**Methyl Ethyl Ketone**

14467

---

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

**MSDS Name:** Methyl Ethyl Ketone

**Catalog Numbers:** AC19670200, AC19670250, AC9565567, BB0001, BB2098-B115, BB2098-B19

**Physical State:** Clear liquid

**Chemical Name:** Methyl Ethyl Ketone

**Synonyms:** Acetone, methyl-; Butanone; 2-Butanone; Butanone 2; 3-Butanone

**Company Identification:** Fisher Scientific

---

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

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>78-03-3</td>
<td>Methyl Ethyl Ketone</td>
<td>99%</td>
</tr>
</tbody>
</table>

**Hazard Symbol:** Xi F

**Risk Phrases:** Xi 76 66 67

---

**SECTION 3 - HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

**Appearance:** Colorless liquid. Flash Point: 7 deg C

**Danger:** Extremely flammable liquid. May cause respiratory tract irritation. May cause central nervous system effects. May cause eye irritation with possible burns. May cause digestive tract irritation with nausea, vomiting, and diarrhea. May cause fetal effects and dermatitis. May cause unconsciousness and protection to eyes may be necessary in the event of fire.

**Target Organs:** Central nervous system.

**Potential Health Effects**

**Eye:** Causes eye irritation. May result in corneal injury.

**Skin:** May cause skin irritation in harmful amounts. Prolonged and/or repeated contact may cause skin irritation.

**Inhalation:** May cause irritation of the respiratory tract. May cause central nervous system depression, characterized by dizziness, drowsiness, and unconsciousness. Advanced stages may cause collapse, unconsciousness, coma, and possible death due to respiratory failure.

**Ingestion:** Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness, and respiratory tract irritation. Irritation may lead to chemical pneumonitis and pulmonary edema. May cause numbness in the extremities.

**Chronic:** Chronic inhalation may cause effects similar to those of acute inhalation. Prolonged or repeated skin contact may cause dermatitis. Animal studies have reported that fatal effects have been noted in the exposed area.

---

**SECTION 4 - FIRST AID MEASURES**

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, Do not allow victim to rub or keep eyes closed.

**Skin:** Wash area with large amounts of water for at least 15 minutes. Get medical aid immediately. Do not allow victim to rub or keep eyes closed.

**Inhalation:** Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration.

---

**SECTION 5 - FIRE FIGHTING MEASURES**

**General Information:** As in any fire, wear a self-contained breathing apparatus in proper protective gear. Vapors may be heavier than air and can be in cold, confined area. Material is lighter than water and a fire may be spread by the use of water sprays or foam. Do not use steam or alcohol-resistant foam. Do NOT use streams of water. Cool containers with flooding quantities of water until well after fire is out.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water sprays or alcohol-resistant foam. Do NOT use streams of water. Cool containers with flooding quantities of water until well after fire is out.

---

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**General Information:** Use proper personal protective equipment as indicated in Section 2.

**Spills/Leaks:** Avoid spill with inert material, e.g., dry sand or earth, then place into a chemical waste container. Avoid runoff into storm drains and ditches which lead to waterways. Clean up spills immediately; observe precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool.

---

**SECTION 7 - HANDLING AND STORAGE**

**Handling:** Use only in a well-ventilated area. Avoid contact with eyes, skin, and clothing. Employ effective dust control equipment. Avoid spills and waste-water discharges. Keep container tightly closed. Use with adequate ventilation. Handle with care. Avoid ingestion and inhalation. Do not use pressure to clean, and avoid contact with skin, eyes, and clothing. Avoid waste-water discharge to sewers or drains.

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

---

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

**Engineered Controls:** Facilities storing or utilizing this material should be equipped with an exhaust system and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NECCH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Ethyl Ketone</td>
<td>100 ppm</td>
<td>100 ppm</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

**Personal Protective Equipment**

**Eye:** Wear appropriate protective eyeglasses or chemical splash goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN 166.

**Skin:** Wear appropriate protective clothing to prevent skin exposure.

---
Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

*** SECTION 5 - PHYSICAL AND CHEMICAL PROPERTIES ***

Physical State: Liquid
Appearance: colorless liquid
Odor: sweetish odor - alcohol-like
pH: Not available.
Vapor Pressure: 71.2 mm Hg
Vapor Density: 2.1 (Air)=1
Vaporization Rate: 2.7 (Ether)=1
Vapor Density of 95% ethyl acetate: 4.2 mmHg 15 deg C
Bp Range: 80 deg C @ 6300.00 mm Hg
Autoignition Temperature: 404 deg C (779.3 deg F)
Flash Point: -7 deg C (13.40 deg F)
NFP: Health: 1; Flamibility: 3; Reactivity: 0
Exposure Limits: Lower: 1.80 vol %
Upper: 11.50 vol %
Decomposition Temperature: Not applicable with oils
Specific Gravity/Density: 0.8050/cm3
Molecular Formula: C9H20
Molecular Weight: 72.11

*** 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.

Incompatibility with Other Materials: Amines, ammonia, caustics, chloroform + alcohols, chlorosulfonic acid, copper, hydrochloric acid + sugars, hydrofluoric acid, isocyanates, potassium peroxutitrate, propionic acid, strong oxidizers, and strong alkalines.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, toxic fumes.

Hazardous Polymerization: Has not been reported.

*** SECTION 11 - TOXICOLOGICAL INFORMATION ***

RTetric:
CAS # 78-93-3: Melody 50000
LD50/LC50:
CAS # 78-93-3: Inhalation, mouse; LD50 = 40 mg/mL; Contact, rat; LD50 = 3200 mg/kg; Oral, mouse; LD50 = 4050 mg/kg; Oral, rat; LD50 = 2737 mg/kg; Skin, rabbit; LD50 = 6480 mg/kg.
Cardiotoxicity:
Methyl Ethyl Ketone: Not listed by NIOSH, IARC, NTP, or OSHA.
Epidemiology:
No information available.
Teratogenicity:
Embryo-Fetus: fetotoxicity, ihl-rat TCLO=1000 ppm. Specific Developmental Abnormalities: craniofacial and urogenital, ihl-rat TCLO=1000 ppm, ihl-mouse TCLO=100 ppm.
Reproductive:
No information available.
Neurotoxicity:
No information available.
Mutagenicity:

*** SECTION 12 - ECOLOGICAL INFORMATION ***

Ecotoxicity:
Fish: Fathead Minnow: LC50 = 1200 mg/L; 48 Hr; Unspecified: Bluegill/Sunfish: LC50 = 1690 mg/L; 96 Hr; Unspecified: Bacteria: Photorhabdus luminescens: EC50 = 51.9 mg/L; 24 hr; Microtoxin: Bacillus subtilis: EC50 = 13373 mg/L; 10 min; Microtoxin: Aedes albopictus mosquito larvae: LC50 = 5232 mg/L; 72H; Bluegill Tan = 4640 to 1690 mg/L/24 to 96H.

*** SECTION 13 - DISPOSAL CONSIDERATIONS ***

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. The US EPA guidelines for the classification determination are listed in 40 CFR Part 260. Additionally, waste generators must consult state and local hazardous waste regulations.
DATE: 11/3/00       ACCT: S88239001
INVEN: D02315742     CAT NO: M26920       BO: NBR: B1200

OER-BELGIUM: TWA 100 ppm, STEL 300 ppm (885 mg/m³)
OER-DENMARK: TWA 100 ppm (890 mg/m³); Skin
OER-FINLAND: TWA 100 ppm (509 mg/m³); STEL 300 ppm (885 mg/m³)
OER-FRANCE: TWA 100 ppm (600 mg/m³); Skin
OER-GERMANY: TWA 200 ppm (600 mg/m³)
OER-HUNGARY: TWA 200 ppm (890 mg/m³); STEL 60 ppm (885 mg/m³)
OER-JAPAN: TWA 200 ppm (590 mg/m³)
OER-THE NETHERLANDS: TWA 200 ppm (590 mg/m³)
OER-THE PHILIPPINES: TWA 200 ppm (590 mg/m³)
OER-POLAND: TWA 200 ppm (600 mg/m³)
OER-RUSSIA: TWA 200 ppm; STEL 200 ppm (600 mg/m³)
OER-SWEDEN: TWA 200 ppm; STEL 300 ppm (885 mg/m³)
OER-SWITZERLAND: TWA 200 ppm; STEL 400 ppm (885 mg/m³)
OER-TURKEY: TWA 200 ppm (590 mg/m³)
OER-UNITED KINGDOM: TWA 200 ppm (590 mg/m³); STEL 300 ppm
OER-IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OER IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGIH TLV

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

MSDS Creation Date: 7/21/1999  Revision #: Date: 8/02/2000

The information above is believed to be accurate and represents the best
information currently available to us. However, we make no warranty or
representation, express or implied, with respect to such information, and we
assume no liability resulting from its use. Users should make their own
judgement as to determine the suitability of the information for their particular
purposes. In no way shall the company 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, however arising, even if the company
has been advised of the possibility of such damages.