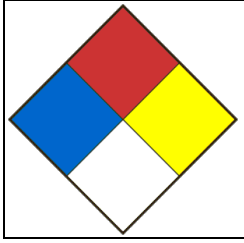
Centre Anti-Poison pour le Québec: (800) 463-5060
Tél. (Qc): (418) 660-8666 / 800-890-8666
Fax. (Qc): (418) 660-8998

SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier MALEIC ANHYDRIDE		**Product Use** Laboratory use	
Chemical formula OCCH=CHCOO		**Product code** MR-0110	**Molar weight** 98,06
Chemical name / Commercial name / Synonymous MALEIC ANHYDRIDE, 2,5-FURANDIONE, cis-BUTENEDIOIC ANHYDRIDE, MALEIC ACID ANHYDRIDE, TOXILIC ANHYDRIDE			
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 8/21/2020	**SDS Prepared by** Laboratoire MAT	**E-Mail** labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Acute toxicity - Oral category 4 Skin corrosion/irritation - Skin corrosion category 1B Serious eye damage/eye irritation - Serious eye damage category 1 Respiratory or skin sensitization - Respiratory sensitizer category 1 Respiratory or skin sensitization - Skin sensitize category 1 Specific Target Organ Toxicity - Repeated exposure category 1
Signal Word	DANGER
Hazards statements (H)	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H372 Causes damage to organs through prolonged or repeated exposure.
Precautionary statements (P)	P260 Do not breathe dust / fume / gas / mist / vapours / spray. P261 Avoid breathing dust / fume / gas / mist / vapours / spray. P264 Wash the areas of the body that have been in contact with the product after handling. P270 Do no eat, drink or smoke when using this product. 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. P321 Specific treatment (see section 4 of the SDS and on this label). P330 Rinse mouth. P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P362 + P364 Take off contaminated clothing and wash it before reuse. P363 Wash contaminated clothing before reuse. P405 Store locked up. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company. P272 Contaminated work clothing should not be allowed out of the workplace. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P333 + P313 If skin irritation or rash occurs: Get medical advice/attention. P314 Get medical advice/attention if you feel unwell.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	**Health** 3 **Fire** 1 **Reactivity** 1 **Special danger**

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Anhydride maléique	108-31-6	<=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	Do NOT induce vomiting. If the person is conscious, rinse the mouth with water. 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	No
Ignition conditions	Non flammable. May ignite if heated strongly and in the presence of an ignition source.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Do not use a concentrated stream of water that could spread fire.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. Carbon oxides.
Special fire and explosion hazards	May react violently with incompatible products (Ref Section 10). Maleic anhydride in high concentration in the air is capable of creating a dust explosion. A polymerization and decarboxylation reaction can occur in the presence of amines or alkali metals at a temperature above 150 ° C. The concentration of impurities needed to cause decomposition is as low as 200 ppm. The exothermic reaction occurs precipitously by the effect of the gases thus created. Violent reactions with bases (calcium hydroxide, potassium , sodium, magnesium), lithium or other alcalis metals and pyridine.
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. Ensure adequate ventilation. Use personal protective equipment. Pick up with a shovel or broom, taking care not to scatter dust. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Protect from the sun's rays. Moisture sensitive. Keep away from oxidizing materials and bases.
Methods of handling	Avoid contact with the skin, eyes and clothes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust or vapor is formed. 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.	Control parameters	Value	Basis
Maleic anhydride	108-31-6	TWA	0.100000 ppm 0.400000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	0.100000 ppm	Canada. British Columbia OEL
Remarks	Sensitizer: sensitization critical effect			
		TWAEV	0.100000 ppm	Canada. Ontario OELs
		TWAEV	0.250000 ppm 1.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Sensitizer			
		TWAEV	0.25 ppm 1 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Sensitizer			
	TWA 0.100000 ppm USA. ACGIH Threshold Limit Values (TLV)			
		TWA	0.010000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.01 ppm	USA. ACGIH Threshold Limit Values (TLV)

Data source	Sigma-Aldrich.
Ventilation	Use 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	Use 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	Solid.
Appearance	Blanche.
Odour	Piquante.
Odour threshold	0.32ppm
pH	Données non disponibles.
Melting point / Freezing point	54-56°C
Initial boiling point	200°C
Boiling range	Data not available
Flash point	103°C
Evaporation rate	Data not available
Flammability	No
Lower flammable / Explosive limit	1.4%
Upper flammable / Explosive limit	7.1%
Vapour pressure	0.2 hPa à 22 °C.
Vapour density	3.38 (air=1).
Relative density	1.48g/cm³
Solubility	Soluble dans l'eau et l'alcool.
Partition coefficient water/n-octanol	log Pow: -2.61 à 20 °C-
Auto-ignition temperature	477°C
Decomposition temperature	290°C
Viscosity	0.61 à 60°C.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions. Moisture sensitive.
Possibility of hazardous reactions	Stable under normal conditions. Avoid dust formation.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	This product may decompose if exposed to moisture from the air or water. Avoid excessive heat. Avoid contact with incompatible materials.
Incompatible material	Strong oxidizing agents (nitric acid, perchloric acid, peroxides, chlorates and perchlorates), strong reducing agents, alkali metals, metal hydrides, strong acids and bases, amines, alcohols, pyridine , water, heat and humidity.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Carbon oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

MALEIC ANHYDRIDE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe irritation and burning may cause permanent eye damage.
- Skin	Severe irritation and dermatitis. Immediate burns if the skin is wet. May cause an allergic reaction characterized mainly by erythematous lesions.
- 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. L'exposition intense peut également provoquer une sensibilisation respiratoire caractérisée par des accès de dyspnée (asthme).
Acute toxicity (Ingestion)	Irritation and burning of the mouth, throat, esophagus and abdominal wall. Intense exposure may also cause respiratory sensitization characterized by bouts of dyspnea (asthma).
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, nervous disorders, lung and eye damage, respiratory and skin allergies, chest pain, cough, dyspnoea, bronchitis, headache, dizziness, tearing, photophobia, double vision, runny nose, sneezing, sweating, salivation, erythema, asthma, fatigue, weight loss and loss of appetite, seizures, nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 1090 mg/kg. LD50 Dermal - Rabbit - 2620 mg/kg.
CL50 (specify species and route of entry)	CL50 inhalation - Rat >4.35 mg/L - 1 h.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	LC50 - Lepomis macrochirus - Static test: 75 mg/L - 96 h EC50 - Daphnia magna (Water flea) - Static test: 42.81 mg/L - 48 h. EC50 - Desmodesmus subspicatus (green algae) - 29 mg/L - 72 h.
Persistence and degradability	Aerobic Biodegradability - Duration of exposure 25 d Result:> 90% - Readily biodegradable. (OECD Guideline 301 B) Remarks: (by analogy to similar compounds).
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility in the environment due to its solubility in water.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life. All littering must be avoided in the environment.

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	2215
UN Proper shipping name	ANHYDRIDE MALÉIQUE
Transport hazard class(es)	8 Corrosive substances
Packing group	III
Limited quantity index	5kg
ERAP Index	-
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Acute toxicity - Oral category 4 Skin corrosion/irritation - Skin corrosion category 1B Serious eye damage/eye irritation - Serious eye damage category 1 Respiratory or skin sensitization - Respiratory sensitizer category 1 Respiratory or skin sensitization - Skin sensitize category 1 Specific Target Organ Toxicity - Repeated exposure category 1

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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