

---

**1. Product and Company Identification**

---

<b>Product Name</b>	<b>Sulphuric Acid 93%</b>
<b>Synonym(s)</b>	Sulfuric acid, Battery acid, Dihydrogen sulfate, Electrolyte acid, Hydrogen sulfate, Mattling acid, Oil of vitriol, Spirit of sulfur
<b>CAS #</b>	Mixture
<b>Product Use</b>	Industrial applications
<b>Supplier information</b>	PVS Benson 1012 Gore Road Freelton, ON L0R1K0 CA Phone: 1-800-265-0014 Emergency Services (24 hours / 7 days ): 1-519-821-0215

---

**2. Hazards Identification**

---

<b>Emergency overview</b>	DANGER -- CORROSIVE CAUSES SKIN AND EYE BURNS. Toxic. CONTAINS MATERIAL WHICH MAY CAUSE CANCER.
<b>Potential short term health effects</b>	
<b>Routes of exposure</b>	Eye, Skin contact, Skin absorption, Inhalation, Ingestion.
<b>Eyes</b>	Causes chemical burns. May cause blindness.
<b>Skin</b>	Causes chemical burns.
<b>Inhalation</b>	Harmful if inhaled. May cause respiratory tract irritation or chemical burns.
<b>Ingestion</b>	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
<b>Target organs</b>	Eyes. Respiratory system. Skin.
<b>Chronic effects</b>	Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.
<b>Signs and symptoms</b>	Symptoms are prostration, gasping, pallor, and uncoordinated movements. Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. The product causes burns of eyes, skin and mucous membranes.
<b>Potential environmental effects</b>	See section 12.

---

**3. Composition/Information on ingredients**

---

<b>Components</b>	<b>CAS #</b>	<b>Percent</b>
Sulphuric acid	7664-93-9	60 - 100

---

**4. First Aid Measures**

---

<b>First aid procedures</b>	
<b>Eye contact</b>	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 20 minutes. Obtain medical attention immediately.
<b>Skin contact</b>	Immediately flush with cool water for 20 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.
<b>Inhalation</b>	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
<b>Ingestion</b>	Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
<b>Notes to physician</b>	Symptoms may be delayed.
<b>General advice</b>	Keep out of reach of children. Avoid contact with eyes and skin. Wear impervious gloves and chemical splash goggles. Immediate medical attention is required. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

---

## 5. Fire-fighting Measures

---

<b>Flammable properties</b>	Not flammable by WHMIS criteria. Not flammable, but reacts with most metals to form flammable hydrogen gas. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Treat for surrounding material.
<b>Unsuitable extinguishing media</b>	Use water with care - water applied directly will cause evolution of heat and splattering.
<b>Protection of firefighters</b>	
<b>Specific hazards arising from the chemical</b>	Firefighters should wear a self-contained breathing apparatus.
<b>Protective equipment for firefighters</b>	Firefighters should wear full protective clothing including self contained breathing apparatus.
<b>Hazardous combustion products</b>	May include and are not limited to: Oxides of sulphur. Irritating and toxic gases or fumes may be released during a fire.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	Not available.
<b>Sensitivity to static discharge</b>	Not available.

---

## 6. Accidental release measures

---

<b>Personal precautions</b>	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
<b>Environmental precautions</b>	Prevent entry into waterways, sewers, basements or confined areas.
<b>Methods for containment</b>	Stop leak if you can do so without risk.
<b>Methods for cleaning up</b>	Should not be released into the environment. Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

---

## 7. Handling and storage

---

<b>Handling</b>	Ensure adequate ventilation. Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing. Avoid breathing vapours or mists of this product. Keep container tightly closed. Wash thoroughly after handling.
<b>Storage</b>	Keep out of the reach of children. Store in a cool, dry, well-ventilated place away from incompatible materials. Keep away from heat, open flames or other sources of ignition.

---

## 8. Exposure controls/Personal protection

---

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Sulphuric acid (CAS 7664-93-9)	TWA	0.2 mg/m <sup>3</sup>	Thoracic fraction.

<b>Exposure limits</b>	See above
<b>Engineering controls</b>	Provide adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>Personal protective equipment</b>	
<b>Eye/Face protection</b>	Chemical splash goggles.
<b>Hand protection</b>	Impervious gloves. Confirm with reputable supplier first.
<b>Skin and body protection</b>	Use of an impervious apron is recommended.
<b>Respiratory protection</b>	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

---

**9. Physical and chemical properties**

---

<b>Appearance</b>	Liquid
<b>Colour</b>	Colourless
<b>Form</b>	Liquid
<b>Odour</b>	Odourless
<b>Odour threshold</b>	> 1 mg/m <sup>3</sup>
<b>Physical state</b>	Liquid.
<b>pH</b>	< 1
<b>Freezing point</b>	Not available.
<b>Boiling point</b>	287 °C (548.6 °F)
<b>Pour point</b>	Not available.
<b>Evaporation Rate</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Auto-ignition temperature</b>	Not applicable
<b>Flammability limits in air, upper, % by volume</b>	Not applicable
<b>Flammability limits in air, lower, % by volume</b>	Not applicable
<b>Vapour pressure</b>	0.0018 mmHg
<b>Vapour density</b>	3.4 (Air = 1)
<b>Specific gravity</b>	1.84 (H <sub>2</sub> O = 1)
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Solubility (Water)</b>	Miscible
<b>Relative density</b>	1.834 - 1.836 g/cm <sup>3</sup>
<b>Viscosity</b>	Not available.
<b>VOC</b>	Not available
<b>Percent volatile</b>	Not available

---

**10. Stability and reactivity**

---

<b>Reactivity</b>	Very reactive. Reacts vigorously with alkaline material. This product may react with reducing agents. Corrosive to metals.
<b>Possibility of hazardous reactions</b>	Hazardous polymerisation does not occur.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Heat, flames and sparks. Do not mix with other chemicals.
<b>Incompatible materials</b>	Caustics. Oxidizers. Reducing agents. Contact with metals may evolve flammable hydrogen gas.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of sulphur. Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.

---

**11. Toxicological information**

---

**Toxicological data**

<b>Components</b>	<b>Species</b>	<b>Test results</b>
Sulphuric acid (CAS 7664-93-9)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Guinea pig	0 mg/L, 8 Hours
	Mouse	160 mg/m <sup>3</sup>
	Rat	1020 mg/l/4h
		375 mg/m <sup>3</sup> , 4 Hours

Components	Species	Test results
		347 mg/L, 1 Hours
		0.4 mg/l/4h
<i>Oral</i> LD50	Rat	2140 mg/kg

#### Effects of acute exposure

<b>Eye contact</b>	Causes chemical burns. May cause blindness.
<b>Skin contact</b>	Causes chemical burns.
<b>Inhalation</b>	Harmful if inhaled. May cause respiratory tract irritation or chemical burns.
<b>Ingestion</b>	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
<b>Sensitisation</b>	Non-hazardous by WHMIS criteria.
<b>Chronic effects</b>	Non-hazardous by WHMIS criteria.
<b>Carcinogenicity</b>	There is sufficient evidence that occupational exposure to strong inorganic acid mists containing sulphuric acid is carcinogenic.

#### ACGIH Carcinogens

Sulphuric acid (CAS 7664-93-9) A2 Suspected human carcinogen.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Sulphuric acid (CAS 7664-93-9) Volume 54, Volume 100F 1 Carcinogenic to humans.

<b>Mutagenicity</b>	Non-hazardous by WHMIS criteria.
<b>Reproductive effects</b>	Non-hazardous by WHMIS criteria.
<b>Teratogenicity</b>	Non-hazardous by WHMIS criteria.
<b>Name of Toxicologically Synergistic Products</b>	Not available.

## 12. Ecological information

**Ecotoxicity** Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

#### Ecotoxicological data

Components	Species	Test results
Sulphuric acid (CAS 7664-93-9)		
<b>Aquatic</b>		
Fish	LC50 Western mosquitofish ( <i>Gambusia affinis</i> )	42 mg/L, 96 hours

<b>Persistence and degradability</b>	Not available.
<b>Bioaccumulation/accumulation</b>	Not available
<b>Mobility in environmental media</b>	Not available.
<b>Environmental effects</b>	Harmful to aquatic life.
<b>Aquatic toxicity</b>	Not available.
<b>Partition coefficient</b>	Not available.
<b>Chemical fate information</b>	Not available.

## 13. Disposal considerations

<b>Disposal instructions</b>	Waste must be disposed of in accordance with federal, state/provincial and local environmental control regulations.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

## 14. Transport information

### Transportation of Dangerous Goods (TDG - Canada)

**Basic shipping requirements:**

**UN number** UN1830  
**Proper shipping name** SULPHURIC ACID with more than 51 per cent acid  
**Hazard class** 8  
**Packing group** II

TDG



## 15. Regulatory information

**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Canada WHMIS Ingredient Disclosure: Threshold limits**

Sulphuric acid (CAS 7664-93-9) 1 %

**WHMIS status** Controlled  
**WHMIS classification** Class D - Division 1A, 2A, Class E - Corrosive Material

**WHMIS labeling**



**Inventory Status**

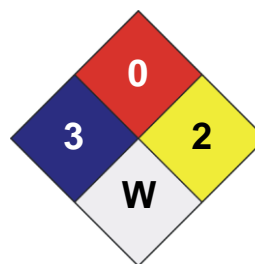
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

## 16. Other information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

<b>HEALTH</b>	* 3
<b>FLAMMABILITY</b>	0
<b>PHYSICAL HAZARD</b>	2
<b>PERSONAL PROTECTION</b>	X



**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

**Issue date** 09-September-2014  
**Effective date** 15-November-2014  
**Expiry date** 15-November-2017

**Prepared by**  
**Other information**

Dell Tech Laboratories Ltd. Phone: (519) 858-5021  
This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.