Section 1. Product and Company Identification

Product Name Methyl Ethyl Ketone
CAS Number 78-93-3

Parchem - fine & specialty chemicals
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New Rochelle, NY 10801
(914) 654-6800 **(914) 654-6899**
parchem.com **info@parchem.com**

EMERGENCY RESPONSE NUMBER
CHEMTEL
Toll Free US & Canada: 1 (800) 255-3924
All other Origins: 1 (813) 248-0585
Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture
GHS Classification(s)
Eye Irritation (Category 2)
Flammable Liquids (Category 2)
Specific target organ toxicity - single exposure (Category 3)

GHS Label Elements

Pictograms:

Signal word: DANGER!

Hazard and precautionary statements
Hazard statement(s)
H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
Precautionary statement(s)
P261 Avoid breathing dust/fumes/gas/mist/vapors.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P501 Dispose of contents and container to an approved waste disposal plant.
P240 Ground/bond container and receiving equipment.
P337 + P313 If eye irritation persists: Get medical attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
P233 Keep container tightly closed.
P102 Keep out of reach of children.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P243 Take precautionary measures against static discharge.
P241 Use explosion-proof electrical, ventilating, and lighting equipment.
P242 Use only non-sparking tools.
P271 Use only outdoors or in a well-ventilated area.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves and eye and face protection.

OSHA Hazards: Flammable liquid, Irritant, Target organ effect
Target Organs: Central nervous system

NFPA
Health: 1
Flammability: 3
Reactivity: 0

Potential Health Effects
Eyes: Causes eye irritation.
Ingestion: May be harmful if swallowed.
Inhalation: May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness.
Skin: May be harmful if absorbed through skin. Causes skin irritation.

Section 3. Composition / Information on Ingredients

Common Name Methyl Ethyl Ketone
Synonym(s) 2-Butanone; Ethyl Methyl Ketone; MEK; Methyl Acetone
Formula C_4H_8O
CAS Number 78-93-3

COMPONENT	CAS NUMBER	CONCENTRATION
Methyl Ethyl Ketone	78-93-3	100%

Section 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 my mouth to an unconscious individual.

Section 5. Firefighting 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.

Flammable Properties
Classification: OSHA/NFPA Class IB Flammable Liquid.
Flash point: -9°C (16°F) - Closed Cup
Autoignition temperature: 404°C (759°F)

Section 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.

Section 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. Avoid moisture.

Section 8. Exposure Controls / Personal Protection

Control parameters, e.g., occupational exposure limit values or biological limit values
Occupational Exposure Limits
US (ACGIH) TWA 200 ppm
US (ACGIH) STEL 300 ppm

Appropriate engineering controls: 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.

Section 9. Physical and Chemical Properties

Appearance (physical state, color, etc.): Liquid. Colorless, clear.
Freezing point: -87°C (-125°F)
Initial boiling point and boiling range: 80°C (176°F)
Flash point: -9°C (16°F) - Closed Cup

Upper / Lower flammability or explosive limits: 1.8 % (V) / 10.1% (V)
Vapor pressure: 95 hPa (71 mmHg) at 20°C (68°F)
Vapor Density: 2.5
Relative Density: 0.805 g/mL at 25°C (77°F)
Solubility(ies): Soluble
Auto-ignition temperature: 404°C (759°F)
Molecular Weight: 72.11 g/mol

Section 10. Stability and Reactivity

Chemical Stability Stable under recommended storage conditions.
Possibility of hazardous reactions Vapors may form explosive mixture with air.
Conditions to avoid (e.g., static discharge, shock or vibration): Heat, flames and sparks. Extreme temperatures and direct sunlight.
Incompatible materials: Strong oxidizing agents, strong reducing agents
Hazardous decomposition products: Hazardous decomposition products formed under fire conditions - Carbon oxides

Section 11. Toxicological Information

Product Summary: No data available for the mutagenic, teratogenic, or reproductive effects of the product.

Acute Toxicity
LC50 (Inhalation) Rat 23500 mg/m3 8 hours
LD50 (Oral) Rat 2737 mg/Kg
LD50 (Skin) Rabbit 6480 mg/kg

Irritation
Eyes: Causes eye irritation.
Skin: Draize test, rabbit, skin: 500 mg/24H; Moderate skin irritation.

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.
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
Eyes: Irritating to the eyes. May result in corneal injury.
Ingestion: May cause irritation of the digestive tract. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. Irritation may lead to chemical pneumonitis and pulmonary edema. May cause numbness in the extremities.
Skin: May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact may cause irritation and/or dermatitis.
Chronic: Chronic inhalation may cause effects similar to those of acute inhalation. Prolonged or repeated skin contact may cause defatting and dermatitis. Animal studies have reported that fetal effects/abnormalities may occur when maternal toxicity is seen.

Section 12. Ecological Information

Ecotoxicity (aquatic and terrestrial, where available)
Acute Fish Toxicity
LC50 / 96 hours Fathead Minnow 3220 mg/L
Toxicity to Microorganisms
EC50 / 30 min Phytobacterium phosphoreum 3373 mg/L
Persistence and degradability: No data available
Bioaccumulative potential: No data available

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

UN number: UN1193
UN proper shipping name: Methyl ethyl ketone
Transport hazard class(es): 3
Packing group (if applicable): II

Reportable Quantity: 5,000 lbs
IMDG
UN-Number: UN1193
Class: 3 Packing
Group: II
EMS-No: F-E, S-D
Proper shipping name: METHYL ETHYL KETONE
Marine pollutant: No

IATA
UN-Number: UN1193
Class: 3
Packing Group: II
Proper shipping name: Methyl ethyl ketone

Section 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
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: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards
Acute Health Hazard
Chronic Health Hazard
Fire Hazard

CERCLA: Methyl Ethyl Ketone CAS-No. 78-93-3, RQ: 5,000 lbs

Massachusetts Right To Know Components
Methyl ethyl ketone CAS-No. 78-93-3 Revision Date 2007-03-01
Pennsylvania Right To Know Components
Methyl ethyl ketone CAS-No. 78-93-3 Revision Date 2007-03-01
New Jersey Right To Know Components
Methyl ethyl ketone CAS-No. 78-93-3 Revision Date 2007-03-01
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.

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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