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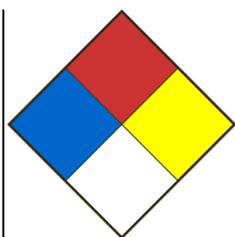
SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier ACETIC ANHYDRIDE		Product Use Laboratory use	
Chemical formula CH ₃ COOCOCH ₃		Product code AR-0104	Molar weight 102,09
Chemical name / Commercial name / Synonymous ACETIC ANHYDRIDE, ACETIC OXYDE, ACETYL ANHYDRIDE, ACETYL OXIDE, ACETYL ETHER, ANHYDRATE ÉTHANOÏQUE, HYDROXYBIACÉTYLE, ANHYDRIDE D'ACIDE ÉTHANOÏQUE			
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 7/22/2019	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	<p>Flammable liquids category 3</p> <p>Acute toxicity - Oral category 4</p> <p>Skin corrosion/irritation - Skin corrosion category 1B</p> <p>Serious eye damage/eye irritation - Serious eye damage category 1</p> <p>Acute toxicity - Inhalation category 2</p>
Signal Word	<p>DANGER</p>
Hazards statements (H)	<p>H226 Flammable liquid and vapour.</p> <p>H302 Harmful if swallowed.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H318 Causes serious eye damage.</p> <p>H330 Fatal if inhaled.</p>
Precautionary statements (P)	<p>P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.</p> <p>P233 Keep container tightly closed.</p> <p>P240 Ground/bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical/ventilating/lighting equipment.</p> <p>P242 Use only non-sparking tools.</p> <p>P243 Take precautionary measures against static discharge.</p> <p>P260 Do not breathe dust / fume / gas / mist / vapours / spray.</p> <p>P264 Wash the areas of the body that have been in contact with the product after handling.</p> <p>P270 Do no eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.</p> <p>P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER or doctor/physician.</p> <p>P321 Specific treatment (see section 4 of the SDS and on this label).</p> <p>P330 Rinse mouth.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P403 + P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.</p> <p>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P370 + P378 In case of fire: Use water spray or alcohol-resistant foam, or dry powder or carbon dioxide for extinction.</p> <p>P284 Wear respiratory protection.</p> <p>P320 Specific treatment is urgent (see section 4 on this SDS on this label).</p>
PICTOGRAMS	
Other dangers	<p>NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)</p>



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 (%)
Anhydride acétique	108-24-7	<=100

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)	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	Yes
Ignition conditions	Flame directly on the product or intense heat.
Suitable extinguishing media	Minor fire: carbon dioxide and dry chemical powder. Major fire: polymer foam. NOTE: the use of dry chemical agents can produce scum.
Unsuitable extinguishing media	The product reacts with water and will generate heat. Avoid water in straight hose stream; will scatter and spread fire.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. - Carbon Oxides.
Special fire and explosion hazards	Combustible liquid. Steam can travel a great distance and ignite on sources of ignition such as heaters, electrical appliances, cigarettes, sparks, etc. Vapor-air mixtures are explosive above the flash point (54 ° C). In contact with water, this product gives off heat and decomposes into acetic acid. Acetic anhydride may react violently with the following products: acetic acid + water, hydrochloric acid + water, perchloric acid + water, ethanol + sodium bisulfate, Barium peroxide, boric acid, chromic acid, chromium trioxide, hydrogen peroxide, metallic nitrates and potassium permanganate. Risk of ignition in contact with combustible substances (wood, oil, paper). 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. Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Heat may cause the containers to explode. During fire, gases hazardous to health may be formed.

SECTION 06 - ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up / Personal precautions, protective equipment	Evacuate personnel to safe areas. Cut off all sources of ignition. Eliminate all sources of inflammation. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Use breathing apparatus if necessary. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry place. Keep container tightly closed in a dry and well-ventilated place. Keep away from sources of ignition - No smoking. Take measures to prevent the accumulation of electrostatic charges. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Reacts violently with water. Protect from the sun's rays.
Methods of handling	Always open containers slowly to allow any excess pressure to vent. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Do not use tools that produce sparks. Take measures to prevent the build up of electrostatic charge. Protect material from direct sunlight Use a hood preferably. 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
Acetic anhydride	108-24-7	TWA	1.000000 ppm	Canada. British Columbia OEL
		CEV	5.000000 ppm 21.000000 mg/m ³	Canada. Ontario OELs
		(c)	5.000000 ppm 21.000000 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		TWAEV	5.000000 ppm 21.000000 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWAEV	5 ppm 21 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		C	5.000000 ppm 21.000000 mg/m ³	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
	Denotes a chemical agent listed in Table 1 of Ontario Regulation 490/09 (Designated Substances) made under the Act. See clause 2 (2) (a) of this Regulation.			
	STEL 3.000000 ppm Canada. British Columbia OEL			
		TWA	1 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	1.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	3.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)

Data source	Sigma-Aldrich (Millipore Sigma)
Ventilation	Fan.
Respiratory	If work under the hood is not possible, or 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	Incolore.
Odour	Âcre.
Odour threshold	0.1 ppm
pH	Acide.
Melting point / Freezing point	-73°C
Initial boiling point	138-140°C
Boiling range	Data not available
Flash point	49°C
Evaporation rate	0.46%
Flammability	Yes
Lower flammable / Explosive limit	2.7%
Upper flammable / Explosive limit	10.3%
Vapour pressure	4.0 mm @ 20°CmmHg
Vapour density	3.52 (air = 1.0)-
Relative density	1.082g/cm ³
Solubility	Miscible avec l'eau (120g/l à 20°C), l'alcool, le chloroforme et l'éther.
Partition coefficient water/n-octanol	Log Pow : env.-0.27-
Auto-ignition temperature	316°C
Decomposition temperature	Data not available
Viscosity	Data not available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Heat, flames and sparks. Reacts violently with water. Keep the container tightly closed.
Incompatible material	Strong oxidizing agents (nitric acid, perchloric acid, peroxides, chlorates and perchlorates), strong reducing agents (potassium, sodium, hydrides of metals), strong acids, alcohols, amines, 2-aminoethanol, aniline, bases, ethylenediamine, glycerin, fine metal powders, metal nitrates, permanganates, heat, water and moisture.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Toxic vapors of carbon monoxide and dioxide.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACETIC ANHYDRIDE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe irritation and burning of the eye tissue that may lead to corneal and conjunctival edema. Product is extremely destructive to mucosal, upper respiratory, eye and skin tissues
- Skin	Severe irritation and tissue burn. Exposure can also lead to sensitization dermatitis with vesicular lesions. Product is extremely destructive to mucosal, upper respiratory, eye and skin tissues
- 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. The product is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Acute toxicity (Ingestion)	Irritation and burning of the mouth, throat, esophagus and abdominal wall. Dysphagia, abdominal pain, cramps, diarrhea, melena, salivation, sweating, convulsions, stupor, respiratory collapse, coma and can lead to death. Product is extremely destructive to mucosal, upper respiratory, eye and skin tissues
Chronic exposure effects / symptoms	Burning sensation, sensitization dermatitis, conjunctivitis, photophobia, nervous disorders, chest pain, cough, dyspnoea, bronchitis, headache, dizziness, tearing, confusion, irritability, fatigue, muscle weakness, weight loss and loss of appetite, convulsions, nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 1780 mg/kg. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	CL50 inhalation - Rat 1000 ppm/4 h.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	LC50 - Leuciscus idus (Golden orfe) - 265 mg/l - 48 h - mortality EC50 - Algae: 300.82 - 1000 mg/l - 72 h
Persistence and degradability	Data not available.
Bioaccumulative potential	No bioaccumulation is to be expected (log Pow <= 4).
Mobility in soil	Data not available.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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	1715
UN Proper shipping name	ANHYDRIDE ACÉTIQUE
Transport hazard class(es)	8 Corrosive substances 3 Flammable liquids
Packing group	II
Limited quantity index	1L
ERAP Index	3000
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Flammable liquids category 3 Acute toxicity - Oral category 4 Skin corrosion/irritation - Skin corrosion category 1B Serious eye damage/eye irritation - Serious eye damage category 1 Acute toxicity - Inhalation category 2
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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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