

Material Safety Data Sheet

Revision Issued: 8/20/2010 Supercedes: 6/22/2010 First Issued: 6/30/1987

Section I - Chemical Product And Company Identification

Product Name: Methyl Ethyl Ketone

CAS Number: 78-93-3

HBCC MSDS No. CM09000



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Section II - Composition/Information On Ingredients

Chemical Name	CAS Number	%
Methyl Ethyl Ketone	78-93-3	100

See Section VIII for exposure guidelines

Section III - Hazard Identification

Routes of Exposure: This product may affect the body either through ingestion, inhalation, or contact with the eyes and/or skin.

Summary of Acute Health Hazards

Ingestion: Moderately toxic. May cause headaches, vomiting, nausea, weakness, or dizziness. Small amounts of the liquid aspirated into the respiratory system during ingestion, or from vomiting, may cause bronchiopneumonia or pulmonary edema.

Inhalation: Vapors cause irritation of the eyes, nose, and throat. High concentrations in air may be narcotic and depress the central nervous system with symptoms including nausea, vomiting, headache, dizziness, weakness, loss of consciousness, and possible death. Headache and throat irritation may occur at levels as low as 300 ppm in air.

Skin: Repeated or prolonged contact with liquid may result in drying and irritation.

Eyes: Severely irritating. If not removed promptly, will injure eye tissue, which may result in permanent damage.

Summary of Chronic Health Hazards: Prolonged skin contact may defat the skin and produce dermatitis. Chronic exposure may cause central nervous system effects.

Signs and Symptoms of Exposure: N/A

Effects of Overexposure: May cause eye burns, nose and throat irritation, nausea, vomiting, headache, dizziness, difficult breathing, or loss of consciousness.

Medical Conditions Generally Aggravated by Exposure: Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of this substance.

Note to Physicians: N/A

Section IV - First Aid Measures

Ingestion: If swallowed, give 2-4 glasses of water to drink. Do Not Induce Vomiting. GET MEDICAL ATTENTION IMMEDIATELY.

Product Name: Methyl Ethyl Ketone

Inhalation: Remove the victim to fresh air and keep warm and at rest. Administer artificial respiration if breathing becomes difficult. Administer cardiopulmonary resuscitation ~~or~~ if breathing has stopped. ~~Administer artificial respiration.~~ GET MEDICAL ATTENTION IMMEDIATELY. (Caution: Administration of mouth-to-mouth resuscitation may expose the first aid provider to chemical within the victim's lungs or vomit.) If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Skin: Remove all contaminated clothing. Wash affected body areas with large amounts of water for at least 15 minutes. GET MEDICAL ATTENTION if skin irritation persists after washing.

Eyes: Flush eyes immediately with water for at least 15 minutes, occasionally lifting the eyelids. Do not allow victim to rub or keep eyes closed. GET MEDICAL ATTENTION IMMEDIATELY.

Section V - Fire Fighting Measures

Flash Point: -9°C (16°F) CC

Autoignition Temperature: 404°C; 759°F

Lower Explosive Limit: 1.4% by volume

Upper Explosive Limit: 11.4% by volume

Unusual Fire and Explosion Hazards: Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Can release vapors that form flammable mixtures at temperatures at or above the flashpoint. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.

Extinguishing Media: Use water spray, carbon dioxide, dry chemical, or alcohol foam.

Special Firefighting Procedures: Stay upwind. Avoid all bodily contact. Use self-contained breathing apparatus and protective clothing. Cool exposed containers with water. Do not use straight streams of water. Try to cover liquid spills with foam.

Section VI - Accidental Release Measures

Extinguish and do not turn on any ignition source until the area is determined to be free from explosion or fire hazards. Evacuate the spill area. Ventilate the area, and avoid breathing the vapors. Wear a MSHA/NIOSH-approved respirator suitable for the situation. Dike and contain the spill with inert material (e.g. sand, earth). Transfer liquid to containers for recovery or disposal by pumping (use an explosion proof hand pump) or with a suitable absorbent. Put solid diking material in separate containers for disposal. If possible, clean up the spill area on a dry basis and then flush with plenty of water. Prevent liquid from entering sewers, watercourses, or low areas.

Section VII - Handling and Storage

Store in a cool, dry, well-ventilated area away from heat, sparks, and flame. Keep containers closed. Avoid contact with eyes, skin and clothing.

Section VIII - Exposure Controls/Personal Protection

Exposure Controls

Engineering Controls: This product should be confined within closed equipment, in which case mechanical dilution ventilation should be satisfactory. Special, local ventilation is needed at points where vapors are expected to escape to the workplace air. An eye wash and safety shower should be made available.

Work/Hygienic Practices: All employees who handle this product should wash their hands before eating, smoking, or using toilet facilities. Do NOT place food, coffee or other drinks in the area where dusting or splashing of solutions is possible.
Exposure Guideline(s): Methyl Ethyl Ketone: CAS Number 78-93-3, Exposure Limits (TWAs) in Air: ACGIH TLV: 200 ppm; OSHA PEL: 200 ppm; STEL: 300 ppm

Personal Protection

Personal Protection Equipment (PPE): > 200 ppm; Use only MSHA/NIOSH-approved respirators.

Respiratory Protection

> **1000 ppm:** CCROVF (Chemical cartridge respirator with organic vapor cartridge(s)) with full facepiece)

> **3000 ppm:** GMOV/SAF/SCBAF (Gas mask with organic vapor canister (chin-style or front- or back-mounted canister)) / (Supplied-air respirator with full facepiece, helmet, or hood) / (Self-contained breathing apparatus with full facepiece)

Escape: GMOV/SCBA (Gas mask with organic vapor canister (chin-style or front- or back-mounted canister) / (Self-contained breathing apparatus)

Protective Clothing: Impermeable gloves, aprons and rubber shoes are advised when working with this product.

Eye Protection: Wear safety glasses with side shields or chemical goggles.

Section IX - Physical and Chemical Properties

Physical State: Liquid

pH: N/A

Melting Point/Range: -86.3°C; -123.3°F

Boiling Point/Range: 79.6°C; 175.3°F

Appearance/Color/Odor: Clear, colorless liquid with a sharp mint-like odor.

Solubility in Water: Appreciable

Vapor Pressure(mmHg): 71 @ 68°F

Specific Gravity(Water=1): 0.805 @ 68°F

Molecular Weight: 72.11

Vapor Density(Air=1): 2.5

% Volatiles: 100

Evaporation Rate, n-Bu Acetate=1: 2.7
(Ether=1)

How to detect this compound: Adsorption on charcoal, workup with CS₂, analysis by gas chromatography.

Section X - Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions to Avoid: Heat, fire, or sparks.

Materials to Avoid: Caustics, ammonia, strong oxidizing agents, and chlorinating compounds.

Hazardous Decomposition Products: N/A

Section XI - Toxicological Information

Oral Rat LD50: 2737 mg/kg; inhalation rat LC50: 23,500 mg/m³/8-hr; skin rabbit LD50: 6480 mg/kg; investigated as a mutagen, reproductive effector. Has shown teratogenic effects in laboratory animals.

Section XII - Ecological Information

N/A

Section XIII - Disposal Considerations

Dispose of in accordance with applicable local, county, state and federal regulations.

Section XIV - Transport Information

DOT Proper Shipping Name: Methyl Ethyl Ketone or Ethyl Methyl Ketone
DOT Hazard Class/ I.D. No.: 3, UN1193, II

Section XV - Regulatory Information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) Hazardous Substance: Methyl Ethyl Ketone, CAS # 78-93-3
5000 Lbs. (2270 Kilograms) (766 Gals) Reportable Quantity (RQ)

RCRA (Resource Conservation & Recovery Act) Hazardous Waste Code:
Methyl Ethyl Ketone, CAS # 78-93-3, U159

Section 313 Supplier Notification: Methyl Ethyl Ketone, CAS # 78-93-3, % by Weight: 100%

Uniform Fire Code Rating: Class IB Flammable Liquid

NFPA (National Fire Protection Association) Rating:

Health - 2; Flammability - 3; Instability - 0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

Carcinogenicity Lists:

National Toxicology Program (NTP): No

International Agency for Research on Cancer (IARC) Monograph: No

Occupational Safety & Health Administration (OSHA) Regulated: No

Section XVI - Other Information

Synonyms/Common Names: MEK, 2-Butanone, Ethyl Methyl Ketone

Chemical Family/Type: Ketones

Sections changed since last revision: IV

IMPORTANT! Read this MSDS before use or disposal of this product. Pass along the information to employees and any other persons who could be exposed to the product to be sure that they are aware of the information before use or other exposure. This MSDS has been prepared according to the OSHA Hazard Communication Standard [29 CFR 1910.1200]. The MSDS information is based on sources believed to be reliable. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, [Hill Brothers Chemical Company](#) makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Also, additional information may be necessary or helpful for specific conditions and circumstances of use. It is the user's responsibility to determine the suitability of this product and to evaluate risks prior to use, and then to exercise appropriate precautions for protection of employees and others.