


# Safety Data Sheet

Section 1. Identification	
<b>Product Identifier</b>	<b>Sulphuric Acid</b>
	<b>Version: 5</b> <b>Effective Date: 11 July, 2017</b>
<b>Other Means Of Identification</b>	Hydrogen sulphate; Vitriol brown oil; Oil of vitriol
<b>Initial Supplier Identifier</b>	Chemfax Products Ltd. 11444 – 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055
<b>Recommended Use and Restrictions On Use</b>	Inorganic acid, chemical intermediate, water treatment chemical. No restrictions.
<b>Product Family</b>	Inorganic Acid
<b>24 Hour Emergency</b>	Canutec (613) 996-6666

Section 2. Hazard Identification	
<b>Hazard Classification</b>	
<b>Physical Hazards</b>	Corrosive to Metals – Category 1
<b>Health Hazards</b>	Skin Corrosion/Irritation – Category 1A Eye Damage/Irritation – Category 1 Carcinogenicity – Category 1 Specific Target Organ Toxicity, (Single Exposure) – Category 3 Specific Target Organ Toxicity, (Repeated Exposure) – Category 2
<b>Signal Word</b>	Danger
<b>Hazard Statement</b>	May be corrosive to metals. Causes severe skin burns and serious eye damage. May cause cancer. May cause respiratory irritation; or may cause drowsiness or dizziness. May cause damage to organs (respiratory system) through prolonged or repeated exposure (inhalation)
<b>Precautionary Prevention Statement</b>	Keep only in original packaging. Do not inhale dust or mist. Wash hands thoroughly after handling. Wear protective gloves, clothing, and eye & face protection. Obtain special instructions before use. Do

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	not handle until all safety precautions have been read and understood. Use only outdoors, or in a well-ventilated area.
<b>Precautionary Response Statement</b>	Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Immediately remove all contaminated clothing. Rinse skin with water or shower if on clothing. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately seek medical attention if you feel unwell. Specific Treatment: Treat symptomatically. Do not induce vomiting unless directed by a medical personnel. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately seek medical attention. IF exposed or concerned, seek medication advice. Seek medical advice if you feel unwell.
<b>Precautionary Storage Statement</b>	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
<b>Precautionary Disposal Statement</b>	Dispose of contents/container in accordant with local regulations.
<b>Other Hazards</b>	None

### Section 3. Composition / Information on Ingredients

Chemical Name	Common Name or Synonyms	CAS NO. and Other Unique Identifiers	% by weight
Sulphuric Acid	Oil of vitriol	7664-93-9	90 - 100

### Section 4. First-Aid Measures

<b>Eye Contact</b>	Immediately flush eyes with water for 30 minutes, preferably 60 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Do not transport victim until flushing period is complete, unless flushing can be continued during transport. Seek IMMEDIATE medical attention.
<b>Skin Contact</b>	Prompt removal of the material from the skin is essential. Remove all contaminated clothing and wash exposed areas with copious amounts of water for a minimum of 30 minutes and up to 60 minutes. Obtain IMMEDIATE medical attention.
<b>Inhalation</b>	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention.

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<b>Ingestion</b>	IMMEDIATELY contact your local Poison Control Centre. If the victim is conscious, alert and non-convulsing, rinse mouth out and give 1 to 2 glasses of milk (water may be used in place of milk but will not be as effective). If spontaneous vomiting occurs, have the victim lean forward to avoid aspiration of the vomit, rinse mouth and administer more milk or water. Do not induce vomiting. Seek IMMEDIATE medical attention.
<b>Most Important Symptoms and Effects Both Acute and Delayed</b>	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or oesophagus should be investigated - Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
<b>Immediate Medical Attention and Special Treatment</b>	Do not attempt to neutralize the acid with a weak base as the exothermic reaction may extend the corrosive injury. Do not use buffering agents (antacids) as they can produce significant exothermic reaction without significantly altering the pH. Perforation of the oesophagus may lead to mediastinitis or peritonitis and resultant complications. Mucosal injury following ingestion of this corrosive material may contraindicate the induction of vomiting, similarly, if gastric lavage is performed, intubation should be done with great care. If ingestion is suspected an esophagoscopy should be performed as soon as possible. Scope should not be passed beyond the first burn due to risk of perforation.

<b>Section 5. Fire-Fighting Measures</b>	
<b>Suitable and Unsuitable Extinguishing Media</b>	Use extinguishing media suitable for the surrounding fire. Do not use water.
<b>Hazardous Combustion Products</b>	Thermal combustion products are toxic and may include oxides of sulphur and irritating gases.
<b>Specific Hazards Arising From the Product</b>	Corrosive material. Thermal decomposition can lead to release of irritating gases and vapours. The product causes burns of eyes, skin and mucous membranes
<b>Special Protective Equipment and Precautions For Fire-Fighters</b>	Firefighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool containers and structures exposed to fire. Reacts with metals to generate flammable hydrogen gas. Containers exposed to intense heat from fires should be cooled with water to prevent vapour build up which could result in container rupture. Use water spray or fog to reduce or direct vapours.

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<b>Section 6. Accidental Release Measures</b>	
<b>Personal Precautions, Protective Equipment and Emergency Procedures</b>	Any person in the area of the spill should be fully equipped with protective equipment – chemical resistant clothing, footwear, gloves, safety glasses and respirator. Secure area and evacuate unnecessary personnel. Ensure adequate ventilation.
<b>Environmental Precautions</b>	Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.
<b>Methods and Materials For Containment and Clean-Up</b>	Do not use any combustible material as an absorbent (i.e. sawdust). Spilled material may cause floors and contact surfaces to become slippery. Residues or material that cannot be recovered must be neutralized with soda ash or sodium bicarbonate (final pH should be 6 to 9). Neutralization is expected to be exothermic with vigorous effervescence.

<b>Section 7. Handling and Storage</b>	
<b>Precautions For Safe Handling</b>	Corrosive material, handle with care. Good housekeeping practices should be in place. Containers exposed to heat may be under internal pressure. These should be cooled and carefully vented before opening, protective wear should be worn. When diluting, added small amounts of the product to water to avoid splattering. Never add water to this product.
<b>Conditions For Safe Storage</b>	Store in a cool, dry, well ventilated area. Avoid direct sunlight. Keep containers closed when not in use. Drums may require venting to release internal pressure. Store in a cool, well ventilated area. Keep containers closed when not in use. Ensure product segregation measures are in place, keep away from incompatible materials. Containment for spillage should be in place with acid resistant coatings.

<b>Section 8. Exposure Controls / Personal Protection</b>				
<b>Control Parameters</b>	<b>TWA: 8 Hr</b>	<b>STEL: 15 min</b>	<b>Ceiling</b>	<b>IDLH *</b>
<b>Sulphuric acid</b>	1 ppm ACGIH	3 ppm ACGIH		15 ppm NIOSH
	* Immediately Dangerous to Life and Health			
<b>Exposure Controls</b>	Local exhaust ventilation			
<b>Appropriate Engineering Controls</b>	Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.			
<b>Individual Protective Measures</b>				



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<b>Eye / Face Protection</b>	Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.
<b>Skin Protection</b>	Wear long sleeves and other protective clothing to prevent repeated or prolonged skin contact.
<b>Respiratory Protection</b>	Air purifying respirator fitted with cartridges for acid vapours and mists.

Section 9. Physical and Chemical Properties	
<b>Appearance</b>	Dark brown liquid
<b>Odour</b>	Pungent odour
<b>Odour Threshold</b>	Not available.
<b>pH</b>	0.3
<b>Flash Point</b>	> 100 °C
<b>Boiling Point and Boiling Range</b>	150 -330 °C
<b>Melting Point and Freezing Point</b>	-40 to -1.1 °C
<b>Evaporation Rate</b>	No data
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper and Lower Flammability or Explosive Limits</b>	No data
<b>Vapour Pressure</b>	0.002 to 1.2 @ 20 °C
<b>Vapour Density</b>	3.4
<b>Relative Density</b>	1.775
<b>Solubility</b>	Soluble
<b>Partition co-efficient, n-Octanol/Water</b>	No data
<b>Auto-Ignition Temperature</b>	No data
<b>Decomposition Temperature</b>	340 °C
<b>Viscosity</b>	No data

Section 10. Stability and Reactivity	
<b>Reactivity</b>	Reacts with acids and metals
<b>Chemical Stability</b>	Reacts violently with water; hygroscopic.
<b>Possibility of Hazardous Reactions</b>	It may react with aluminium with the production of flammable hydrogen gas.
<b>Conditions to Avoid</b>	Excessive temperatures. Avoid contact with water. Do not store in humid places. Material is hygroscopic (readily absorbs water from the atmosphere).
<b>Incompatible Materials</b>	Violently reactive with: sodium chlorite, reducing agents, strong bases, combustibles, metals, alkali metals and their hydrides, organic

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	materials, aluminium and its alloys, copper and its alloys, cast iron, mild steel, and titanium. Material will attack some rubber, plastics and coatings.
<b>Hazardous Decomposition Products</b>	Not expected to decompose. Material will react with metals as listed above and produce hydrogen gas.

Section 11. Toxicological Information			
Component Toxicity	LD50 Oral	LD50 Dermal	LC50 Inhalation
<b>Sulphuric Acid</b>	2.14 g/kg (Rat)		255 ppm (Rat), 4h
<b>Likely Routes of Exposure</b>			
<b>Skin:</b>	Will cause severe, deep and painful burns if not removed immediately. Toxic effects are secondary and may be delayed. This product causes corneal scarring and clouding. Glaucoma, cataracts and permanent blindness may occur.		
<b>Eyes:</b>	Product can cause severe irritation of the nose, throat and respiratory tract. Repeated and prolonged exposure may cause productive cough, running nose, bronchopneumonia, pulmonary oedema (fluid build-up in the lungs) and reduction of pulmonary function. Prolonged and repeated exposure may cause discolouration and erosion of the teeth.		
<b>Inhalation:</b>	This product causes severe burning and pain in the mouth, throat and abdomen. Vomiting, diarrhoea and perforation of the oesophagus and stomach lining may occur. Prolonged and repeated exposure may cause discolouration and erosion of the teeth.		
<b>Ingestion:</b>			
<b>Acute Toxicity Estimates (ATE)</b>	No data		
<b>STOT (Specific Target Organ Toxicity) – Single Exposure</b>	Respiratory system		
<b>Aspiration Toxicity</b>	Causes burns		
<b>STOT (Specific Target Organ Toxicity) – Repeated Exposure</b>	Not classified		
<b>Skin Corrosion / Irritation</b>	Causes burns		
<b>Serious Eye Damage / Irritation</b>	Corrosive		
<b>Respiratory or Skin Sensitization</b>	Not classified		
<b>Carcinogenicity</b>	IARC has classified “strong inorganic acid mists containing sulphuric acid” as a known human carcinogen, (IARC Category 1).		

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	This classification applies only to mists containing sulphuric acid and not to sulphuric acid or solutions of sulphuric acid.
<b>Reproductive Toxicity</b>	
- <b>Sexual Function and Fertility</b>	Not classified
- <b>Development of Offspring</b>	Not classified
- <b>Effects on or via Lactation</b>	Not classified
<b>Germ Cell Mutagenicity</b>	Not classified
<b>Interactive Effects</b>	Not classified
<b>Other Information</b>	None known

<b>Section 12. Ecological Information</b>	
<b>Ecotoxicity</b>	Harmful to aquatic life at low concentrations and is primarily associated with low pH. 24 hr TLm = 24.5 mg/L (Bluegill) 48 hr TLm = 49 mg/L (Bluegill) 48 hr LC50: 100 – 300 mg/L (Flounder)
<b>Persistence and Degradability</b>	Will not persist
<b>Bioaccumulative Potential</b>	Not available
<b>Biodegradability</b>	Not available
<b>Mobility in Soil</b>	Not available
<b>Other Adverse Effects</b>	None known

<b>Section 13. Disposal Considerations</b>	
<b>Disposal Considerations</b>	Dispose of contents/container in accordance with local regulations.

<b>Section 14. Transport Information</b>	
<b>UN Number</b>	1830
<b>UN Proper Shipping Name</b>	Sulphuric Acid
<b>Transport Hazard Class(es)</b>	8
<b>Packaging Group</b>	II
<b>Environmental Hazards</b>	Not applicable
<b>Bulk Transport</b>	Not applicable
<b>Special Precaution</b>	Not applicable
<b>DOT Erg#</b>	137

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<b>Section 15. Regulatory Information</b>	
<b>Canada – DSL Inventory</b>	All components of this product are either on the Domestic Substances List (DSL), Non-Domestic Substances List (NDSL), or exempt
<b>TSCA</b>	All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt
<b>Additional Information</b>	None

<b>Section 16. Other Information</b>	
<b>NFPA Rating</b>	Health-3/ Flammability-0/Reactivity-2/Special Hazard-Not applicable
<b>HMIS Rating</b>	Health-3/Flammability-0/Reactivity-2/Personal Protection-See Section 8.
<b>Prepared by:</b>	Chemfax Products Ltd., Technical Department
<b>Date Prepared:</b>	13 January, 2012
<b>Date of Latest Revision:</b>	12 July, 2017
<b>Disclaimer</b>	
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