


Safety Data Sheet

Section 1. Identification	
Product Identifier	Sulphuric Acid
	Version: 5 Effective Date: 21 February, 2016
Other Means Of Identification	Hydrogen sulfate; Vitriol brown oil; Oil of vitriol
Initial Supplier Identifier	Chemfax Products Ltd. 11444 – 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055
Recommended Use and Restrictions On Use	Inorganic acid, chemical intermediate, water treatment chemical. No restrictions.
Product Family	Inorganic Acid
24 Hour Emergency	Canutec (613) 996-6666

Section 2. Hazard Identification	
Hazard Classification	
Physical Hazards	Corrosive to Metals – Category 1
Health Hazards	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
Signal Word	Danger
Hazard Statement	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)
Precautionary Prevention Statement	Keep only in original packaging. Do not breathe dusts or mists. Wash hands thoroughly after handling. Wear protective gloves, clothing, eye and 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.
Precautionary Response Statement	Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately 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 call doctor 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 call a doctor. IF exposed or concerned get medication advice. Get medical advice if you feel unwell.
Precautionary Storage Statement	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Precautionary Disposal Statement	Dispose of contents / container in accordant with local regulations.
Other Hazards	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

Eye Contact	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.
Skin Contact	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.
Inhalation	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention.

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Ingestion	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.
Most Important Symptoms and Effects Both Acute and Delayed	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Immediate Medical Attention and Special Treatment	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 esophagus 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.

Section 5. Fire-Fighting Measures	
Suitable and Unsuitable Extinguishing Media	Use extinguishing media suitable for the surrounding fire. Do not use water.
Hazardous Combustion Products	Thermal combustion products are toxic and may include oxides of sulphur and irritating gases.
Specific Hazards Arising From the Product	Corrosive material. Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes
Special Protective Equipment and Precautions For Fire-Fighters	Fire-fighters 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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Section 6. Accidental Release Measures	
Personal Precautions, Protective Equipment and Emergency Procedures	Any person in the local 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.
Environmental Precautions	Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.
Methods and Materials For Containment and Clean-Up	Do not use any combustible material as an absorbent (ie 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.

Section 7. Handling and Storage	
Precautions For Safe Handling	Corrosive material, handle with care. Good house keeping 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.
Conditions For Safe Storage	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.

Section 8. Exposure Controls / Personal Protection				
Control Parameters	TWA: 8 Hr	STEL: 15 min	Ceiling	IDLH *
Sulphuric acid	1 ppm ACGIH	3 ppm ACGIH		15 ppm NIOSH
	* Immediately Dangerous to Life and Health			
Exposure Controls	Local exhaust ventilation			
Appropriate Engineering Controls	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.			
Individual Protective Measures				



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

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

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

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	materials, aluminum and its alloys, copper and its alloys, cast iron, mild steel, titanium. Material will attack some rubber, plastics and coatings.
Hazardous Decomposition Products	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
Sulphuric Acid	2.14 g/kg (Rat)		255 ppm (Rat), 4h
Likely Routes of Exposure			
Skin:	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.		
Eyes:	Product can cause severe irritation of the nose, throat and respiratory tract. Repeated and prolonged exposure may cause productive cough, running nose, broncopneumonia, 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.		
Inhalation:	This product causes severe burning and pain in the mouth, throat and abdomen. Vomiting, diarrhea and perforation of the esophagus and stomach lining may occur. Prolonged and repeated exposure may cause discolouration and erosion of the teeth.		
Ingestion:	This product causes severe burning and pain in the mouth, throat and abdomen. Vomiting, diarrhea and perforation of the esophagus and stomach lining may occur. Prolonged and repeated exposure may cause discolouration and erosion of the teeth.		
Acute Toxicity Estimates (ATE)	No data		
STOT (Specific Target Organ Toxicity) – Single Exposure	Respiratory system		
Aspiration Toxicity	Causes burns		
STOT (Specific Target Organ Toxicity) – Repeated Exposure	Not classified		
Skin Corrosion / Irritation	Causes burns		
Serious Eye Damage / Irritation	Corrosive		
Respiratory or Skin Sensitization	Not classified		
Carcinogenicity	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.
Reproductive Toxicity	
- Sexual Function and Fertility	Not classified
- Development of Offspring	Not classified
- Effects on or via Lactation	Not classified
Germ Cell Mutagenicity	Not classified
Interactive Effects	Not classified
Other Information	None known

Section 12. Ecological Information	
Ecotoxicity	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)
Persistence and Degradability	Will not persist
Bioaccumulative Potential	Not available
Biodegradability	Not available
Mobility in Soil	Not available
Other Adverse Effects	None known

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

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

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

Section 16. Other Information	
NFPA Rating	Health-3/ Flammability-0/Reactivity-2/Special Hazard-Not applicable
HMIS Rating	Health-3/Flammability-0/Reactivity-2/Personal Protection-See Section 8.
Prepared by:	Chemfax Products Ltd., Technical Department
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