SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Sulfuric Acid 5%
CAS number	7664-93-9
Synonyms	No information available.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory Chemicals

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Corrosive metals (Category 1)
Skin Corrosion/Irritation (Category 1A)
Serious Eye Damage/Eye Irritation (Category 1)
Specific Target Organ Toxicity - single exposure (Category 3)

Target Organ- Respiratory tract irritation
Hazardous to the aquatic environment - short-term (Category 3)
Hazardous to the aquatic environment - long-term (Category 3)

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word: Danger

Hazard statements:
May be corrosive to metals
Causes skin irritation
Causes serious eye damage
May cause repiratory irritation

Precautionary statements:
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep only in original container
IF exposed or concerned: Get medical attention/advice
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
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
Absorb spillage to prevent material damage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in corrosive resistant polypropylene container with a resistant inliner
Store in a dry place
Dispose of contents/container to an approved waste disposal plant

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Warning. Cancer - https://www.p65warnings.ca.gov/

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Sulfuric Acid	N/A	7664-93-9	4.5 - 5.5%
Water	H2O	7732-18-5	94.5 - 95.5%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
In case of eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
If swallowed	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

4.2 Most important symptoms and effects, both acute and delayed

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Foam, Powder, Carbon dioxide (CO2)
Unsuitable extinguishing media	The product reacts with water and will generate heat.

5.2 Specific hazards arising from the substance or mixture

Contact with metals may evolve flammable hydrogen gas. During fire, gases hazardous to health may be formed.

5.3 Special protective equipment and precautions for firefighters

Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No information available.
Lower No information available.
Sensitivity to Mechanical Impact No information available.
Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2 Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

6.3 Methods and materials for containment and cleaning up

Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas.
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe mist/vapors. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

Incompatibilities

Strong oxidizing agents. Combustible material. Bases. Organic materials. Reducing Agent. Finely powdered metals. Peroxides.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Sulfuric acid	TWA	1 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Sulfuric acid	TWA	0.2 mg/3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Sulfuric acid	IDLH	15 mg/m3
	TWA	1 mg/m3

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Personal protective equipment

Eye/face protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection
Wear appropriate protective gloves.

Body Protection
Wear appropriate clothing to prevent skin exposure.

Respiratory protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experience.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Characteristically pungent.
Odor Threshold	No information available.
pH	< 1-35 - 10 °C / -31 - 50 °F
Melting Point/Range	121 - 270 °C / 249.8 - 518 °F at 760 mmHg
Boiling Point/Range	No information available.
Evaporation Rate	Not applicable.
Flammability (solid)	No information available.
Flammability or explosive limit	No information available.
Upper	
Lower	
Vapor Pressure	< 1 mmHg
Vapor Density	3.4 Air = 1
Density	1.05 g/mL
Solubility	Completely soluble in water.
Partition coefficient; n-octanol/water	No information available.
Autoignition Temp	No information available.
Decomposition Temp	No information available.

Viscosity	6.8 - 23 cps (20 °C / 68 °F)
Molecular Formula	H2O4S
Molecular Weight	98.07 g/mol
VOC Content(%)	No information available.
Oxidizing properties	None.

9.2 Other safety information No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Reactive.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Contact with metals may evolve flammable hydrogen gas. Reacts violently with water.

10.4 Conditions to avoid
Contact with incompatible materials. Do not mix with other chemicals.

10.5 Incompatible materials
Bases. Reducing agents. Metals.

10.6 Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid	2140 mg/kg (rat)	Not listed.	0.375 mg/L (rat)

Skin corrosion/irritation
Causes severe skin burns.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitization
May cause irritation to the respiratory system. Prolonged inhalation may be harmful.

Germ cell mutagenicity
No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Sulfuric acid	7664-93-9	Group 1	Known	A2	Listed	A2

Specific target organ toxicity - single exposure
Respiratory system

Specific target organ toxicity - repeated exposure
None known.

Reproductive toxicity
No information available.

Chronic effects
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

11.2 Additional Information
The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Sulfuric acid	LC50	Brachydanio rerio	> 500 mg/L 96 hours
	EC50	Water flea	29 mg/L 24 hours

12.2 Persistence and degradability
No information available.

12.3 Bio accumulative potential
No information available.

12.4 Mobility in soil
This product is water soluble and may disperse in soil. Expected to be mobile in soil.

12.5 Results of PBT and vPvB assessment
No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN Number	UN2796
Proper Shipping name	Sulfuric Acid
Hazard Class	8
Packaging Group	II

IMDG

UN Number	UN2796
Proper Shipping name	Sulfuric Acid
Hazard Class	8
Packaging Group	II

IATA

UN Number	UN2796
Proper Shipping name	Sulfuric Acid
Hazard Class	8
Packaging Group	II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed. RQ: 1000 lb

SARA 304 Emergency release notification
Listed. RQ: 1000 lb

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Listed. RQ: 1000 lb; Threshold planning quantity: 1000 lb

SARA 311/312 Hazardous
See section 2 for more information.

SARA 313 (TRI reporting)
Regulated. Weight: > 95%; Threshold values: 1.0%

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Listed.

Safe Drinking Water Act
Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
Not listed.

US state regulations

US. Massachusetts RTK - Substance List
Listed.

US. New Jersey Worker and Community Right-to-Know Act
Listed.

US. Pennsylvania Worker and Community Right-to-Know Law
Listed.

California Proposition 65
Listed.

SECTION 16: Other information

SECTION 17: Disclaimer

The information provided on 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 a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.