

**Methyl Isobutyl Ketone**  
14550

\*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\*\*

MSDS Name: Methyl Isobutyl Ketone

Catalog Numbers:

M213 1, M213 20, M213 4, M213-1, M213-20, M213-4, M2131, M21320, M213200, M2134

Synonyms:

Hexone; Isopropylacetone; 4-Methyl-2-Oxopentane; MIBK;  
4-methyl-2-pentanone.

Company Identification: Fisher Scientific  
1 Reagent Lane  
Fairlawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

\*\*\*\* SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

CAS#	Chemical Name	%	EINECS#
108-10-1	METHYL ISOBUTYL KETONE	98.5%	203-550-1

Hazard Symbols: F

Risk Phrases: 11

\*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

EMERGENCY OVERVIEW

Appearance: colourless. Flash Point: 64 deg F.

Warning! Flammable liquid. May cause central nervous system depression. May cause liver damage. Causes eye and skin irritation. Causes digestive and respiratory tract irritation. May cause fetal effects.

Target Organs: Central nervous system, liver.

Potential Health Effects

Eye:

Vapors may cause eye irritation. May cause painful sensitization to light. Contact produces irritation, tearing, and burning pain.

Skin:

Causes skin irritation. May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact may cause irritation and/or dermatitis.

Ingestion:

Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause effects similar to those for inhalation exposure.

Inhalation:

Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. Exposure produces central nervous system depression. May cause liver abnormalities. May cause visual abnormalities.

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Chronic:

Prolonged or repeated skin contact may cause defatting and dermatitis.

\*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*



Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.

Skin: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Antidote: No specific antidote exists.

#### \*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

##### General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back.

##### Extinguishing Media:

In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

Autoignition Temperature: 840 deg F ( 448.89 deg C)

Flash Point: 64 deg F ( 17.78 deg C)

NFPA Rating: health-2; flammability-3; reactivity-1

Explosion Limits, Lower: 0.8  
Upper: 3.5

#### \*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

General Information: Use proper personal protective equipment as indicated in Section 8.

##### Spills/Leaks:

Wear a self contained breathing apparatus and appropriate Personal protection. (See Exposure Controls, Personal Protection section). Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite.

#### \*\*\*\* SECTION 7 - HANDLING and STORAGE \*\*\*\*

##### Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and

E explosion proof equipment. Avoid contact with skin and eyes. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

##### Storage:

Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances.



\*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
METHYL ISOBUTYL KETONE	50 ppm ; 205 mg/m <sup>3</sup> ; 75 ppm STEL; 307 mg/m <sup>3</sup> STEL	50 ppm TWA; 205 mg/m <sup>3</sup> TWA 500 ppm IDLH	100 ppm TWA; 410 mg/m <sup>3</sup> TWA

OSHA Vacated PELs:

METHYL ISOBUTYL KETONE:

50 ppm TWA; 205 mg/m<sup>3</sup> TWA

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to minimize contact with skin.

Respirators:

Follow the OSHA respirator regulations found in 29CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

\*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Physical State: Liquid  
 Appearance: colourless  
 Odor: sweetish odor - camphor  
 pH: Not available.  
 Vapor Pressure: 15.7 mm Hg @ 20  
 Vapor Density: 3.5 (air=1)  
 Evaporation Rate: 1.6 (butyl acetate=1)  
 Viscosity: Not available.  
 Boiling Point: 244 deg F  
 Freezing/Melting Point: -120 deg F  
 Decomposition Temperature: Not available.  
 Solubility: Slowly mixes w/water (1.9%)  
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 Specific Gravity/Density: 0.8 (water=1)  
 Molecular Formula: C<sub>6</sub>H<sub>12</sub>O  
 Molecular Weight: 100.0834

\*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

Incompatible materials, ignition sources, excess heat.

Incompatibilities with Other Materials:

Oxidizing agents, potassium tert-butoxide, reducing agents, strong



Oxidizing agents, potassium tert-butoxide, reducing agents, strong bases. Substance may form explosive peroxides with air.  
Hazardous Decomposition Products:  
Carbon monoxide, carbon dioxide.  
Hazardous Polymerization: Has not been reported.

\*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

RTECS#:

CAS# 108-10-1: SA9275000

LD50/LC50:

CAS# 108-10-1: Inhalation, mouse: LC50 = 23300 mg/m<sup>3</sup>; Oral, mouse: LD50 = 2671 mg/kg; Oral, rat: LD50 = 2080 mg/kg; Skin, rabbit: LD50 = >20 gm/kg.

Carcinogenicity:

METHYL ISOBUTYL KETONE -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:

No information available.

Teratogenicity:

Embryo or Fetus: Death, inhalation(ihl)-mouse TCLo=3000 ppm/6H;  
Stunted fetus, ihl-rat TCLo=300ppm/6H. Specific Developmental Abnormalities: Cardiovascular and Central nervous system, ihl-mouse TCLo=3000ppm/6H; Musculoskeletal, ihl-rat TCLo=300ppm/6H.

Reproductive Effects:

No information available.

Neurotoxicity:

No information available.

Mutagenicity:

No information available.

Other Studies:

None.

\*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Ecotoxicity:

Redwinged blackbird, oral LD50=100mg/kg. Goldfish LC50=460mg/L/24H.

Environmental Fate:

In soil, substance will undergo direct photolysis, volatilization, or aerobic biodegradation. Substance is highly mobile and may also leach to groundwater. In water, substance will undergo direct photolysis and volatilization. Bioaccumulation is not highly predicted. In air, substance will react with hydroxyl radicals or undergo direct photolysis.

Physical/Chemical:

None.

Other:

Please refer to the Handbook of Environmental Fate and Exposure Data for additional information.

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\*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Dispose of in a manner consistent with federal, state, and local regulations.

RCRA D-Series Maximum Concentration of Contaminants:

None listed.

RCRA D-Series Chronic Toxicity Reference Levels: None listed.

RCRA F-Series: None listed.

RCRA P-Series: None listed.

RCRA U-Series: CAS# 108-10-1: waste number U161

(Ignitable waste).

CAS# 108-10-1 is banned from land disposal according to RCRA.

\*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*



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US DOT

Shipping Name: METHYL ISOBUTYL KETONE  
Hazard Class: 3  
UN Number: UN1245  
Packing Group: II

IMO

No information available.

IATA

No information available.

RID/ADR

No information available.

Canadian TDG

Shipping Name: METHYL ISOBUTYL KETONE  
Hazard Class: 3  
UN Number: UN1245  
Other Information: FLASHPOINT 18C

\*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

US FEDERAL

TSCA

CAS# 108-10-1 is listed on the TSCA inventory.  
Health & Safety Reporting List  
CAS# 108-10-1: Effective Date: October 4, 1982; Sunset Date: October 4  
Chemical Test Rules  
None of the chemicals in this product are under a Chemical Test Rule.  
Section 12b  
CAS# 108-10-1: export notification required - Section 4  
TSCA Significant New Use Rule  
None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)  
final RQ = 5000 pounds (2270 kg)  
Section 302 (TPQ)  
None of the chemicals in this product have a TPQ.  
SARA Codes  
CAS # 108-10-1: acute, chronic, flammable, reactive.  
Section 313  
This material contains METHYL ISOBUTYL KETONE (CAS# 108-10-1,  
>98.5%), which is subject to the reporting requirements of Section 313  
of SARA Title III and 40 CFR Part 373.

Clean Air Act:

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CAS# 108-10-1 is listed as a hazardous air pollutant (HAP).  
This material does not contain any Class 1 Ozone depleters.  
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous  
Substances under the CWA.  
None of the chemicals in this product are listed as Priority  
Pollutants under the CWA.  
None of the chemicals in this product are listed as Toxic Pollutants  
under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous  
by OSHA.

STATE

METHYL ISOBUTYL KETONE can be found on the following state right to  
know lists: California, New Jersey, Florida, Pennsylvania, Minnesota,  
Massachusetts.

California No Significant Risk Level:

None of the chemicals in this product are listed.

European/International Regulations

European Labeling is in accordance with EC Directives



European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F

Risk Phrases:

R 11 Highly flammable.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 23 Do not inhale gas/fumes/vapour/spray.

S 33 Take precautionary measures against static discharges.

S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

CAS# 108-10-1: 1

Canada

CAS# 108-10-1 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of B2, D2B.

CAS# 108-10-1 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

\*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

MSDS Creation Date: 3/08/1995 Revision #10 Date: 12/12/1997

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

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