

## Methyl Ethyl Ketone

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Methyl Ethyl Ketone
<b>Other Means of Identification</b>	2-Butanone, Butanone, MEK, Methyl Acetone
<b>Product Code(s)</b>	ME5010, ME5020
<b>Product Family</b>	Organic
<b>Recommended Use</b>	Laboratory and industrial use.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
<b>Emergency Phone No.</b>	CANUTEC CANADA, 613-996-6666, 24 Hours
<b>SDS No.</b>	0020

### SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015).

#### Classification

Flammable liquid - Category 2; Acute toxicity (Oral) - Category 5; Acute toxicity (Inhalation) - Category 5; Eye irritation - Category 2A; Specific target organ toxicity (single exposure) - Category 3

#### Label Elements



Signal Word:  
Danger

#### Hazard Statement(s):

Highly flammable liquid and vapour.  
May be harmful if swallowed.  
May be harmful if inhaled.  
Causes serious eye irritation.  
May cause drowsiness or dizziness.

#### Precautionary Statement(s):

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.

#### Other Hazards

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Methyl ethyl ketone	78-93-3	99	2-Butanone, Butanone, MEK, Methyl Acetone

### SECTION 4. FIRST-AID MEASURES

#### First-aid Measures

##### Inhalation

Move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

##### Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely.

##### Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice or attention.

##### Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water. Immediately call a Poison Centre or doctor.

##### First-aid Comments

Get medical advice or attention if you feel unwell or are concerned. If exposed or concerned, get medical advice or attention.

#### Most Important Symptoms and Effects, Acute and Delayed

May cause serious eye damage. May irritate or burn the eyes. Permanent damage including blindness may result. Can irritate the nose and throat. A severe exposure can cause unconsciousness. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. Can cause lung injury.

#### Immediate Medical Attention and Special Treatment

##### Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

##### Medical Conditions Aggravated by Exposure

Dermatitis, nervous system conditions, eye conditions, respiratory conditions.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing Media

##### Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

##### Unsuitable Extinguishing Media

Water may be effective for cooling, but may not be effective for extinguishing a fire because it may not cool methyl ethyl ketone below its flash point.

#### Specific Hazards Arising from the Product

Flash back possible over considerable distance. Container explosion may occur under fire conditions.

Hazardous decomposition products formed under fire conditions. - Carbon oxides.

#### Special Protective Equipment and Precautions for Fire-fighters

Use extreme caution. Fight fire from a safe distance or a protected location. Stop leak before attempting to put out the fire. Product could form an explosive mixture and reignite. If the leak cannot be stopped, let the fire burn itself out. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

### Methods and Materials for Containment and Cleaning Up

Small spills or leaks: place used absorbent into suitable, covered, labelled containers for disposal. Stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Do not use absorbents. Contain spill using noncombustible material such as vermiculite, earth or sand.

Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Do not get in eyes, on skin or on clothing. Avoid release to the environment. Electrically bond and ground equipment. Ground clips must contact bare metal. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs.

### Conditions for Safe Storage

Store in an area that is: cool, well-ventilated, out of direct sunlight and away from heat and ignition sources, clear of combustible and flammable materials (e.g. old rags, cardboard). Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity).

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Methyl ethyl ketone	200 ppm	300 ppm	200 ppm			

### Appropriate Engineering Controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

### Individual Protection Measures

#### Eye/Face Protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE), polyethylene, polyvinyl alcohol, Trelchem® HPS, Trelchem® VPS, Tychem® BR/LV, Tychem® Responder, Tychem® TK.

#### Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an organic vapour cartridge.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Not available
Odour Threshold	Not available

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<b>pH</b>	Not available
<b>Melting Point/Freezing Point</b>	-87 °C (-125 °F) (melting)
<b>Initial Boiling Point/Range</b>	80 °C (176 °F)
<b>Flash Point</b>	-3 °C (27 °F) (closed cup)
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not available
<b>Upper/Lower Flammability or Explosive Limit</b>	10.1% (upper); 1.8% (lower)
<b>Vapour Pressure</b>	71 mm Hg at 20 °C
<b>Vapour Density (air = 1)</b>	2.49
<b>Relative Density (water = 1)</b>	0.805 at 25 °C
<b>Solubility</b>	Soluble in water
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	0.29
<b>Auto-ignition Temperature</b>	404 °C (759 °F)
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	0.53 centistokes at 20 °C (kinematic); 0.428 centipoises at 20 °C (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Liquid

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

Prolonged (12 months) exposure to air and heat, and/or prolonged storage can produce explosive peroxides.

### Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Prolonged exposure to heat and air.

### Incompatible Materials

Strong acids (e.g. hydrochloric acid), strong oxidizing agents (e.g. perchloric acid), strong bases (e.g. sodium hydroxide), alcohols (e.g. ethanol).

### Hazardous Decomposition Products

Shock-sensitive peroxides; very toxic carbon monoxide, carbon dioxide.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Methyl ethyl ketone	32,000 mg/m <sup>3</sup> (male mouse) (4-hour exposure)	2,737 mg/kg (rat)	6,480 mg/kg (rabbit)

### Skin Corrosion/Irritation

Animal tests show moderate or severe irritation.

### Serious Eye Damage/Irritation

Animal tests show serious eye damage.

#### STOT (Specific Target Organ Toxicity) - Single Exposure

##### Inhalation

May be harmful At high concentrations.

##### Skin Absorption

No information was located.

##### Ingestion

May cause damage to organs Toxic, can cause death.

#### Aspiration Hazard

Can cause lung damage if aspirated based on human experience.

#### STOT (Specific Target Organ Toxicity) - Repeated Exposure

If inhaled: effects on the central nervous system. Symptoms may include restlessness, reduced ability to think, muscle tremors, memory loss and personality changes.

#### Respiratory and/or Skin Sensitization

Not known to be a skin sensitizer.

#### Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Methyl ethyl ketone	Not evaluated	Not Listed	Not Listed	

Conclusions cannot be drawn from the limited studies available.

#### Reproductive Toxicity

##### Development of Offspring

Conclusions cannot be drawn from the limited studies available.

##### Sexual Function and Fertility

No information was located.

##### Effects on or via Lactation

No information was located.

#### Germ Cell Mutagenicity

Not known to be a mutagen.

#### Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

## SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. This product and its container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1193	Methyl Ethyl Ketone	3	II
Canadian TDG	UN1193	Methyl Ethyl Ketone	3	II

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IATA (Air)	UN1193	Methyl Ethyl Ketone	3	II
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**Environmental Hazards** Not applicable

**Special Precautions** Not applicable

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15. REGULATORY INFORMATION

**Safety, Health and Environmental Regulations**

**Canada**

**Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)**

On or in compliance with the inventory.

**USA**

**Toxic Substances Control Act (TSCA) Section 8(b)**

On or in compliance with the inventory.

## SECTION 16. OTHER INFORMATION

**SDS Prepared By** Alphachem Limited

**Phone No.** (905)-821-2995

**Date of Preparation** July 23, 2015

**Date of Last Revision** January 13, 2016

**Revision Indicators** The following SDS content was changed on January 13, 2016:

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