




EMERGENCY NUMBERS:

 (USA) CHEMTREC : 1(800) 424-9300 (24hrs)
 (CAN) CANUTEC : 1(613) 996-6666 (24hrs)
 (USA) Anachemia : 1(518) 297-4444
 (CAN) Anachemia : 1(514) 489-5711

WHMIS	Protective Clothing	TDG Road/Rail
WHMIS CLASS: E D-1A		TDG CLASS: 8 PIN: UN1830 PG: II
		

Section I. Product Identification and Uses

Product name	SULFURIC ACID	CI#	Not available.
Chemical formula	H ₂ SO ₄	CAS#	7664-93-9
Synonyms	Oil of vitriol, AC-8750, AC-8750PG, AC-8752T, AC-8750SP, EG-8750, EP-8750, CD-8750, R-5575, R-5580 (38N), 88366, 88590, 88360, 88356, 88363, 88535, 88360, 88356, 88363	Code	AC-8750
Supplier	Anachemia Canada. 255 Norman. Lachine (Montreal), Que H8R 1A3	Formula weight	98.08
		Supersedes	
Material uses	For laboratory use only.		

Section II. Ingredients

Name	CAS #	%	TLV
1) SULFURIC ACID	7664-93-9	90-100	Exposure limits: ACGIH TWA 0.2 mg/m ³ ;
2) WATER	7732-18-5	Balance	Not established by ACGIH

Toxicity values of the hazardous ingredients

 SULFURIC ACID:
 ORAL (LD50): Acute: 2140 mg/kg (Rat).
 VAPOR (LC50): Acute: 18 mg/m³ (Guinea pig). 320 mg/m³ (Mouse) (2 hour(s)).
 VAPOR (LC50): Acute: 510 mg/m³ (Rat) (2 hour(s)).

Section III. Physical Data

Physical state and appearance / Odor	Oily, colorless to slight yellow liquid. Odorless.
pH (1% soln/water)	0.3 (1N @ 25°C)
Odor threshold	Not available.
Percent volatile	Not available.
Freezing point	~-11°C
Boiling point	276 to 330°C
Specific gravity	1.667 to 1.842 (Water = 1)
Vapor density	3.4 (Air = 1)
Vapor pressure	0.0016 mm of Hg (@ 40°C)
Water/oil dist. coeff.	Not available.
Evaporation rate	Not available.
Solubility	Miscible in water.

Section IV. Fire and Explosion Data

Flash point	Not applicable.
Flammable limits	Not applicable.
Auto-ignition temperature	Not applicable.
Fire degradation products	Oxides of sulfur (SO ₂ , SO ₃ ...).
Fire extinguishing procedures	Use water spray or other suitable agent for fires adjacent to non-leaking tanks or containers of acid. If only a small amount of combustibles is present, smother fire with dry chemical. Do not use solid water streams near ruptured tanks or spill of sulfuric acid. Acid reacts violently with water and can splatter acid onto personnel. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode.
Fire and Explosion Hazards	Oxidizing agent; may ignite oxidizable materials. Contributes to combustion of other materials. Concentrated sulfuric acid can ignite combustible materials on contact. Flammable hydrogen gas may be produced on contact with metals. The product is not sensitive to impact. The product is not sensitive to static discharge. Emits toxic fumes under fire conditions.

Section V. Toxicological Properties

Routes of entry	Inhalation and ingestion. Skin contact. Eye contact.
Effects of Acute Exposure	May be fatal by ingestion, inhalation or skin absorption. Corrosive. Target organs: respiratory system, skin, eyes, teeth. 15 mg/m ³ (SULFURIC ACID) is immediately dangerous to life or health.
Eye	Extremely corrosive! Liquid contact can cause corneal burns and conjunctivitis. Blindness may result, or severe or permanent injury. Mist contact may irritate or burn. IRRITATION: EYE-RABBIT 250 ug SEVERE.
Skin	Can cause severe burns and destruction of tissue. May cause destruction of the dermis with impairment of the skin at site of contact to regenerate. Skin injury reportedly slow to heal.
Inhalation	Highly toxic by inhalation of fumes or acid mist. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, laryngitis, dyspnea, bronchospasms, and lung irritation. Can cause lung damage.
Ingestion	Burns in mouth, pharynx and gastrointestinal tract. Can be fatal if ingested. May cause edema of the larynx, hematemesis, diarrhea, anuria, oesophagus and stomach perforation, and death.

Section V. Toxicological Properties

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Effects of Chronic Overexposure Erosion of the teeth, lesions of the skin, tracheobronchitis, mouth inflammation, conjunctivitis, gastritis, emphysema. Overall IARC evaluation of carcinogenic risk: Group 1 (strong-inorganic-acid mists containing sulfuric acid). Mutagenic effects: Not available. Teratogenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge the chronic toxicity of this substance has not been fully investigated.

Section VI. First Aid Measures

Eye contact Speed is essential. IMMEDIATELY flush eyes with copious quantities of water for at least 20 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention. Continue flushing with water if medical attention is not immediately available.

Skin contact Speed is essential. Immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Seek immediate medical attention. Wash contaminated clothing before reusing. Discard contaminated leather articles such as shoes and belt.

Inhalation Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Seek immediate medical attention.

Ingestion DO NOT induce vomiting. If conscious, wash out mouth with water. Have conscious person drink several glasses of water to dilute. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person.

Section VII. Reactivity Data

Stability Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination.

Hazardous decomp. products Sulfur oxides (SO₂, SO₃...)

Incompatibility Reacts with most common metals to produce hydrogen. Nitro compounds, nitrates, carbides, phosphorus, iodides, picrates, fulminates, dienes, alcohols (when heated): cause explosion. Cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorus(III) oxide, oxidizing agents, such as chlorates, halogens, permanganates: cause fire and/or explosions. Allyl compounds and aldehydes: undergo violent polymerization. Alkalis, amines, water, hydrated salts, carboxylic acid anhydrides, nitriles, olefinic organics, glycols, aqueous acids: cause strong exothermic reactions. Carbonates, cyanides, sulfides, sulfites, metals such as copper, tin, lead, zinc, aluminum: yield toxic gases. Organic materials, reducing agents, combustible materials, hydrogen peroxide, azides, alkali hydrides, nitromethane.

Reaction Products Hydrogen is generated by the action of the acid on most metals. Temperatures of 275°C or higher yield sulfur trioxide gas, which is toxic, corrosive and an oxidizer. Hazardous polymerization will not occur.

Section VIII. Preventive Measures

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Protective Clothing in case of spill and leak	Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Full suit.
Spill and leak	Evacuate and ventilate the area. Dilute small spills or leaks cautiously with plenty of water. Cover with soda ash or lime. Adequate ventilation is required for soda ash due to release of carbon dioxide gas. Major spills must be handled by a predetermined plan. Diking with soda ash is recommended. Ventilate area and wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch spilled material. Avoid contact with a combustible material (wood, paper, oil, clothing...). DO NOT get water inside container. DO NOT touch damaged container or spilled material. Spills of sulfuric acid must be promptly removed.
Waste disposal	According to all applicable regulations. Harmful to aquatic life. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.
Storage and Handling	If stored in metal containers, vapors can contain explosive hydrogen gas. Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep away from combustible material. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Empty containers may contain a hazardous residue. Handle and open container with care. Take off immediately all contaminated clothing. Avoid contact with a combustible material (wood, paper, oil, clothing...). This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. Never add water to this product. Product is highly hygroscopic. Do not allow water to get inside container because of violent reaction. Wear suitable protective clothing.

Section IX. Protective Measures

Protective clothing	Face shield and splash goggles. Impervious acid-resistant gloves and apron (preferably rubber), coveralls, and/or other resistant protective clothing. Sufficient to protect skin. A OSHA/MSHA jointly approved respirator is advised in the absence of proper environmental controls. If more than TLV, do not breathe vapor. Wear self-contained breathing apparatus. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location.
Engineering controls	Use only in a chemical fume hood to keep airborne levels below recommended exposure limits. Use adequate ventilation. Do not use in unventilated spaces.

Section X. Other Information

Special Precautions or comments	Extremely corrosive! Highly toxic! Oxidizing agent; may ignite oxidizable materials. Causes severe burns! Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use only in a chemical fume hood. Keep away from heat, sparks and flame. Contact with other material may cause fire and/or explosion. Do not allow water to enter container because of violent reaction. When diluting, add this product to water in small amounts to avoid spattering. Never add water to this product. The water should be lukewarm. Never start with hot or cold water. Handle and open container with care. Container should be opened only by a technically qualified person. RTECS NO: WS5600000 (Sulfuric acid).
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NFPA

Prepared by MSDS Department/Département de F.S..

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Telephone# (514) 489-5711

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