

**Sulfuric Acid ACS****SECTION 1. IDENTIFICATION**

<b>Product Identifier</b>	Sulfuric Acid ACS
<b>Other Means of Identification</b>	Dihydrogen Sulfate, Hydrogen Sulfate, Oil of Vitrol
<b>Product Code(s)</b>	SU9010
<b>Product Family</b>	Inorganic
<b>Recommended Use</b>	Laboratory and industrial use.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
<b>Emergency Phone No.</b>	CANUTEC CANADA, 613-996-6666, 24 Hours
<b>SDS No.</b>	0195

**SECTION 2. HAZARD IDENTIFICATION**

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015).

**Classification**

Corrosive to metals - Category 1; Acute toxicity (Oral) - Category 5; Skin corrosion - Category 1A; Serious eye damage - Category 1

**Label Elements**

Signal Word:  
Danger

**Hazard Statement(s):**

May be corrosive to metals.  
May be harmful if swallowed.  
Causes severe skin burns and eye damage.  
May cause cancer.

**Precautionary Statement(s):**

Wear protective gloves/protective clothing/eye protection/face protection.  
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.  
IF ON SKIN: Wash with plenty of water/  
Immediately call a POISON CENTRE/doctor

**Other Hazards**

Hazardous to the environment.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Sulfuric acid	7664-93-9	95.0 - 98.0	Dihydrogen Sulphate, Hydrogen Sulphate, Battery Acid
Water	7732-18-5	2 - 5	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. DO NOT move about unnecessarily. Symptoms of pulmonary edema may be delayed.

#### Skin Contact

Quickly and gently blot or brush away excess chemical. Immediately rinse skin with lukewarm, gently flowing water for at least 30 minutes.

#### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor. Specific treatment is required.

#### Ingestion

Do not induce vomiting. Rinse mouth with water. Avoid mouth-to-mouth contact by using a barrier device. 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. Get medical advice or attention if you feel unwell or are concerned.

### Most Important Symptoms and Effects, Acute and Delayed

If on skin: contact can cause pain, redness, burns, and blistering. Permanent scarring can result.

### 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

Carbon dioxide, dry chemical powder or appropriate foam.

#### Unsuitable Extinguishing Media

DO NOT use water or water-based extinguishing agents.

### Specific Hazards Arising from the Product

Closed containers may rupture violently when heated releasing contents.

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

### Special Protective Equipment and Precautions for Fire-fighters

Use extreme caution. Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Do NOT apply water directly to spill. Knock down vapours or gases with water fog or fine water spray. Dike and recover contaminated water for appropriate disposal.

A full-body encapsulating chemical protective suit with positive pressure SCBA may be necessary. Fire-fighters should

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enter area wearing specialized protective equipment. (Bunker Gear will not provide adequate protection.).

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

### Methods and Materials for Containment and Cleaning Up

Small spills or leaks: contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area. Large spills or leaks: contact emergency services and manufacturer/supplier for advice. Do not direct water at spill or source. Store recovered product in suitable containers that are: covered, tightly-covered, corrosion-resistant.

## 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. Avoid generating vapours or mists. Prevent accidental contact with incompatible chemicals. Only use where there is adequate ventilation. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). In event of a spill or leak, immediately put on escape-type respirator and exit the area. Keep containers tightly closed when not in use or empty. Never reuse empty containers, even if they appear to be clean.

### Conditions for Safe Storage

Store in an area that is: cool, dry, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity). Electrically bond and ground containers. Ground clips must contact bare metal. Keep amount in storage to a minimum. Have escape-type respiratory protective equipment readily available, in case of leaks or spills. Vent drums to prevent pressure buildup. Comply with all applicable health and safety regulations, fire and building codes.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

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

### Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air.

### 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: butyl rubber, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE), Trelchem® HPS, Trelchem® VPS, Tychem® SL (Saranex™), Tychem® BR/LV, Tychem® Responder, Tychem® TK. The following materials should NOT be used: natural rubber, nitrile rubber, polyvinyl alcohol.

#### Respiratory Protection

Wear a full facepiece NIOSH approved air-purifying respirator with an acid gas cartridge, wear a NIOSH approved air-purifying respirator with an appropriate cartridge, wear a NIOSH approved self-contained breathing apparatus

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(SCBA) or supplied air respirator.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<b>Appearance</b>	Colourless liquid.
<b>Odour</b>	Not available
<b>Odour Threshold</b>	Not available
<b>pH</b>	1.2 (0.1 N solution)
<b>Melting Point/Freezing Point</b>	3 °C (37 °F) (melting); 3 °C (37 °F) (freezing)
<b>Initial Boiling Point/Range</b>	310 - 340 °C (590 - 644 °F)
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not available
<b>Upper/Lower Flammability or Explosive Limit</b>	Not available (upper); Not applicable (lower)
<b>Vapour Pressure</b>	Not available
<b>Vapour Density (air = 1)</b>	3.38 (calculated)
<b>Relative Density (water = 1)</b>	1.83 at 25 °C
<b>Solubility</b>	Soluble in water; Not available (in other liquids)
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	340 °C (644 °F)
<b>Viscosity</b>	Not available (kinematic); Not available (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Liquid

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

Reacts in the presence of water.

### Conditions to Avoid

Contact with water.

### Incompatible Materials

Metals (e.g. aluminum), strong bases (e.g. sodium hydroxide), water, nitriles (e.g. butyronitrile), amines (e.g. triethylamine), esters (e.g. amyl acetate), oxidizing agents (e.g. peroxides).

### Hazardous Decomposition Products

Corrosive sulfur oxides.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Skin contact; eye contact; ingestion; inhalation.

### Acute Toxicity

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

#### Skin Corrosion/Irritation

Animal tests show skin corrosion.

#### Serious Eye Damage/Irritation

Animal tests show serious eye damage.

#### STOT (Specific Target Organ Toxicity) - Single Exposure

##### Inhalation

Harmful severe lung injury.

##### Skin Absorption

Harmful thermal burns.

##### Ingestion

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

#### Aspiration Hazard

No information was located.

#### STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause irritation of the respiratory system. May cause respiratory tract injury, chronic bronchitis (inflammation of the airways leading to the lungs). Following skin contact: causes dermatitis. Symptoms may include dry, red, cracked skin (dermatitis). Symptoms can include redness, rash, swelling and itching.

#### Respiratory and/or Skin Sensitization

Not a skin sensitizer.

#### Carcinogenicity

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

#### Key to Abbreviations

IARC = International Agency for Research on Cancer. Group 1 = Carcinogenic to humans.

ACGIH® = American Conference of Governmental Industrial Hygienists. A2 = Suspected human carcinogen.

#### Reproductive Toxicity

##### Development of Offspring

Not known to harm the unborn child.

##### Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

##### Effects on or via Lactation

No information was located.

#### Germ Cell Mutagenicity

Not known to be a mutagen.

#### 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

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## Disposal Methods

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

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN1830	Sulfuric Acid, with more than 51 percent acid	8	II
US DOT	UN1830	Sulfuric Acid with more than 51 percent acid	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)**

Listed on the TSCA Inventory.

## SECTION 16. OTHER INFORMATION

**NFPA Rating** Health - 3 Flammability - 0 Instability - 2

**Special Hazard - Water-reactive**

**SDS Prepared By** Alphachem Limited

**Phone No.** (905)-821-2995

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