



# Safety Data Sheet

Revision Date May-12-2016

Item #Multi

Safety Data Sheet 0738

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** Sulfuric Acid >51.0% - 100%  
**UN/ID No.** UN1830  
**Synonyms** Sulphuric acid, Oil of vitriol,  
**Recommended Use** Reserved for industrial and professional use  
**Uses advised against** Consumer uses: Private households (= general public = consumers).

### Company Name

PVS Chemical Solutions Inc.  
10900 Harper Ave.  
Detroit, MI 48213  
313-921-1200

**24 Hour Emergency Phone Number** CHEMTREC 1-800-424-9300

**Distributed By:**  
**SAL Chemical**  
**3036 Birch Drive**  
**Weirton, WV 26062**  
**304-748-8200**

## 2. HAZARDS IDENTIFICATION

### Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
May be corrosive to metals	Category 1
Carcinogenicity	Category 1A***

### Emergency Overview

#### **DANGER**

#### **Hazard statements**

Toxic if inhaled  
Causes severe skin burns and eye damage  
Causes serious eye damage  
May cause cancer  
Corrosive

#### **Physical hazards**

May be corrosive to metals\*\*\*

Do not handle until all hazard precautions have been read and understood



### Precautionary statements

#### Prevention

- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection

#### Response

- Specific treatment (see section 4 on this Safety Data Sheet)
- Immediately call a POISON CENTER or doctor/physician
- Specific treatment (see section 4 on this Safety Data Sheet)

#### Storage

- Store in a well-ventilated place. Keep container tightly closed
- Store locked up

#### Disposal

- Dispose of contents/container to an approved waste disposal plant

**Sulfuric Acid >51.0% - 100%**  
**Hazards not otherwise classified**  
**(HNOC)**

None known.

**Other Information**  
**Other hazards**

- May be harmful if swallowed

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No.	EC No.	Weight-% *
Sulfuric acid	7664-93-9	231-639-5	>51.0%-100%
Water	7732-18-5	231-791-2	0-49

**4. FIRST AID MEASURES**

- General advice** Call 911 or emergency medical service Remove and isolate contaminated clothing and shoes\*\*\*
- Eye contact**
- Immediate medical attention is required
  - Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
  - Keep eyes wide open while rinsing
  - Do not rub affected area\*\*\*
- Skin Contact**
- Wash off immediately with plenty of water for at least 15 minutes
  - Get medical attention if irritation or other symptoms occur\*\*\*
- Inhalation**
- Remove to fresh air
  - If not breathing, give artificial respiration
  - If breathing is difficult, give oxygen
  - Call a physician or poison control center immediately\*\*\*
- Ingestion**
- Immediate medical attention is required
  - Rinse mouth
  - Do NOT induce vomiting
  - Drink 4 to 8 ounces (120-240 ml) of water as soon as possible after ingestion.
  - Never give anything by mouth to an unconscious person
  - Call a physician or poison control center immediately\*\*\*
- Note to physician**
- 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 for first aid personnel**
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves
  - 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\*\*\*

**5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media**
- Dry chemical or CO2
  - Cool containers with flooding quantities of water until well after fire is out
  - Move containers from fire area if you can do it without risk
  - Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only
- Unsuitable extinguishing media**
- MAY REACT VIOLENTLY WITH WATER
  - Contact with water generates heat
- Specific hazards arising from the**
- The product causes burns of eyes, skin and mucous membranes

**Sulfuric Acid >51.0% - 100% chemical**

- 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**

- Substance will react with water (some violently), releasing corrosive and/or toxic gases
- When material is not involved in fire: do not use water on material itself
- ALWAYS stay away from tanks engulfed in fire
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank

**Flammable properties**

- Not flammable
- Contact with metals may evolve flammable hydrogen gas
- No information available

**Explosive properties**

**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**

- For small spills, absorb material with clay absorbent or other compatible material. Dispose of the waste material according to local, state and governmental requirements.
- For large spills, contain the material using barriers of absorbent pigs, clay absorbent or earth dams.

**Methods for cleaning up**

- Dike far ahead of liquid spill for later disposal
- Neutralize with soda ash or lime
- Soak up with inert absorbent material
- Take up mechanically, placing in appropriate containers for disposal
- Clean contaminated surface thoroughly
- Prevent product from entering drains\*\*\*

**Other Information**

- Do not get water inside containers or in contact with substance
- Keep combustibles (wood, paper, oil, etc) away from spilled material
- Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container

**7. HANDLING AND STORAGE**

**Advice on safe handling**

- Use personal protective equipment as required
- Avoid contact with skin, eyes or clothing
- Ensure adequate ventilation, especially in confined areas
- In case of insufficient ventilation, wear suitable respiratory equipment
- Use only with adequate ventilation and in closed systems\*\*\*

**Storage Conditions**

- Keep containers tightly closed in a dry, cool and well-ventilated place
- Keep in properly labeled containers
- Keep out of the reach of children\*\*\*

**Incompatible materials**

Reacts with many compounds, Bases, Water, Metals, Combustible material, Reducing agents, Contact with metals may evolve flammable hydrogen gas, Nitrogen containing compounds, Organics, Amines, Cyanide compounds, Styrene, Oxidizers, Incompatible with strong acids and bases, Incompatible with oxidizing agents\*\*\*

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m <sup>3</sup> thoracic fraction	TWA: 1 mg/m <sup>3</sup>	IDLH: 15 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>

**Exposure Guidelines**

**Engineering Controls**

Ensure adequate ventilation, especially in confined areas.

**Individual protection measures, such as personal protective equipment**

## Sulfuric Acid >51.0% - 100%

<b>Respiratory protection</b>	<ul style="list-style-type: none"><li>• A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant the use of a respirator.</li></ul>
<b>Eye/Face protection</b>	<ul style="list-style-type: none"><li>• Tight sealing safety goggles</li><li>• Face protection shield***</li></ul>
<b>Skin and body protection</b>	<ul style="list-style-type: none"><li>• Wear suitable protective clothing</li><li>• Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact</li></ul>
<b>General Hygiene Considerations</b>	<ul style="list-style-type: none"><li>• When using do not eat, drink or smoke</li><li>• Wash contaminated clothing before reuse</li><li>• Keep away from food, drink and animal feeding stuffs</li><li>• Contaminated work clothing should not be allowed out of the workplace</li><li>• Regular cleaning of equipment, work area and clothing is recommended</li><li>• Avoid contact with skin, eyes or clothing</li><li>• Take off all contaminated clothing and wash it before reuse</li><li>• Wear suitable gloves and eye/face protection***</li></ul>

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	clear oily Liquid
<b>Color</b>	colorless
<b>Odor</b>	Odorless slightly pungent characteristic
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	<1	***
<b>Melting point/Freezing Point</b>	-35 to 10 °C / -31 to 50 °F	***
<b>Boiling point / boiling range</b>	270 to 121 °C / 518 to 250 °F	(at 760 mm Hg)***
<b>Flash point</b>	No information available	
<b>Evaporation rate</b>	No information available	
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit (%)</b>	No information available	
<b>Lower flammability limit (%):</b>	No information available	
<b>Vapor pressure</b>	<1 mm Hg	@ 40 °C***
<b>Vapor density</b>	3.4	@ Air = 1 ***
<b>Specific Gravity</b>	1.48-1.84	***
<b>Water solubility</b>	completely soluble	***
<b>Solubility in other solvents</b>	No information available	
<b>Partition coefficient</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	6.8 - 23 cps @ 20°C	***
<b>Explosive properties</b>	No information available	
<b>Oxidizing properties</b>	No information available	
<b><u>Other Information</u></b>		
<b>Softening point °C</b>	No information available	
<b>Molecular weight</b>	98.07	
<b>VOC Content (%)</b>	No information available	
<b>Density</b>	No information available	
<b>Bulk density</b>	12.3 - 15.3 Pounds per gallon (lb/gal)	

## 10. STABILITY AND REACTIVITY

**Sulfuric Acid >51.0% - 100%****Stability**

- Stable under recommended storage conditions

**Conditions to avoid**

- Water reactive
- Exposure to air or moisture over prolonged periods\*\*\*

**Incompatible materials**

- Reacts with many compounds
- Bases
- Water
- Metals
- Combustible material
- Reducing agents
- Contact with metals may evolve flammable hydrogen gas
- Nitrogen containing compounds
- Organics
- Amines
- Cyanide compounds
- Styrene
- Oxidizers
- Incompatible with strong acids and bases
- Incompatible with oxidizing agents\*\*\*

**Hazardous Decomposition Products** • Thermal decomposition can lead to release of irritating and toxic gases and vapors\*\*\*

**Possibility of Hazardous Reactions** • None under normal processing and storage

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Principle Routes of Exposure</b>	-Inhalation, Skin Contact, Eye contact***
<b>-Inhalation</b>	May cause irritation of respiratory tract. Avoid breathing vapors or mists.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin Contact</b>	May cause skin irritation and/or dermatitis.
<b>Eye contact</b>	Contact with eyes may cause irritation.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric acid 7664-93-9	= 2140 mg/kg ( Rat )	-	= 510 mg/m <sup>3</sup> ( Rat ) 2 h
Water 7732-18-5	> 90 mL/kg ( Rat )	-	-

### Information on toxicological effects

**Symptoms** No information available

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

**Sensitization** No information available.  
**Germ cell mutagenicity** No information available.  
**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

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

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*A2 - Suspected Human Carcinogen\*\*\**

*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** No information available.

**STOT - repeated exposure** No information available.

**Sulfuric Acid >51.0% - 100%****Chronic toxicity**

Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects.\*\*\*

**Target Organ Effects**

Eyes, Respiratory system, Skin, Teeth.\*\*\*

**Aspiration hazard**

No information available.

**Numerical measures of toxicity - Product Information**

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

<b>12. ECOLOGICAL INFORMATION</b>
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**Ecotoxicity**

1% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Sulfuric acid 7664-93-9	-	500: 96 h Brachydanio rerio mg/L LC50 static	-

**Persistence and degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available

<b>13. DISPOSAL CONSIDERATIONS</b>
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**Disposal of wastes**

• This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261)

**Contaminated packaging**

• Do not reuse container\*\*\*

**US EPA Waste Number**

• D002

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Sulfuric acid 7664-93-9	Toxic Corrosive

<b>14. TRANSPORT INFORMATION</b>
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**DOT**

Proper shipping name           SULFURIC ACID  
Hazard Class                    8  
UN/ID No.                        UN1830  
Packing Group                 II  
RQ (lbs)(dry)                   1000  
RQ as is (lbs)(wet)           1073 (as 93% sulfuric acid)  
Technical Name Description   WITH MORE THAN 51 PERCENT ACID  
Description                    UN1830, Sulfuric acid, 8, II  
Special Provisions             A3, A7, B3, B83, B84, IB2, N34, T8, TP2  
Emergency Response Guide Number   137

**Transport Canada**

UN/ID No.                        UN1830  
Proper shipping name           SULFURIC ACID  
Hazard Class                    8  
Packing Group                 II  
Description                    UN1830, Sulfuric acid, 8, II

**IATA**

UN/ID No.                        UN1830

**Sulfuric Acid >51.0% - 100%**

Proper shipping name Sulphuric acid  
 Hazard Class 8  
 Packing Group II  
 ERG Code 8L

**IMDG**

UN/ID No. UN1830  
 Proper shipping name Sulphuric acid  
 Hazard Class 8  
 Packing Group II  
 EmS-No. F-A, S-B

**15. REGULATORY INFORMATION****US Federal Regulations****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

**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 - 7664-93-9	1.0

**U.S. - TSCA (Toxic Substances Control Act) - Section 5(a)(2) - Chemicals with Significant New Use Rules (SNURs)****CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric acid 7664-93-9	1000 lb	-	-	X

**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	CERCLA/SARA RQ	RQ (lbs)(dry)
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

**Canada****WHMIS Classification**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**WHMIS Classification**

D2A - Very toxic materials  
 Non-controlled

**WHMIS****US State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals\*\*\*

**Sulfuric Acid >51.0% - 100%**

Chemical Name	California Proposition 65
Sulfuric acid - 7664-93-9	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X	X	X
Water 7732-18-5	-	-	X

DEA List I, List II\*\*\*

Chemical Name	U.S. - DEA - List I or Precursor Chemicals	U.S.- DEA - List II or Essential Chemicals
Sulfuric acid 7664-93-9	-	50 gallon, Export Volume

**International Inventories**

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

**Legend:**

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  
 AICS - Australian Inventory of Chemical Substances

**16. OTHER INFORMATION**

<b><u>NFPA</u></b>	Health hazards 3***	Flammability 0	Instability 2	Physical and Chemical Properties W
<b><u>HMIS</u></b>	Health hazards 3***	Flammability 0	Physical hazards 2	Personal protection D

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Revision Note	*** Updated value on SDS.

**Disclaimer**

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