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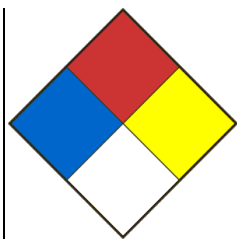
## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier CHLOROFORM		Product Use Laboratory use	
Chemical formula CHCl <sub>3</sub>		Product code CR-0179 ; CH-0104; CS-0804	Molar weight 119,38
Chemical name / Commercial name / Synonymous CHLOROFORM, TRICHLOROMETHANE, FORMYL TRICHLORIDE, METHANE TRICHLORIDE, METHENYL TRICHLORIDE, METHYL TRICHLORIDE, TRICHLOROFORM, TCM			
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 6/19/2019	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

## SECTION 02 - HAZARDS IDENTIFICATION

<b>Classification WHIMS / GHS</b>	<p>Specific target organ toxicity - Single exposure category 3</p> <p>Specific Target Organ Toxicity - Repeated exposure category 1</p> <p>Acute toxicity - Oral category 4</p> <p>Acute toxicity - Inhalation category 3</p> <p>Skin corrosion/irritation - Skin irritation category 2</p> <p>Serious eye damage/ Eye irritation category 2A</p> <p>Carcinogenicity category 2</p> <p>Reproductive toxicity category 2</p>
<b>Signal Word</b>	<p>DANGER</p>
<b>Hazards statements (H)</b>	<p>H302 Harmful if swallowed.</p> <p>H315 Causes skin irritation.</p> <p>H319 Causes serious eye irritation.</p> <p>H331 Toxic if inhaled.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H351 Suspected of causing cancer.</p> <p>H361 Suspected of damaging fertility or the unborn child.</p> <p>H372 Causes damage to organs through prolonged or repeated exposure.</p>
<b>Precautionary statements (P)</b>	<p>P201 Obtain special instructions before use.</p> <p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P260 Do not breathe dust / fume / gas / mist / vapours / spray.</p> <p>P261 Avoid breathing 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 not 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>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</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>P308 + P313 IF exposed or concerned: Get medical advice/attention.</p> <p>P311 Call a POISON CENTER or doctor/physician.</p> <p>P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P314 Get medical advice/attention if you feel unwell.</p> <p>P321 Specific treatment (see section 4 of the SDS and on this label).</p> <p>P330 Rinse mouth.</p> <p>P332 + P313 If skin irritation occurs: Get medical advice/attention.</p> <p>P337 + P313 If eye irritation persists: Get medical advice/attention.</p> <p>P362 + P364 Take off contaminated clothing and wash it before reuse.</p> <p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</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>
<b>PICTOGRAMS</b>	
<b>Other dangers</b>	<p>NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Significant; 4=Extreme)</p>



Health 3  
Fire 0  
Reactivity 0  
Special danger

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Chloroforme	67-66-3	<=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, drink water and 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	No
Ignition conditions	Not flammable or combustible.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Data not available.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. Carbon oxides. Hydrogen chloride gas. Phosgene (carbonyl dichloride)
Special fire and explosion hazards	Violent reactions with acetone, perchloric acid, aluminum, hydroxides, lithium, magnesium, sodium methoxide, phosphorus pentoxide, potassium tert-butoxide and tetroxide nitrogen. Mixing chloroform with sodium or potassium metal and sodium methoxide may cause an explosion. 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 / Personal precautions, protective equipment	Evacuate personnel to safe areas. Avoid breathing vapours, mist or gas. 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 and store away from heat, moisture, and incompatible products. Protect from light and sunlight. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Methods of handling	Bottle in the glass only. Always open containers slowly to allow any excess pressure to vent. Avoid inhalation of vapour or mist. 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

	CAS-No.	Value	Control parameters	Basis
Chloroform	67-66-3	TWA	10.000000 ppm 49.000000 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	2.000000 ppm	Canada. British Columbia OEL
Remarks	IARC '2B' applies to substances deemed possibly carcinogenic to humans. Adverse reproductive effect			
		TWAEV	5.000000 ppm 24.400000 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	A substance which may not be recirculated in accordance with section 108 A substance to which exposure must be reduced to a minimum in accordance with section 42 Carcinogenic effect suspected in humans			
		TWA	10.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)

<b>Data source</b>	Sigma-Aldrich.
<b>Ventilation</b>	Use fan.
<b>Respiratory</b>	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.
<b>Gloves</b>	Handle with gloves.
<b>Eyes</b>	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Face shield (20 cm minimum).
<b>Shoes</b>	Safety shoes.
<b>Clothing</b>	Labcoat. Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Engineering control</b>	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

<b>Physical state</b>	Liquid.
<b>Appearance</b>	Liquide incolore-
<b>Odour</b>	Odeur étherée.
<b>Odour threshold</b>	Data not available
<b>pH</b>	Donnée non disponible.
<b>Melting point / Freezing point</b>	-63.5°C
<b>Initial boiling point</b>	61.2°C
<b>Boiling range</b>	60.5 - 61.5°C
<b>Flash point</b>	Donnée non disponible-
<b>Evaporation rate</b>	11.6 (Butyl Acetate = 1.0).
<b>Flammability</b>	No
<b>Lower flammable / Explosive limit</b>	Data not available
<b>Upper flammable / Explosive limit</b>	Data not available
<b>Vapour pressure</b>	213.3 hPa (160.0 mmHg ) à 20.0 °C-
<b>Vapour density</b>	4.12 (Air =1)-
<b>Relative density</b>	1.48-1.49g/ml
<b>Solubility</b>	Peu soluble dans l'eau. Miscible avec l'alcool, le benzène et l'éther.
<b>Partition coefficient water/n-octanol</b>	log Pow: 1.97-
<b>Auto-ignition temperature</b>	Data not available
<b>Decomposition temperature</b>	Data not available
<b>Viscosity</b>	0.56 mPas @ 20 °C-

## SECTION 10 - STABILITY AND REACTIVITY

<b>Reactivity</b>	Non-reactive under normal conditions.
<b>Chemical stability</b>	Stable under recommended storage conditions. Sensitive to light
<b>Possibility of hazardous reactions</b>	Stable under normal conditions.
<b>Conditions of instability (Including sensitivity to shock / static discharge / vibration)</b>	Avoid excessive heat and humidity. Heat, flames, sparks. Sun exposure. Exposure to light.
<b>Incompatible material</b>	Oxidizing agents (nitric acid, perchloric acid, peroxides, chlorates and perchlorates), strong bases, acetone, aluminum and its alloys, amines, halogens, lithium, magnesium, methoxide sodium, sodium methoxide, phosphorus pentoxide, potassium, sodium, potassium tert-butoxide, nitrogen tetroxide, heat, moisture and light.
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions. Toxic vapors of hydrogen chloride, carbon monoxide, dioxide and carbon oxychloride (phosgene).

## SECTION 11 - TOXICOLOGICAL INFORMATION

### CHLOROFORM

<b>Routes of exposure</b>	Ingestion, inhalation, skin and eyes.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
<b>- Eyes</b>	Irritation and may cause inflammation of the conjunctiva.
<b>- Skin</b>	Irritation and dermatitis.
<b>- Inhalation</b>	Irritation of the mucous membranes and respiratory tract. Narcotic effects, liver and kidney damage, cough, dyspnea, headache, dizziness, drowsiness, confusion, erythema, photophobia, nausea and vomiting, convulsions, stupor, arrhythmia, hypotension, cardiac or respiratory arrest, and death.
<b>Acute toxicity (Ingestion)</b>	Irritation of the mucous membranes. Narcotic effects, liver, heart and kidney damage, gastrointestinal disorders, cramps, diarrhea, headache, dizziness, drowsiness, confusion, tremors, ketosis and ketonuria, erythema, nausea and vomiting, convulsions, arrhythmia, stupor, loss of consciousness, coma and death.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, dermatitis, conjunctivitis, photophobia, narcotic effects, liver, heart and kidney damage, chest pain, cough, dyspnea, headache, dizziness, drowsiness, confusion, irritability, ataxia, erythema, sweating, salivation, muscle weakness, weight loss and loss of appetite, nausea and vomiting. Absorption of alcohol can increase toxicity. Prolonged exposure to this product may cause cancer and lead to reproductive abnormalities in humans. Is recognized as a possible carcinogen for humans (class 2B) by IARC.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - Rat - 908 - 1 117 mg/kg. Behavioral:Ataxia. LD50 Dermal - Data not available.
<b>CL50 (specify species and route of entry)</b>	LC50 - Inhalation - Rat 47702 mg/m <sup>3</sup> /4 h.

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Toxicity to fish: Flow-through test - LC50 - Danio rerio (zebra fish) - 121 mg/l - 48 h. Static test: LC50 - Pimephales promelas (fathead minnow) - 103 - 171 mg/l - 96 h Flow-through test - LC50 - Oncorhynchus mykiss (rainbow trout) - 18.2 mg/l - 96 h Flow-through test - LC50 - Micropterus dolomieu - 51 mg/l - 96 h. Toxicity for daphnia and the others invertebrates aquatic. Static test: EC50 - Daphnia magna (Water flea) - 79 mg/l - 48 h. Toxicity to algae: Static test: ErC50 - Chlamydomonas reinhardtii (green algae) - 13.3 mg/l - 72 h
<b>Persistence and degradability</b>	Persistence is unlikely based on information available.
<b>Bioaccumulative potential</b>	Data not available.
<b>Mobility in soil</b>	Probable mobility in the environment due to its volatility.
<b>Other adverse effects</b>	Harmful to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## SECTION 13 - DISPOSAL CONSIDERATIONS

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

## SECTION 14 - TRANSPORT INFORMATION

UN Number	1888
UN Proper shipping name	CHLOROFORME
Transport hazard class(es)	6.1 Toxic substances
Packing group	III
Limited quantity index	5L
ERAP Index	-
Special precautions	-

## SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Specific target organ toxicity - Single exposure category 3 Specific Target Organ Toxicity - Repeated exposure category 1 Acute toxicity - Oral category 4 Acute toxicity - Inhalation category 3 Skin corrosion/irritation - Skin irritation category 2 Serious eye damage/ Eye irritation category 2A Carcinogenicity category 2 Reproductive toxicity 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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