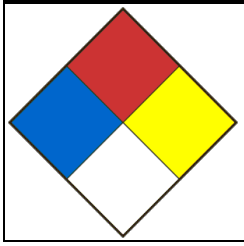
Centre Anti-Poison pour le Québec: (800) 463-5060
Tél. (Qc): (418) 660-8666 / 800-890-8666
Fax. (Qc): (418) 660-8998

SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier SULFURIC ACID, FUMING (20% free SO3)		**Product Use** Laboratory use	
Chemical formula $H_2SO4•(SO_3)x$		**Product code** SR-0186	**Molar weight** 178,15
Chemical name / Commercial name / Synonymous Sulfuric acid fuming; OLEUM; Acide sulfurique fumant (20% de SO3 libre)			
Supplier's name Laboratoire MAT		**Address-Street** 610, Adanac Street	
City Québec		**Province** Québec	
Postal code G1C 7B7	**Internet** www.labmat.com	**Phone number** 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666	CENTRE ANTI-POISON DU QUÉBEC 800-463-5060	
Date SDS 10/5/2022	**SDS Prepared by** Laboratoire MAT	**E-Mail** labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Skin corrosion/irritation - Skin corrosion category 1A Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Inhalation category 2 Specific target organ toxicity - Single exposure category 3 Physical hazard not otherwise classified category1
Signal Word	DANGER
Hazards statements (H)	H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H330 Fatal if inhaled. H335 May cause respiratory irritation. Other physical hazard not elsewhere classified: Reacts violently on contact with water.
Precautionary statements (P)	P260 Do not breathe dust / fume / gas / mist / vapors / spray. P261 Avoid breathing dust / fume / gas / mist / vapors / spray. P264 Wash the areas of the body that have been in contact with the product after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 Wear respiratory protection. P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P320 Specific treatment is urgent (see section 4 on this SDS on this label). P321 Specific treatment (see section 4 of the SDS and on this label). P363 Wash contaminated clothing before reuse. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company. Caution is required.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	**Health** 3 **Fire** 1 **Reactivity** 2 **Special danger** EAU

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Acide sulfurique Trixyde de soufre	7664-93-9 7446-11-9	80 20

SECTION 04 - FIRST AID MEASURES

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 soiled 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 material corrosive. Main symptoms of high exposure: Causes burns, regardless of exposure routes. The corrosive effect will outweigh the toxicity for the concentrated product. Lungs damage. Chemical burns of the skin, eyes and respiratory and digestive mucous membranes. Eye damage. Effects may be delayed. Ref. section 11.
Immediate medical attention and special treatment, if necessary	In case of medical consultation, keep this sheet available.
General advice	Show this safety data sheet to the doctor in attendance.

SECTION 05 - FIREFIGHTING MEASURES

Flammability	No
Ignition conditions	Heat, sparks and open flame. Risk of fire or explosion in the presence of combustible and organic products.
Suitable extinguishing media	Carbon dioxide or dry powder.
Unsuitable extinguishing media	Do not use water neither foam.
Hazardous combustion products	Hazardous combustion products formed under fire conditions: - Sulphur oxides
Special fire and explosion hazards	Reacts violently with water. Risk of fire or explosion if heated in the presence of combustible products. 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

Methods and materials for containment and cleaning up / Personnal precautions, protective equipment	Evacuate personnel to safe areas. Recommended distance: at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. Ensure a good ventilation of the premises. Cut off all sources of ignition. Use water spray to reduce steam; do not put water directly on the product. Absorb the product with sand or vermiculite. When handling, wear appropriate safety equipment. Use a respirator as needed. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains.

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in cool place. Hygroscopic. Keep container tightly closed and store away from heat, water, moisture, and incompatible products. Protect from the sun's rays. Reacts violently with water. Keep container tightly closed in a dry and well-ventilated place.
Methods of handling	Avoid contact with water. Corrosive. Wash thoroughly after handling. Avoid contact with the skin, eyes and clothes. Avoid ingestion and inhalation. Ensure good ventilation. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14)

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Value	Control parameters	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	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	1 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEL	3 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.2 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

Data source	Sigma-Aldrich (Millipore Sigma)
Ventilation	Fan.
Respiratory	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
Gloves	Handle with gloves.
Eyes	Safety goggles with safety shutters.
Shoes	Safety shoes.
Clothing	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	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.
Appearance	Liquide incolore.
Odour	Donnée non disponible.
Odour threshold	Data not available
pH	Donnée non disponible.
Melting point / Freezing point	0°C
Initial boiling point	140°C
Boiling range	Data not available
Flash point	Data not available
Evaporation rate	Data not available
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	7 hPa à 37.7 °C (99.9 °F); 3 hPa à 25 °C(77 °F).
Vapour density	3.39 - (Air = 1.0).
Relative density	1.925g/ml à 25°C
Solubility	Soluble dans l'eau.
Partition coefficient water/n-octanol	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
Viscosity	Data not available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Material may react violently with water. Acid product, reacts strongly with strong bases. Reacts strongly with metals. Oxidizer: risk of fire in case of contact with combustible / organic substance.
Chemical stability	Reacts with water. Hygroscopic. Sensitive to light.
Possibility of hazardous reactions	May react violently with incompatible substances. Risk of fire or explosion if heated or crushed in presence of combustible or organic products.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Avoid contact with incompatible materials and extreme temperatures. This product darkens when exposed to light. Avoid exposure to air, light and moisture.
Incompatible material	Water, metals, alcohols, reducing agents, bases, organic and combustible materials, azides, bromates, carbides, chlorates, chromates, cyanides, ferrocyanides, fulminates, glycerides, halides, nitrates, nitrites, permanganates, perchlorates, picrates, sulphides, hydrogen peroxide, nitromethane, phosphorus, heat and moisture. Metal acetylides. Acetonitrile.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Sulphur oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

SULFURIC ACID, FUMING (20% FREE SO3)

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below. The corrosive effect will outweigh the toxicity for the concentrated product. Product is extremely destructive to mucosal, upper respiratory, eye and skin tissues
- Eyes	Severe burns and corrosion of ocular tissue that may lead to corneal ulceration and blindness.
- Skin	Severe burns and tissue ulcerations. May be fatal, if the extent of the burns is considerable. Contact effects may be delayed.
- Inhalation	Spasms, irritation and inflammation of the nose, throat and lungs. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death.
Acute toxicity (Ingestion)	Corrosion and ulceration of the mouth, throat, esophagus, stomach and abdominal wall. Dysphagia, kidney damage, abdominal pain, cramps, diarrhea, melena, hematemesis, anuria, possible perforation of the esophagus and stomach, convulsions, salivation, stupor, circulatory collapse, unconsciousness, coma and can lead to death .
Chronic exposure effects / symptoms	Burning sensation, dermatitis and dyschromia, conjunctivitis, lung and eye damage, chest pain, digestive disorders, tooth abrasion, cough, dyspnea, laryngitis, emphysema, tracheobronchitis, headache, dizziness, fever, salivation tremors, paleness, muscle weakness, weight loss and loss of appetite, seizures, nausea and vomiting. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Data not available. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - 0.696 mg/L. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Sulfuric acid: Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h
Persistence and degradability	The methods for determining the biological degradability are not applicable to inorganic substances.
Bioaccumulative potential	Data not available.
Mobility in soil	Data not available.
Other adverse effects	Data not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

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

SECTION 14 - TRANSPORT INFORMATION

UN Number	1831
UN Proper shipping name	ACIDE SULFURIQUE FUMANT
Transport hazard class(es)	8 Corrosive substances 6.1 Toxic substances
Packing group	I
Limited quantity index	0L
ERAP Index	-
Special precautions	168

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Skin corrosion/irritation - Skin corrosion category 1A Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Inhalation category 2 Specific target organ toxicity - Single exposure category 3 Physical hazard not otherwise classified category1

SECTION 16 - OTHER INFORMATION

Further information

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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