SAFETY DATA SHEET

SECTION 01 - IDENTIFICATION

Product Identifier	SULFURIC ACID (1.0N / 0.5M)
Other identification (Chemical name, Commercial name, Synonymous)	SULFURIC ACID; Sulphuric acid; sulfur acid; Huile de vitriol; Hydrogen sulfate; Oil of vitriol
Product code	SS-0800
Chemical formula	H_2SO_4
Molar weight	98.08
Recommended use and Restrictions on use	For laboratory, school, commercial or industrial use. Not for medical or household use. Do not use for medical, food or household purposes.
Supplier	LABORATOIRE MAT 610, rue Adanac Québec Québec G1C 7B7 418-660-8666 Mon-Fri 8h-16h www.labmat.com labmat@labmat.com
Emergency phone	418-660-8666 Mon-Fri 8h-16h CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS	2026-09-03

SECTION 02 - HAZARDS IDENTIFICATION

WHIMS CANADA

- Skin corrosion/irritation - Skin corrosion - category 1
- Serious eye damage/eye irritation - Eye irritation - category 1
- Corrosive to metals - category 1

PICTOGRAMS



Signal Word

DANGER

Hazards statements (H)

- Causes severe skin burns and eye damage
- Causes serious eye damage
- May be corrosive to metals

Precautionary statements (P)

- Do not breathe mists, gases, vapors and other fumes, or the product itself.
- Wash thoroughly after handling.
- Wear protective gloves (nitrile, butyl, neoprene), protective clothing and eye and face protection.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse with water.
- Wash contaminated clothing before reuse.
- IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- Immediately call a POISON CENTER or a physician.
- Specific treatment (see section 4 on the SDS on this label).
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Store locked up.
- Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company.
- Keep only in original container.
- Absorb spillage to prevent material damage.
- Store in a corrosion resistant container or a container with corrosion resistant liner.

Other dangers

NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)

Health	2
Fire	0
Reactivity	0
Special danger	

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Component	No. CAS	% Weight
Sulfuric acid	7664-93-9	5%

SECTION 04 - FIRST AID MEASURE

Eye contact	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
Skin contact	Wash skin with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation persists, seek medical attention.
Inhalation	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	If the person is conscious, give water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
Most important symptoms and effects (acute and delayed)	The product is a corrosive material. When concentrated, high exposure to the product causes the following main symptoms: Chemical burns of the skin, eyes and respiratory and digestive mucous membranes. Skin, eye and respiratory system irritation. The corrosive effect will outweigh the toxicity for the concentrated product. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated. Ref. section 11.
Immediate medical attention and special treatment, if necessary	Treat according to symptoms. Show this sheet to the attending physician.

SECTION 05 - FIREFIGHTING MEASURES

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Do not use a jet of water.
Combustion products	Hazardous combustion products formed under fire conditions: Sulfur oxides.
Specific hazards of the dangerous product	When concentrated, the product reacts according to the following characteristics: May react violently with incompatible products (Ref Section 10).
Special protective equipment and precautions for firefighters	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

SECTION 06 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency measures	Evacuate personnel to safe areas. When handling, wear appropriate safety equipment (reference Section 8 for protective equipment to be used). Ensure a good ventilation. Use NIOSH cartridge respiratory protection if necessary or for larger spills.
Methods and materials for containment and cleaning up	Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Dispose of residues in a container for disposal of hazardous materials. Discharge into the environment must be avoided.

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry, and well-ventilated place. Keep container tightly closed and store away from heat, moisture, and incompatible products (ref. section 10).
Methods of handling	This product is corrosive to metals. Do not bottle in a metal container. Avoid contact withh eyes, skin and clothing. Avoid ingestion and inhalation. Wear personal protective equipment (ref. section 8) when handling. Always ensure good ventilation. Apply the usual standard hygiene rules: Wash your hands after use. Do not eat or drink during use.

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Control parameters	Value	Basis
Sulfuric acid	7664-93-9	TWA	0.2 mg/m3	Canada. British Columbia OEL
Remarks	ACGIH 'A2' applies to those substances that are considered suspected human carcinogens. IARC '1' applies to substances categorized as carcinogenic to humans, and used when there is sufficient evidence of carcinogenicity in humans.			
		TWAEV	0.2 mg/m3 (thoracic fraction FTor)	Canada. Ontario OELs
		STEV	3 mg/m3	Canada. Ontario OELs
		STEL	3 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	1 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	0.2 mg/m3 (thoracic fraction FTor)	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.2 mg/m3 (thoracic fraction FTor)	USA. ACGIH Threshold Limit Values (TLV)

Data origin	CNESST Sigma-Aldrich (Millipore Sigma) Ontario Regulation 833.
Respiratory	If work under the hood is not possible, or if the permissible levels are exceeded, use NIOSH cartridge respiratory protection, or an air-supplied respirator.
Gloves	Gloves resistant to acidic corrosive materials. Suggested material: Nitrile. Neoprene. Butyl. The type, thickness and length of the glove must be chosen according to the use, the concentration of the product, as well as the duration of use. Replace gloves regularly for better protection.
Eyes	Safety goggles with safety shutters.
Shoes	Use safety shoes.
Clothes	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Engineering control	Use fan. Recirculation is prohibited. Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless
Odour	Data not available
Odour threshold	0,15 ppm (H2SO4)
Melting point and freezing point	Data not available
Boiling point	Data not available
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Flash point	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
pH	<1
Kinematic viscosity	Data not available
Solubility	Soluble in water
Partition coefficient water/n-octanol	Data not available
Vapour pressure	1.33 hPa (145.8 °C) (H2SO4)
Relative density	1.03g/ml @20°C
Vapour density	3.4 - (Air = 1.0) (H2SO4)
Particle characteristics	Not applicable

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Acid product, reacts strongly with strong bases. Reacts strongly with metals. May react violently with incompatible substances.
Chemical stability	Darkens if exposed to light.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions to avoid	Avoid moisture. Avoid contact with incompatible materials and extreme temperatures. Exposure to light.
Incompatible materials	When pure, the product reacts with the following products: Bases. Water. Metals. Reducing agents. Combustible organic materials. Nitrogen compounds. Carbides. Chlorates and perchlorates. Bromates. Chromates. Cyanides. Ferrocyanides. Fulminates. Glycerides. Halides. Nitrites. Nitrates. Permanganates. Nitromethane. Phosphorus. Sulfides. Peroxides. Heat and humidity. Violent reaction with: Hexalithium disilicide. Amines. Phosphorous(III) oxide. Aniline. Alkaline earth metals. Alkali metals. Metal powders. Halogens. Oxyhalogenic compounds. Nitrogen compounds. Nitriles.
Hazardous decomposition products	Sulfur oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

SULFURIC ACID (1.0N / 0.5M)

Routes of exposure	Ingestion, inhalation, skin and eye contact.
Acute exposition effects / symptoms:	By exposure route below. The corrosive effect will outweigh the toxicity for the concentrated product.
- Eyes	Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
- Skin	Severe burns and tissue ulcerations. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
- Inhalation	To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
Acute toxicity (Ingestion)	Corrosion and ulceration of the mouth, throat, esophagus, stomach and abdominal wall. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
Chronic exposure effects / symptoms	To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	ETA Mix (Estimated Acute Toxicity): LD50 Oral - >5000mg/kg. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	ETA Mix (Estimated Acute Toxicity) LC50 Inhalation - Mouse - 4 h - 17500mg/m3.

SULFURIC ACID

Routes of exposure	Ingestion, inhalation, skin and eye contact.
Acute exposition effects / symptoms:	By exposure route below. The corrosive effect will outweigh the toxicity for the concentrated product.
- Eyes	Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.
- Skin	Severe burns and tissue ulcerations. Perhaps fatal, if the extent of the burns is considerable.
- Inhalation	Spasms. Irritation and inflammation of the nose, throat and lungs. Edema of the larynx and bronchi. Chemical pneumonitis. Pulmonary edema. Can lead to death.
Acute toxicity (Ingestion)	Corrosion and ulceration of the mouth, throat, esophagus, stomach and abdominal wall. Dysphagia. Damage to the kidneys. Abdominal pain. Cramps. Diarrhea. Melena. Hematemesis. Anuria. Possible perforation of the esophagus and stomach. Convulsions. Salivation. Stupor. Circulatory collapse. Loss of consciousness. Coma. Can lead to death.
Chronic exposure effects / symptoms	Burning sensation. Dermatitis. Dyschromia. Conjunctivitis. Lung damage. Eye damage. Chest pain. Digestive problems. Teeth discoloration. Cough. Dyspnoea. Laryngitis. Emphysema. Tracheobronchitis. Headache. Dizziness. Fever. Salivation. Tremors. Muscle weakness. Paleness. Loss of appetite. Weight loss. Convulsions. Nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 2140mg/kg. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	LC50 Inhalation - Mouse - 4 h - 850 mg/m3.

SECTION 12 - ECOLOGICAL INFORMATION

SULFURIC ACID (1.0N / 0.5M)

Ecotoxicity	Data not available.
Persistence and degradability	Not applicable for inorganic substances.
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility in the environment due to its solubility in water.
Other adverse effects	Data not available.

SULFURIC ACID

Ecotoxicity	Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 42mg/L-96h. Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 29mg/l - 24h.
Persistence and degradability	Not applicable for inorganic substances.
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility in the environment due to its solubility in water.
Other adverse effects	Data not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

SECTION 14 - TRANSPORT INFORMATION

UN Number	2796
UN Proper shipping name	SULFURIC ACID with not more than 51% acid
Transport hazard class(es)	Corrosive materials 8
Packing group	II
Limited quantity index	1 L
ERAP Index	-
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	- Skin corrosion/irritation - Skin corrosion - category 1 - Serious eye damage/eye irritation - Eye irritation - category 1 - Corrosive to metals - category 1

SECTION 16 - OTHER INFORMATION

CNESST: Commission des normes, de l'équité et de la santé et sécurité au travail
NIH: National institute of health (U.S. Naltional Library of Medecine)
ECHA: Agence Européenne de Chimie
ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
VECD: Valeur d'exposition courte durée
VEMP: Valeur d'exposition moyenne pondérée
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TLV : Threshold limit value
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
RSST: Règlement sur la santé et sécurité au travail (Québec)
INRS: l'Institut national de recherche et de sécurité pour la prévention des accidents du travail et des maladies professionnelles (France)

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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