



SAFETY DATA SHEET

Version 4

1. Identification of the Substance / Preparation and of the Company / Undertaking

Product Name: Sulfuric Acid 66'
UN/ID No UN1830
Synonyms: Oil of vitriol; Sulphuric acid
Recommended Use Industrial, Manufacturing or Laboratory use.
Restrictions on use None known
Manufacturer
Hawkins, Inc., 2381 Rosegate, Roseville, MN 55113 (612-331-6910)
Emergency Telephone:
CHEMTREC (US): 1-800-424-9300

2. Hazards Identification

GHS - Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Carcinogenicity:	Category 1A
Specific target organ toxicity (single exposure)	Category 1
Corrosive to metals	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements



Signal Word:

Danger

Hazard Statements:

- Fatal if inhaled
- Causes severe skin burns and eye damage
- May cause cancer
- Causes damage to organs
- May be corrosive to metals

Precautionary Statements:

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Wear protective gloves/protective clothing/eye protection/face protection
- Do not breathe dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Wear respiratory protection
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Keep only in original container

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- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- 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 SWALLOWED: Rinse mouth. Do NOT induce vomiting
- Absorb spillage to prevent material damage
- Store locked up
- Store in a well-ventilated place. Keep container tightly closed
- Store in corrosive resistant aluminum container with a resistant inliner
- Dispose of contents/ container to an approved waste disposal plant

3. Composition / Information on Ingredients

Chemical name	CAS No.	Weight-%
Sulfuric acid	7664-93-9	77-100

Any concentration shown as a range is due to batch variation or the exact percentage has been withheld as a trade secret.

4. First Aid Measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. IF exposed or concerned: Get medical advice/attention.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
Most important symptoms and effects, both acute and delayed	
Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing.
Indication of any immediate medical attention and special treatment needed	
Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting Measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Small Fire	Dry chemical or CO ₂ . Move containers from fire area if you can do it without risk. Do not get water inside containers.
Large Fire	Flood area with large quantities of water, while knocking down vapors with water fog. DO NOT GET WATER INSIDE CONTAINERS.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

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Specific hazards arising from the chemical The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. May react with metals or heat to release flammable hydrogen gas.

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible materials Strong bases. Strong acids. Oxidizing agent. Water. Organic material. Halogens. Metals. Lithium. Potassium chloride. Sodium. Oxides. Picrates. Perchlorates. Potassium perchlorate. Potassium permanganate. Metal acetylides. Hydrides. Alkali. Reducing agent. Amines. Combustible material. Carbides. Cyanide compounds. Sulfides. Nitrate compounds.

8. Exposure Controls / Personal Protection

Control parameters

Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³ thoracic particulate matter	1 mg/m ³ TWA	IDLH: 15 mg/m ³ TWA: 1 mg/m ³

Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering controls

Showers
Eyewash stations

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Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Face protection shield. Tight sealing safety goggles.
Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Boots.
Respiratory protection	Use appropriate respiratory protection.
Environmental exposure controls	Do not allow into any sewer, on the ground or into any body of water.
General hygiene considerations	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	Odor:	Odorless
Appearance:	Clear to turbid, Oily	Odor Threshold:	>1 mg/m ³
Color:	Colorless to light gray		
Property	Values	Remarks • Method	
pH:	<1		No information available
"Salt Out" Point (°F):			
Melting Point/Freezing Point:	-35 °C / -31 °F		
Boiling Point/Boiling Range:	193 °C / 379 °F		
Flash Point:			No information available
Evaporation Rate (BuAc=1):	< 1		
Flammability (solid, gas):			No information available
Flammability Limits in Air:			No information available
Upper Flammability Limit:		Lower Flammability Limit:	
Vapor Pressure (mm Hg) :	<0.3 @ 25 C		
Vapor density (Air =1)	3.4		
Specific Gravity (H ₂ O=1):	1.76-1.84		
Specific Gravity (2nd value):			
Water Solubility:	Miscible in water		
Solubility(ies):			No information available
Partition Coefficient (n-octanol/water)			No information available
Autoignition Temperature:			No information available
Decomposition Temperature:	340°C		
Kinematic Viscosity:			No information available
Dynamic Viscosity:	22.5 cP		
Oxidizing Properties:	No information available		
Explosive Properties:	May react with incompatible metals to generate highly flammable and explosive hydrogen gas		

9.2. Other information

Softening Point:	No information available
Molecular Weight:	98.08
VOC Content(%):	15%
Liquid Density	No information available
Bulk density	No information available

10. Stability and Reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.

Conditions to avoid	Exposure to air or moisture over prolonged periods. Excessive heat.
Incompatible materials	Strong bases. Strong acids. Oxidizing agent. Water. Organic material. Halogens. Metals. Lithium. Potassium chlorate. Sodium. Oxides. Picrates. Perchlorates. Potassium perchlorate. Potassium permanganate. Metal acetylides. Hydrides. Alkali. Reducing agent. Amines. Combustible material. Carbides. Cyanide compounds. Sulfides. Nitrate compounds.
Hazardous decomposition products	Thermal decomposition can lead to release of irritating and toxic gases and vapors. Sulfur oxides. Carbon dioxide (CO ₂). Hydrogen cyanide. Hydrogen sulfide.

11. Toxicological Information

Information on likely routes of exposure

Product Information

Inhalation

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

Eye contact

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

Skin contact

Specific test data for the substance or mixture is not available. Causes severe burns. Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Numerical measures of toxicity

Not applicable

Acute Toxicity:

Unknown Acute toxicity

No information available

Component Information

Chemical name	Oral LD ₅₀ :	Dermal LD ₅₀ :	LC ₅₀ (Lethal Concentration):
Sulfuric acid 7664-93-9	= 2140 mg/kg (Rat)	-	85 - 103 mg/m ³ (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation

Causes severe burns.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

See section 2 for classified hazards based on component information.

Chemical name	ACGIH	IARC	NTP	OSHA
Sulfuric acid 7664-93-9	A2	1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

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IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No information available.

STOT - single exposure Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs.

STOT - repeated exposure No information available.

Target Organ Effects: Eyes, Respiratory system, Skin, Teeth.

Other Adverse Effects: No information available.

Aspiration hazard No information available.

12. Ecological Information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sulfuric acid 7664-93-9	-	500: 96 h Brachydanio rerio mg/L LC50 static	-	29: 24 h Daphnia magna mg/L EC50

Ceriodaphnia dubia Acute Toxicity Evaluation: 93 - 100% Sulfuric Acid: 48-hour NOEC: 50 ppm, 48-hour LOEC: 100 ppm, 48-hour LC₅₀: 70.71 ppm

Persistence and Degradability: No information available.

Bioaccumulation: There is no data for this product.

Other Adverse Effects: No information available.

13. Disposal Considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport Information

DOT

Proper shipping name SULFURIC ACID

Hazard Class 8

UN/ID No UN1830

Packing Group II

Description UN1830, SULFURIC ACID, 8, PG II



15. Regulatory Information

International Inventories

AICS	Complies
TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies

Chemical name	AICS	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Sulfuric acid	Present	Present ACTIVE	Present	-	Present	-	Present	Present [23017]	Present	Present

Inventory Legend

AICS - Australian Inventory of Chemical Substances

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

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

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

RESTRICTIONS - REACH TITLE VII No information available

US Federal Regulations

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Extremely Hazardous Substances TPQ
Sulfuric acid	1000 lb	1000 lb	1000 lb TPQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Sulfuric acid	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	Yes

U.S. State Right-to-Know Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65:
Sulfuric acid	Carcinogen

16. Other Information

NSF/ANSI 60 Certification



Certified to
NSF/ANSI 60

Maximum Use (mg/L unless otherwise indicated): 50

Prepared By: HSE Department

Issue Date: 22-Feb-2013

Revision Date: 19-Nov-2019

Revision Note: Reviewed and Re-issued.

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 a 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