

# SAFETY DATA SHEET

## Methyl Isobutyl Ketone (MIBK)

### 1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

**Product Identifier:** High Purity Chemicals  
**Synonyms:** 4-methyl-2-Pentanone; Hexone; MIBK; Isopropylacetone;  
Isobutylmethyl ketone; MIBK; isohexanone  
**Other means of identification:** CAS No. 108-10-1  
EINECS No. 203-550-1

**Recommended use of the chemical and restrictions on use:**

#### Supplier Details:

**Greenfield Global USA, Inc.**  
58 Vale Road, Brookfield,  
CT 06804, USA.  
Tel: 203.740.3471  
Fax: 203.740.3481  
CCN17213

**Greenfield Global USA, Inc.**  
1101 Isaac Shelby Drive, Shelbyville,  
KY 40065, USA.  
Tel: 502.232.7600  
Fax: 502.633.6100  
CCN17213

**Emergency Contact:** CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

### 2. HAZARDS IDENTIFICATION

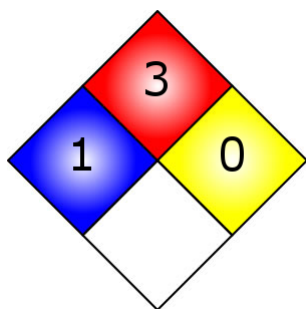
#### OSHA Hazards:

Flammable liquid, Irritant, Target organ effect

#### Target Organs:

Respiratory system

#### NFPA



GHS label elements, including precautionary statements



**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)  
+1.703.527.3887 (INT)**



**Signal Word:**  
DANGER!

**Hazard statement(s)**

H225 Highly flammable liquid and vapor.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.

**Precautionary statement(s)**

P261 Avoid breathing dust/fumes/gas/mist/vapors.  
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.  
P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P280 Wear protective gloves and eye and face protection.

**GHS Classification(s)**

Acute Toxicity, Inhalation (Category 4)  
Flammable Liquids (Category 2)  
Specific target organ toxicity - single exposure (Category 3)

**Other hazards which do not result in classification:**

**Potential Health Effects:**

Organ	Description
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.
Inhalation	May be fatal if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

**Chemical identity:** Methyl Isobutyl Ketone  
**Common name / Synonym:** 4-methyl-2-Pentanone; Hexone; MIBK; Isopropylacetone;



**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**

Isobutylmethyl ketone; MIBK; isohexanone **+1.703.527.3887 (INT)**

**CAS number:** 108-10-1  
**EINECS number:** 203-550-1  
**ICSC number:** 0511  
**RTECS #:** SA9275000  
**UN #:** UN1245  
**EC #:** 606-004-00-4

% Weight	Material	CAS
100	Methyl Isobutyl Ketone	108-10-1

## 4. FIRST AID MEASURES

### General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

### Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

### Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

### Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

## 5. FIRE FIGHTING MEASURES

### Suitable (and unsuitable) extinguishing media:

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

### Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Carbon oxides expected to be the primary hazardous combustion product.

### Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.



**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**

**Flammable Properties**

**+1.703.527.3887 (INT)**

**Classification**

OSHA/NFPA Class IB Flammable Liquid.

**Flash point**

18 °C (64 °F) - Closed Cup

**Autoignition temperature**

448 °C (840 °F)

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures:

Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

### Methods and materials for containment and cleaning up:

Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed.

## 7. HANDLING AND STORAGE

### Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

### Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters, e.g., occupational exposure limit values or biological limit values:

#### Occupational Exposure Limits

Component	Source	Type	Value	Note
Methyl Isobutyl Ketone	US (OSHA)	TWA	100 ppm, 410 mg/m <sup>3</sup>	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants
Methyl Isobutyl Ketone	US (ACGIH)	TWA	50 ppm	
Methyl Isobutyl Ketone	US (ACGIH)	STEL	75 ppm	

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**

**Appropriate engineering controls: +1.703.527.3887 (INT)**

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

**Individual protection measures, such as personal protective equipment:**

**Respiratory protection:**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection:**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

**Skin and body protection:**

Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Hygiene measures:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance (physical state, color, etc.)</b>	Liquid. Colorless, clear.
<b>Odor</b>	Sweet. Camphor-like.
<b>Freezing point</b>	-85 °C (-120 °F)
<b>Initial boiling point and boiling range</b>	117 °C (242 °F)
<b>Flash point</b>	18 °C (64 °F) - Closed Cup
<b>Upper / Lower flammability or explosive limits</b>	1.2 %(V) / 8.0 %(V)
<b>Vapor pressure</b>	20 hPa (15 mmHg) at 20 °C (68 °F)
<b>Vapor Density</b>	3.46
<b>Relative Density</b>	0.801 g/cm <sup>3</sup> at 25 °C (77 °F)
<b>Solubility(ies)</b>	not soluble
<b>Auto-ignition temperature</b>	448 °C (840 °F)
<b>Formula (METHYL ISOBUTYL KETONE)</b>	C <sub>6</sub> H <sub>12</sub> O
<b>Molecular Weight (METHYL ISOBUTYL KETONE)</b>	100.16 g/mol

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)  
+1.703.527.3887 (INT)

## 10. STABILITY AND REACTIVITY

<b>Possibility of hazardous reactions</b>	Vapors may form explosive mixture with air.
<b>Conditions to avoid (e.g., static discharge, shock or vibration)</b>	Heat, flames, and sparks. Extremes of temperature and direct sunlight. Product reacts with air to form peroxides.
<b>Incompatible materials</b>	Strong oxidizing agents, strong bases
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions. - Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

- Methyl Isobutyl Ketone 108-10-1

### Product Summary:

Laboratory tests have shown teratogenic effects. No data available for the mutagenic or reproductive effects of the product. No data available to designate the product as causing specific target organ toxicity through single or repeated exposure. No data available to designate product as an aspiration hazard.

### Acute Toxicity:

LC50 (Inhalation)	Rat	16.4 mg/m <sup>3</sup>	4 hours
LD50 (Dermal)	Rabbit	> 16,000 mg/kg	
LD50 (Oral)	Rat	2,080 mg/kg	

### Irritation:

#### Eyes (METHYL ISOBUTYL KETONE)

Rabbit - Moderate eye irritation - 24 hours

#### Skin

Rabbit - skin irritation - 24 hours

### Teratogenicity (METHYL ISOBUTYL KETONE)

Methyl Isobutyl Ketone is teratogenic. Fetal death and developmental abnormalities occurred in the babies of mice that inhaled Methyl isobutyl ketone.

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.



**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Other Hazards**

Organ	Description
Eyes	Can be irritating to the eyes.
Ingestion	Can be harmful if ingested.
Inhalation	Can be harmful, causing respiratory tract irritation, if inhaled.
Skin	Can be harmful, causing irritation, if absorbed through the skin.

**12. ECOLOGICAL INFORMATION**

- Methyl Isobutyl Ketone 108-10-1

**Ecotoxicity (aquatic and terrestrial, where available):**

**Acute Toxicity to Fish (METHYL ISOBUTYL KETONE)**

LC50 / 48 hours Leuciscus idus melanotus- 480 mg/L

**Toxicity to Aquatic Plants (METHYL ISOBUTYL KETONE)**

EC50 / 48 hours Green algae- 2,000 mg/L

**Persistence and degradability:**

Biotic/ Aerobic

**Bioaccumulative potential:**

No data available

**13. DISPOSAL CONSIDERATIONS**

**Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.



Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)

## 14. TRANSPORT INFORMATION

+1.703.527.3887 (INT)

Description of waste residues and information on their safe handling and methods of disposal:

UN number	UN1245
UN proper shipping name	Methyl isobutyl ketone
Transport hazard class(es)	3
Packing group (if applicable)	II

### Reportable Quantity

5,000 lbs

### IMDG

UN-Number: UN1245 Class: 3 Packing Group: II

EMS-No: F-E, S-D

Proper shipping name: METHYL ISOBUTYL KETONE

Marine pollutant: No

### IATA

UN-Number: UN1245 Class: 3 Packing Group: II

Proper shipping name: Methyl isobutyl ketone

---

## 15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

### OSHA Hazards

Flammable liquid, Irritant, Target organ effect

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313: METHYL ISOBUTYL KETONE CAS-No. 108-10-1 Revision Date 1993-04-24





**PHARMCO**  
by Greenfield Global

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**

**SARA 311/312 Hazards**

**+1.703.527.3887 (INT)**

Acute Health Hazard

Chronic Health Hazard

Fire Hazard

**Massachusetts Right To Know Components**

Methyl Isobutyl Ketone CAS-No. 108-10-1 Revision Date 1993-04-24

**Pennsylvania Right To Know Components**

Methyl Isobutyl Ketone CAS-No. 108-10-1 Revision Date 1993-04-24

**New Jersey Right To Know Components**

Methyl Isobutyl Ketone CAS-No. 108-10-1 Revision Date 1993-04-24

**California Prop 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

---

## **16. OTHER INFORMATION: INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS**

**Disclaimer**

Greenfield Global USA, Inc. believes that the information on this SDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, Greenfield Global USA, Inc. does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable. Information is correct to the best of our knowledge at the date of the SDS publication.