosion	Category 1A
Serious eye damage	Category 1
Corrosive to metals	Category 1

Danger



Appearance—Aqueous solution

Physical state—Liquid

Odor—Odorless

Hazard Statements

Causes serious eye damage.
May be corrosive to metals. May cause cancer.
Causes severe skin burns and 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. Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Keep only in original container.

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IF ON SKIN (or hair): Remove/Takeoff immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a POISON CENTER or doctor if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

Store in corrosive resistant container with a resistant inner liner. Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulation.

Precautionary Statements—Disposal

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

Hazards not otherwise classified (HNOC)

None

Other Information

None

Section 3

Composition/Information on Ingredients

Chemical Name	CAS No.	Weight-%
Sulfuric Acid	7664-93-9	92
Purified water	7732-18-5	8

Section 4

First Aid Measures

First Aid Measures

Eye Contact

Hold eye(s) open and rinse slowly and gently with water for 30 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye(s). Get medical advice/attention.

Skin Contact

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

Inhalation

Remove to fresh air. Seek immediate medical attention if discomfort or irritation persists. Provide oxygen if breathing is difficult.

Ingestion

Rinse mouth thoroughly. Do NOT induce vomiting.
Drink sips of water.
Seek immediate medical attention.

Most important symptoms and effects, both acute and delayed

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

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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

Fire-Fighting Measures

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media

Do not use water directly on sulfuric acid.

Specific hazards arising from the chemical

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.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Containers may explode.

Section 6

Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions

Use personal protection recommended in Section 8. Ensure adequate ventilation, especially in confined areas. Keep unprotected persons away. Keep away from ignition sources. Protect from heat. Neutralize with lime or soda ash. Stop the spill, if possible.

Environment Precautions

Environmental Precautions

Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Place into properly labeled containers.

Methods for cleaning up

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.

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Section 7

Handling and Storage

Precautions for Safe Handling

Advice on Safe Handling

Prevent formation of aerosols. Do not mix with bases. Wash hands after handling. Do not eat, drink or smoke or use personal products when using this product. If in a laboratory setting, follow Chemical Hygiene Plan. Avoid inhalation of vapour or mist. Wash hands after handling. Follow good hygiene procedures when handling chemical materials.

Conditions for safe storage, including any incompatibilities

Storage Conditions/ Incompatible materials

Keep Containers tightly closed in a dry, cool and well-ventilated place. Avoid storage near extreme heat, ignition sources or open flame. Keep away from foodstuffs. Store away from oxidizing agents. Do not store near incompatible materials. Store away from reducing agents.

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Section 8

Protection Information

Exposure Guidelines

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

Engineering Controls Emergency eyewash 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 indicated above. Use under a fume hood.

Individual Protection Measures, such as personal protective equipment

Eye/Face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear impermeable and resistant to the product/ substance/preparation protective gloves. Selection of glove material on consideration of the penetration times, rates of diffusion and degradation.
Respiratory protection	Not required under normal conditions of use. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and food sources. Immediately remove all soiled and contaminated clothing. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing and shoes before reuse. Do not Eat, Drink or Smoke when using this product. Do not inhale gases/fumes/dust/mist/vapors/aerosols. Avoid contact with the eyes and skin.

Section 9

Physical and Chemical Properties

Information on basic physical and chemical properties

Formula:	See Section 3	Physical State:	Liquid
Odor:	Odorless	Appearance:	Aqueous solution
Odor Threshold:	Not Determined	Color:	Clear

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Property

Values

pH	< 3
Meting Point/Freezing Point	Below 0°C
Boiling Point/Boiling Range	Approximately 100°C
Flash Point	Not Determined.
Evaporation rate	Not Determined.
Flammability (solid, gas)	Not Determined.
Flammability Limit in Air	
Upper flammability limit:	Not Determined.
Lower flammability limit:	Not Determined.
Vapor pressure:	Not Determined.
Vapor density:	Not Determined.
Relative density	1.04-1.06
Water solubility	Soluble in water.
Partition coefficient	No information available.
Autoignition temperature	Not Determined.
Decomposition temperature	Not Determined.
Kinematic viscosity	No information available.
Dynamic viscosity	No information available.

Section 10

Stability and Reactivity Data

Reactivity

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

Chemical Stability

No decomposition if used and stored according to specifications.

Possibility of 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 oxidizing agents, strong acids or bases.

Incompatible materials

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

Hazardous Decomposition Products

Oxides of sulfur. Carcinogenic mists/aerosols. Oxygen.

Section 11

Toxicity Data

Acute Toxicity:

Oral: 7664-93-9

LD50 Rat: 2140 mg/kg

Inhalation: 7664-93-9

LD50 Rat: 510 mg/m³ -2 h

Sensitization

No Information Available

Germ cell mutagenicity

No Information Available

Carcinogenicity

Strong inorganic acid mists containing sulfuric: IARC Group 1

Reproductive toxicity

No Information Available

STOT single exposure

No Information Available

STOT repeated exposure

No Information Available

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Section 12

Ecological Data

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.

Bioaccumulation

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 Information

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Do not dispose together with household garbage. Do not allow product to reach sewage system or open water.

Section 14

Transport Information

DOT

UN Number	2796
Shipping Name	Sulfuric Acid Solution
Class	8
Packing Group	II

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Section 15

Regulatory Information

International Inventories

TSCA

Complies

DSL/NDSL

Complies

Legend:

TSCA—United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL— Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization of 1986 (SARA).

7664-93-9 Sulfuric acid

SARA 311/312

Reactive, Acute, Chronic

CERCLA

7664-93-9 Sulfuric acid 1000 lbs.

US State Regulations

California Proposition 65

7664-93-9 Sulfuric acid known to cause cancer.

Section 16

Additional Information

NFPA

Health Hazards

Flammability

Instability

Physical and Chemical Properties

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2

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HMIS

Health Hazards

Flammability

Physical Hazards

Personal protection

3

0

2

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Version 4

Revision Note Annual Review

Disclaimer

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End of Safety Data Sheet