



SAFETY DATA SHEET

Version 1

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

Product Name: Sulfuric Acid 40%
UN/ID No UN2796
Synonyms: Oil of vitriol; Babcock acid; Sulphuric acid
Formula: H₂SO₄ in H₂O
Molecular Weight: 98.07

Company Name:
Hawkins, Inc. 3100 E. Hennepin Avenue Minneapolis, MN 55413 (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 Category 1A
Serious eye damage/eye irritation	Category 1
Carcinogenicity:	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1



Signal Word: Danger

Hazard Statements:

- Fatal if inhaled
- Causes severe skin burns and eye damage
- May cause cancer
- Causes damage to organs
- Causes damage to organs through prolonged or repeated exposure

Physical Hazards

Corrosive to metals	Category 1
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- May be corrosive to metals



Precautionary Statements:

- P271 - Use only outdoors or in a well-ventilated area
- P284 - Wear respiratory protection
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
- P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- P363 - Wash contaminated clothing before reuse
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 - Immediately call a POISON CENTER or doctor/physician
- P201 - Obtain special instructions before use
- P202 - Do not handle until all safety precautions have been read and understood
- P281 - Use personal protective equipment as required
- P308 + P313 - IF exposed or concerned: Get medical advice/attention
- P307 + P311 - IF exposed: Call a POISON CENTER or doctor/physician
- P321 - Specific treatment (see supplemental first aid instructions on this label)
- P405 - Store locked up
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray
- P264 - Wash face, hands and any exposed skin thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P314 - Get medical advice/attention if you feel unwell
- P501 - Dispose of contents/ container to an approved waste disposal plant
- P334 - Immerse in cool water/wrap in wet bandages
- P390 - Absorb spillage to prevent material damage
- P406 - Store in corrosive resistant aluminum container with a resistant liner

3. Composition / Information on Ingredients

Hazardous

Chemical Name	CAS No	Weight-%	EC No
Sulfuric acid	7664-93-9	39-41	231-639-5

Non-Hazardous

Chemical Name	CAS No	Weight-%	EC No
Water	7732-18-5	Balance	231-791-2

4. First Aid Measures

- General Advice:** Immediate medical attention is required.
- Eye Contact:** Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.
- Skin Contact:** Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
- Inhalation:** Move to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- Ingestion:** Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately.

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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. Treat symptomatically.

Self-protection of the First Aider: Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

5. Fire-fighting Measures

Flammable Properties:

Concentrated material is a strong dehydrating agent; Reacts with organic materials and may cause ignition of finely divided materials on contact

Explosive Properties:

Contact with metals may evolve flammable hydrogen gas

Suitable Extinguishing Media:

Carbon dioxide (CO₂); Foam; Dry chemical; Water spray may be used to keep fire exposed containers cool

Unsuitable Extinguishing Media:

DO NOT USE WATER

Specific Hazards Arising from the Chemical:

The product causes burns of eyes, skin and mucous membranes; Thermal decomposition can lead to release of irritating and toxic gases and vapors; In the event of fire and/or explosion do not breathe fumes

Protective Equipment and Precautions for Firefighters:

In the event of a fire, wear full protective clothing and MSHA/NIOSH (approved or equivalent) self-contained breathing apparatus with full facepiece operated in the pressure-demand or other positive pressure mode; Structural firefighter's protective clothing is ineffective for fires involving this material; Sealed containers may rupture when heated

6. Accidental Release Measures

Personal Precautions: Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

Environmental Precautions: Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods for Cleaning Up: Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

Other Information: Not applicable.

7. Handling and Storage

Advice on Safe Handling: Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Incompatible Materials: Strong acids and bases; Oxidizing agents; Water; Lithium; Organic materials; Halogens; Metals; Strong reducing agents

8. Exposure Controls / Personal Protection

Exposure Guidelines

Chemical Name		ACGIH TLV		OSHA PEL		Ontario TWA	
Sulfuric acid		TWA: 0.2 mg/m ³ thoracic fraction		1 mg/m ³ TWA		TWA: 0.2 mg/m ³	
Chemical Name	European Union	China	Japan	Korea	Australia	Taiwan	
Sulfuric acid		TWA: 1 mg/m ³ STEL: 2 mg/m ³	Ceiling: 1 mg/m ³	STEL: 0.6 mg/m ³ TWA: 0.2 mg/m ³	1 mg/m ³ 3 mg/m ³ STEL	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)

Engineering Controls: Ensure adequate ventilation, especially in confined areas

Personal protective equipment (PPE)

Eye/Face Protection: Tight sealing safety goggles. Face protection shield.

Body Protection: Gloves made of plastic or rubber. Rubber boots. Suitable protective clothing. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.

General Hygiene Considerations:

Wash contaminated clothing before reuse. When using do not eat, drink or smoke. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State:	Liquid	Odor:	Odorless
Appearance:	Oily liquid	Odor Threshold:	No information available
Color:	Clear		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH:	1	
"Salt Out" Point (°F):		No information available
Melting Point/Freezing Point:	-57 °C / -70 °F	
Boiling Point/Boiling Range:	107 °C / 225 °F	
Flash Point:		No information available
Evaporation Rate (BuAc=1):		No information available
Flammability (solid, gas):		No information available
Flammability Limits in Air:		No information available
Upper Flammability Limit:		
Lower Flammability Limit:		
Vapor Pressure (mm Hg) :		No information available
Vapor density (Air =1)		No information available
Specific Gravity (H ₂ O=1):	1.303	
Specific Gravity (2nd value):		
Water Solubility:	Freely soluble in water with heat liberation.	
Solubility(ies):		No information available
Partition Coefficient (n-octanol/water)		No information available
Autoignition Temperature:		No information available
Decomposition Temperature:		No information available
Kinematic Viscosity:		No information available
Dynamic Viscosity:		No information available
Oxidizing Properties:	No information available	
Explosive Properties:	Contact with metals may evolve flammable hydrogen gas	

9.2. Other information

Softening Point:	No information available
Molecular Weight:	98.07
VOC Content(%):	No information available
Density:	No information available
Bulk Density:	No information available

10. Stability and Reactivity

Stability:	Stable under normal conditions of use and storage; Releases heat and toxic, irritating vapors when mixed with water
Conditions to Avoid:	Exposure to air or moisture over prolonged periods; Incompatibles; Heat
Incompatible Materials:	Strong acids and bases; Oxidizing agents; Water; Lithium; Organic materials; Halogens; Metals; Strong reducing agents
Hazardous Decomposition Products:	Thermal decomposition can lead to release of irritating and toxic gases and vapors; Carbon dioxide (CO ₂); Sulfur oxides; Hydrogen cyanide; Hydrogen sulfide
Possibility of Hazardous Reactions:	None under normal processing

11. Toxicological Information**Product Information**

Acute Toxicity: 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

Chemical Name	Oral LD ₅₀ :	Dermal LD ₅₀ :	LC ₅₀ (Lethal Concentration):
Sulfuric acid	2140 mg/kg (Rat)		347 ppm (Rat) 1 h 510 mg/m ³ (Rat) 2 h
Water	90 mL/kg (Rat)		

Chronic Toxicity:

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen

Chemical Name	IARC
Sulfuric acid	1

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans

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

12. Ecological Information**Ecotoxicity**

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Sulfuric acid		500: 96 h <i>Brachydanio rerio</i> mg/L LC50 static	29: 24 h <i>Daphnia magna</i> mg/L EC50

Persistence and Degradability: No information available.

Bioaccumulation: No information available.

Mobility: No information available.

13. Disposal Considerations

Waste from Residues/Unused Products: Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated Packaging: Do not reuse container.

14. Transport Information

DOT

Proper shipping name SULFURIC ACID
Hazard Class 8
UN/ID No UN2796
Packing Group II
Reportable Quantity (RQ) 1000 lbs
Description UN2796, SULFURIC ACID, 8, PG II



15. Regulatory Information

International Inventories

All of the components in the product are on the following Inventory lists: TSCA (United States);, Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), South Korea (KECL);, China (IECSC), Philippines (PICCS), This product contains a substance not listed on international inventories - it is for research and development use only.

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

Chemical Name	AICS	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Sulfuric acid	Listed	Listed	Listed	-	Listed	-	(1)-724 (1)-430	Listed	KE-32570	Present
Water	Listed	Listed	Listed	-	Listed	-	-	Listed	KE-35400	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

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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	CERCLA Hazardous Substances and the Reportable Quantities	SARA Extremely Hazardous Substances EPCRA RQ	SARA Extremely Hazardous Substances TPQ
Sulfuric acid	1000 lb 454 kg	1000 lb EPCRA RQ	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

National Fire Protection Association (NFPA) Ratings



NSF Certification



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

Prepared By: HSE Department

Issue Date: 05-Oct-2012

Revision Date: 21-May-2013

Revision Note: Updated section(s) 16

Disclaimer:

Please be advised that it is your responsibility to inform your employees of the hazards of this substance, to advise them of what these properties mean and be sure they understand exposure information. 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 presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. No warranty or guaranty, express or implied, is made regarding performance, stability, or otherwise. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, and storage. Other factors may require additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, the handling and use remains the responsibility of the consumer. No suggestions are intended as, and should not be constructed as, a recommendation to infringe on any existing patents or to violate any Federal, State, or local laws.

End of Safety Data Sheet