Sulfuric Acid, 0.5N

Safety Data Sheet

Section 1 Product Description

Product Name:	Sulfuric Acid, 0.5N
Manufacturer number	SA1590-A
Distributor:	Best Sanitizers, Inc. PO Box 1360 Penn Valley, CA 95946
Chemical Information Emergency: Aquaphoenix Scientific	1.800.255.3924

Section 2 Hazard Identification

Classification of the substance or mixture:

Corrosive to metals.	Category 1

Warning

Appearance—Aqueous solution
Physicalstate—Liquid
Odor— Odorless

Hazard Statements

May be corrosive to metals.

Precautionary Statements
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep only in original container.
Absorb spillage to prevent material damage.

Section 3 Composition/Information on Ingredients

ChemicalName	CAS No.	Weight-%
Sulfuric Acid	7664-93-9	2.576
Purified water	7732-18-5	97.424

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 15-20 minutes. Seek immediate medical attention. Neutralize the soaking solution with sodium hydroxide solution.

Inhalation Remove to fresh air. Seek immediate medical attention if discomfort or irritation persists.

Ingestion Rinse mouth thoroughly. Do NOT induce vomiting.
Drink sips of water.
Seek medical attention if irritation, discomfort or vomiting persists.

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 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 vaors. 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.

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 settings, 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.
Methods for cleaning up	Do not use water. Neutralize with lime or soda ash. Add water to slurry. Decant water to drain with excess water.

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. Avoid contact wih skin and eyes. Follow good hygiene procedures when handling chemical materials. Do not eat, drink or smoke or use personal products when using this product. Do not handle with incompatibles. Avoid inhalation of vapor or mist.

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 food stuffs. Store with like hazards. Protect from freezing.

Section 8 Protection Information

Control Parameters:	7664-93-9 Sulfuric Acid, OSHA PEL: 1 mg/m^3. 7664-93-9 Sulfuric Acid, ACGIH TLV: 0.2 mg/m^3.

Appropriate Engineering Controls

EngineeringControls

Use in chemical hood only. Emergency eyewashfountains 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 dusts below the applicable workplace exposure limits. Occupational exposure limits indicated above. Use under a fume hood. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area, no leakage from equipment.

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 considration 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 feed sources. Immediately remove al 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

Property	**Values**
pH	< 1
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.
Specific Gravity	Approximately 1
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 incompatible substances, excess heat.
Incompatible materials	Organics. Metals. Strong acids. Strong bases. Alcohol. Chlorine. Halogenated compounds. Combustible materials. Chlorates. Alkalines. Carbides. Fulminates. Reducing agents. Nitrates. Acetic acid. Oxidizing agents.
Hazardous Decomposition Products	Oxides of Sulfur. Carinogenic 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/m^3-2h

Sensitization	No Information Available
Germ cell mutagenicity	No Information Available
Carcinogenicity	Strong inorganic acid mists containing sulfuric acid: IARC Group 1
Reproductive toxicity	No Information Available
STOT single exposure	No Information Available
STOT repeated exposure	No Information Available

Section 12 Ecological Data

Ecotoxicity

7664-93-9 EC50 Daphnia magna (Water flea) - 29 mg/l - 24 h
7664-93-8 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	Class 8 Corrosive substances
UN Name	Sulfuric Acid Solution	Packing Group II

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 chemical known to cause cancer

Section 16 Additional Information

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Physical and Chemical Properties**
	1	0	0	W
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal protection**
	1	0	0	X

Prepared by: Technical Department
Revision Date January 2, 2018
Version 2
Revision Note Annual Review

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet