

Sulfuric Acid 50% (by weight)**SECTION 1. IDENTIFICATION**

Product Identifier	Sulfuric Acid 50% (by weight)
Other Means of Identification	Dihydrogen Sulfate, Hydrogen Sulfate, Battery Acid, Oil of Vitrol
Product Code(s)	SU9080-50
Product Family	Inorganic Acid
Recommended Use	Industrial.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours CHEMTREC, 800-424-9300, 24 Hours
SDS No.	0201

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Skin corrosion - Category 1A; Serious eye damage - Category 1

Label Elements

Signal Word:
Danger

Hazard Statement(s):

Causes severe skin burns and eye damage.
Causes serious eye damage.

Precautionary Statement(s):

Do not breathe dust/fume/gas/mist/vapours/spray.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing.
Wear eye protection/face protection.

In case of inadequate ventilation wear respiratory protection (full facepiece NIOSH approved air-purifying respirator with an acid gas cartridge; NIOSH approved air-purifying respirator with an appropriate cartridge).

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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IF ON SKIN: Wash with plenty of water/

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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 CENTRE or doctor.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Sulfuric acid	7664-93-9	50	Hydrogen Sulfate, Oil of Vitrol
Water	7732-18-5	50	Dihydrogen Oxide

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. If the heart has stopped, trained personnel should start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED).

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Immediately call a Poison Centre or doctor. Specific treatment is required.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open.

Ingestion

Rinse mouth with water. Do not induce vomiting. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled and/or swallowed: can cause severe lung injury. May be drawn into the lungs if swallowed or vomited, causing severe lung damage. Death can result. Can harm the nervous system.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool. Carbon dioxide, dry chemical powder or appropriate foam.

Unsuitable Extinguishing Media

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific Hazards Arising from the Product

Contact with water causes violent frothing and spattering. Forms corrosive chemicals on contact with water. Review

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Section 10 (Stability and Reactivity) for additional information.

In a fire, the following hazardous materials may be generated: corrosive sulfur oxides.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Fire-fighters should enter area wearing specialized protective equipment. (Bunker Gear will not provide adequate protection.) chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Emergency responders: use the personal protective equipment recommended in Section 8 of this safety data sheet. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel.

Environmental Precautions

If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas. Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Place used absorbent into suitable, covered, labelled containers for disposal. Dike and recover contaminated water for appropriate disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Do not get in eyes, on skin or on clothing. Only use where there is adequate ventilation. Keep only in original packaging. Prevent accidental contact with incompatible chemicals.

Conditions for Safe Storage

Store in an area that is: dry, well-ventilated, secure and separate from work areas, separate from incompatible materials (see Section 10: Stability and Reactivity). Store in the original, labelled, shipping container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Sulfuric acid	0.2 mg/m ³ A2		1 mg/m ³			
Water	Not established		Not established			

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: neoprene rubber, butyl rubber, polyvinyl chloride.

Respiratory Protection

Wear a full facepiece NIOSH approved air-purifying respirator with an acid gas cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Colourless liquid.
Odour	Not available
Odour Threshold	> 1 mg/m ³
pH	< 1
Melting Point/Freezing Point	~ 0 °C (melting); ~ 0 °C (freezing)
Initial Boiling Point/Range	Not available
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Will not burn.
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	3.4
Relative Density (water = 1)	1.40
Solubility	Soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Incompatible materials. Open flames, sparks, static discharge, heat and other ignition sources. Water, moisture or humidity.

Incompatible Materials

Acid anhydrides (e.g. acetic anhydride), alcohols (e.g. ethanol), oxidizing agents (e.g. peroxides), ketones (e.g. acetone), strong bases (e.g. sodium hydroxide), metals (e.g. aluminum), inorganic acids (e.g. hydrofluoric acid), aromatic hydrocarbons (e.g. toluene), esters (e.g. amyl acetate), reducing agents (e.g. hydroquinone). Corrosive to: aluminum alloys, stainless steel, carbon steel, cast iron, nickel, nickel alloys (e.g. Monel, Hastelloy), copper, copper alloys (e.g. brass and/or bronze).

Hazardous Decomposition Products

Corrosive sulfur oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

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Inhalation; skin contact; eye contact; ingestion; skin absorption.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Sulfuric acid	255 mg/m ³ (rat) (4-hour exposure)	2,140 mg/kg (rat)	Not available
Water	Not available	> 89840 mg/kg (rat)	Not available

Skin Corrosion/Irritation

Animal tests show skin corrosion.

Serious Eye Damage/Irritation

Causes serious eye damage based on skin corrosion information.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause severe nose and throat irritation.

Ingestion

Causes irritation of the mouth, throat and stomach, severe irritation or burns to the mouth, throat and stomach.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Causes damage to organs.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Sulfuric acid	Group 1	A2	Not Listed	
Water	Not Listed	Not Listed	Not Listed	Not Listed

IARC: Group 1 – Carcinogenic to humans.

ACGIH®: A2 – Suspected human carcinogen.

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. Bury in a

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licensed landfill or burn in an approved incinerator according to federal, provincial/state, and local regulations. Store product for disposal as described under Storage in Section 7 of this safety data sheet. Dispose of or recycle empty containers through an approved waste management facility.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN2796	Sulphuric Acid Solution	8	II
US DOT	UN2796	Sulphuric Acid Solution	8	II

Environmental Hazards Not applicable

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

Date of Preparation November 10, 2015

Date of Last Revision January 23, 2017

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.

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