

## **MATERIAL SAFETY DATA SHEET**

### **METHYL ISO BUTYL KETONE**

(For Synthesis)

MSDS CAS: 108-10-1

#### **Section 1: Chemical Product and Company Identification**

##### **Section 1: Chemical Product**

**Product Name:** METHYL ISO BUTYL KETONE

**CAS#:** 108-10-1

**Synonym:** 4-Methyl-2-pentanone

**Chemical Name:** Not available.

**Chemical Formula:** (CH<sub>3</sub>)<sub>2</sub>CHCH<sub>2</sub>COCH<sub>3</sub>

**Brand:** OXFORD

##### **Details Of The Supplier Of The Safety Data Sheet:**

**Company identification:**      **OXFORD LAB FINE CHEM LLP**  
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#### **Section 2: Composition and Information on Ingredients**

##### **Composition:**

Name	CAS #	% by Weight
METHYL ISO BUTYL KETONE	108-10-1	100

**Toxicological Data on Ingredients:** Methyl isobutyl ketone: ORAL (LD50): Acute: 1600 mg/kg [Guinea pig]. 2671 mg/kg [Mouse]. 2080 mg/kg [Rat]. DERMAL (LD50): Acute: 20001 mg/kg [Rabbit]. VAPOR (LC50): Acute: 8000 ppm 4 hour(s) [Rat].

## Section 3: Hazards Identification

### Potential Acute Health Effects:

Very hazardous in case of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (irritant, permeator). Inflammation of the eye is characterized by redness, watering, and itching.

### Potential Chronic Health Effects:

**CARCINOGENIC EFFECTS:** Not available. **MUTAGENIC EFFECTS:** Not available. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance is toxic to lungs, the nervous system, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

## Section 4: First Aid Measures

### Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

### Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation:** Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

### Ingestion:

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 460°C (860°F)

**Flash Points:** CLOSED CUP: 14°C (57.2°F). OPEN CUP: 23°C (73.4°F).

**Flammable Limits:** LOWER: 1.4% UPPER: 7.5%

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>).

**Fire Hazards in Presence of Various Substances:** Flammable in presence of open flames and sparks.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## Section 6: Accidental Release Measures

**Small Spill:**

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

**Large Spill:**

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

### Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

### Storage:

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

## Section 8: Exposure Controls/Personal Protection

### Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

### Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

### Exposure Limits:

TWA: 50 STEL: 75 CEIL: 125 (ppm) from ACGIH (TLV) [1995] TWA: 205 STEL: 300 CEIL: 510 (mg/m<sup>3</sup>) from ACGIH [1995] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

Physical state and appearance	: Liquid
Odor	: slight camphor odor.
Taste	: Not available.
Molecular Weight	: 100.16 g/mole

## Section 9: Physical and Chemical Properties (Continued)

Color	: Clear Colorless
pH (1% soln/water)	: Not available.
Boiling Point	: 115.9°C (240.6°F)
Melting Point	: -80°C (-119.2°F)
Critical Temperature	: Not available.
Specific Gravity	: 0.802 (Water = 1)
Vapor Pressure	: 15.7 mm of Hg (@ 20°C)
Vapor Density	: 3.45 (Air = 1)
Volatility	: Not available.
Odor Threshold	: 0.1 ppm
Water/Oil Dist. Coeff.	: The product is equally soluble in oil and water; log(oil/water) 0.1.
Ionicity (in Water)	: Not available.
Dispersion Properties	: See solubility in water.
Solubility	: Partially Soluble in cold water.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Not available.

**Incompatibility with various substances:** Not available.

**Corrosivity:** Not available.

**Special Remarks on Reactivity:** Forms explosive peroxides on prolonged storage.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Dermal contact. Eye contact. Inhalation. Ingestion.

## Section 11: Toxicological Information (Continued)

**Toxicity to Animals:** WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 1600 mg/kg [Guinea pig]. Acute dermal toxicity (LD50): 20001 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 8000 ppm 4 hour(s) [Rat].

**Chronic Effects on Humans:** The substance is toxic to lungs, the nervous system, mucous membranes.

**Other Toxic Effects on Humans:** Very hazardous in case of ingestion, of inhalation. Hazardous in case of skin contact (irritant, permeator).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Passes through the placental barrier in human.

**Special Remarks on other Toxic Effects on Humans:** Not available.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:**

The products of degradation are more toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

## Section 14: Transport Information

### Land transport (ADR-RID)

Proper shipping name : METHYL ISOBUTYL KETONE  
UN N° : 1245  
H.I. nr : 33  
ADR - Class : 3  
Labelling - Transport : 3 : Flammable liquid.  
ADR - Group : II

### Sea transport (IMDG) [English only]

Proper shipping name : METHYL ISOBUTYL KETONE  
UN N° : 1245  
IMO-IMDG - Class or division: 3 : Flammable liquid.  
IMO-IMDG - Packing group : II

### Air transport (ICAO-IATA) [English only]

Proper shipping name : METHYL ISOBUTYL KETONE  
UN N° : 1245  
IATA - Class or division : 3 : Flammable liquid.  
IATA - Packing group : II

## Section 15: Other Regulatory Information

**Federal and State Regulations:** Pennsylvania RTK: Methyl isobutyl ketone Massachusetts RTK: Methyl isobutyl ketone TSCA 8(b) inventory: Methyl isobutyl ketone SARA 313 toxic chemical notification and release reporting: Methyl isobutyl ketone CERCLA: Hazardous substances.: Methyl isobutyl ketone

### Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

### Other Classifications:

WHMIS (Canada): CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).  
DSCL (EEC): R11- Highly flammable. R38- Irritating to skin. R41- Risk of serious damage to eyes.



## Section 15: Other Regulatory Information

### HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: H

### National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment: Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

### *Disclaimer:*

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