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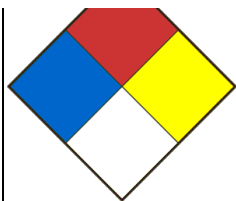
## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier 4-METHYLE-2-PENTANONE (MIBK)		Product Use Laboratory use	
Chemical formula C <sub>6</sub> H <sub>12</sub> O		Product code MR-0223 ;MR-0923; MH-0105	Molar weight 100,16
Chemical name / Commercial name / Synonymous 4-METHYL-2-PENTANONE, METHYL ISOBUTYL KETONE, ISOBUTYL METHYL KETONE, MIBK, HEXONE, ISOPROPYLACETONE, 2-METHYL-4-PENTANONE			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
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Emergency phone	CANUTEC: 613-996-6666		CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS 8/23/2019	SDS Prepared by Laboratoire MAT		E-Mail labmat@labmat.com

## SECTION 02 - HAZARDS IDENTIFICATION

<b>Classification WHIMS / GHS</b>	<p>Flammable liquids category 2</p> <p>Carcinogenicity category 2</p> <p>Acute toxicity - Inhalation category 4</p> <p>Serious eye damage/eye irritation - Eye irritation category 2</p> <p>Specific Target Organ Toxicity - Repeated exposure category 2</p> <p>Aspiration hazard category 1</p> <p>Specific target organ toxicity - Single exposure category 3</p>
<b>Signal Word</b>	<p>DANGER</p>
<b>Hazards statements (H)</b>	<p>H225 Highly flammable liquid and vapour.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H351 Suspected of causing cancer.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H373 May cause damage to organs through prolonged or repeated exposure.</p> <p>H336 May cause drowsiness or dizziness.</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>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>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>P280 Wear protective gloves/protective clothing/eye protection/face protection.</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>P308 + P313 IF exposed or concerned: Get medical advice/attention.</p> <p>P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P337 + P313 If eye irritation persists: Get medical advice/attention.</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>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>P260 Do not breathe dust / fume / gas / mist / vapours / spray.</p> <p>P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.</p> <p>P314 Get medical advice/attention if you feel unwell.</p> <p>P331 Do NOT induce vomiting.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</p>
<b>PICTOGRAMS</b>	
<b>Other dangers</b>	<p>NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Significant; 4=Extreme)</p>
	<p><b>Health</b> 2</p>



Fire 4  
Reactivity 0  
Special danger

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
4-méthyle-2-pentanone	108-10-1	<=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	If breathed in, move person into fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Rinse mouth with water. 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	Strong oxidizing agents, heat, sparks and open flame.
Suitable extinguishing media	Carbon dioxide, dry chemical powder and polymer foam.
Unsuitable extinguishing media	Data not available.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. Carbon monoxide, carbon dioxide.
Special fire and explosion hazards	Steam can travel a great distance and ignite on sources of ignition such as heaters, electrical appliances, cigarettes, sparks, etc. Containers exposed to fire may explode. Vapors may form flammable or explosive mixtures with air. 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	Cut off all sources of ignition. Cover the residues with an activated charcoal absorbent. Clean and rinse with water. Ensure a good ventilation of the premises. Dispose of residues in a container provided for the disposal of hazardous materials. When handling, wear appropriate safety equipment. Use a respirator as needed. 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 strong oxidants, heat, sparks and open flame. Use venting and electrical equipment that is grounded and does not produce ignition sources (sparks). Protect from the sun's rays.
Methods of handling	Bottle in the glass only. Do not use tools that produce sparks. Take measures to prevent the build up of electrostatic charge. 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	No.-CAS	Control parameters	Value	Basis
4-METHYL-2-PENTANONE	108-10-1	TWA	20ppm 205 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		STEL	75ppm; 307 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	20ppm	Canada. British Columbia OEL
		STEL	75ppm	Canada. British Columbia OEL
		IARC '2B' applies to substances deemed possibly carcinogenic to humans.		
		TWAEV	50ppm ; 205mg/m <sup>3</sup>	Canada. Ontario OELs
		STEV	75 ppm	Canada. Ontario OELs
		TWAEV	50ppm; 205mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	75ppm; 307mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

Data source	Sigma-Aldrich.
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	Liquide incolore.
Odour	Sucrée.
Odour threshold	0.1 ppm
pH	5.4 à 14g/L.
Melting point / Freezing point	-80°C
Initial boiling point	117°C
Boiling range	Data not available
Flash point	13°C
Evaporation rate	5.6%
Flammability	Yes
Lower flammable / Explosive limit	1.2% v/v
Upper flammable / Explosive limit	8% v/v
Vapour pressure	15.0 mm @ 20°CmmHg
Vapour density	3.45 (Air=1)-
Relative density	0.801g/cm <sup>3</sup>
Solubility	Peu soluble dans l'eau (20%). Miscible avec l'alcool, le benzène et l'éther..
Partition coefficient water/n-octanol	0.0646-
Auto-ignition temperature	448°C
Decomposition temperature	Data not available
Viscosity	0.406-0.585mpas

## SECTION 10 - STABILITY AND REACTIVITY

<b>Reactivity</b>	Non-reactive under normal conditions.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	Keep away from open flames, hot surfaces and sources of ignition. Vapours may form explosive mixture with air. May react violently with incompatible substances.
<b>Conditions of instability (Including sensitivity to shock / static discharge / vibration)</b>	Avoid excessive heat. Heat, flames and sparks. Avoid contact with incompatible materials. Avoid the accumulation of static electricity.
<b>Incompatible material</b>	Strong oxidizers, strong bases. Strong reducing agents. Potassium tert-butoxide.
<b>Hazardous decomposition products</b>	Toxic vapors of carbon monoxide and dioxide.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 4-METHYLE-2-PENTANONE (MIBK)

<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, cough, dyspnea, headache, dizziness, paresthesia, nystagmus, nausea and vomiting, drowsiness, confusion and may lead to unconsciousness.
<b>Acute toxicity (Ingestion)</b>	Irritation of the mucous membranes. Liver and kidney damage, gastro-intestinal disorders, narcotic effects, paresthesia, nystagmus, cramps, diarrhea, headache, dizziness, convulsions, nausea and vomiting.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, dermatitis, conjunctivitis, liver and kidney damage, narcotic effects, chest pain, cough, dyspnea, laryngitis, headache, dizziness, tiredness, drowsiness, irritability, weight loss and loss of appetite nausea and vomiting.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - Rat - 2080 mg/kg. LD50 Dermal - Rabbit - 3,000 mg / kg
<b>CL50 (specify species and route of entry)</b>	LC50 Inhalation - Rat - 4h - 8.2 mg/L.

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Toxicity to fish: LC0 - <i>Leuciscus idus melanotus</i> - 480 mg/l - 48 h. Toxicity to daphnia and other aquatic invertebrates: EC50 - <i>Daphnia magna</i> (Water flea) - 1,550 - 3,623 mg/l - 24 h Toxicity to algae: EC50 - <i>Desmodesmus subspicatus</i> (green algae) - 980 - 2,000 mg/l - 48 h.
<b>Persistence and degradability</b>	Soluble in water. 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 solubility in water.
<b>Other adverse effects</b>	Data not available.

## 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	1245
UN Proper shipping name	MÉTHYLISOBUTYLÉTONE
Transport hazard class(es)	3 Flammable liquids
Packing group	II
Limited quantity index	1L
ERAP Index	-
Special precautions	-

## SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Flammable liquids category 2 Carcinogenicity category 2 Acute toxicity - Inhalation category 4 Serious eye damage/eye irritation - Eye irritation category 2 Specific Target Organ Toxicity - Repeated exposure category 2 Aspiration hazard category 1 Specific target organ toxicity - Single exposure category 3
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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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