

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

CAS Number: 78-93-3
Product Name: Methyl Ethyl Ketone
Revision Date: Aug 01, 2019 **Date Printed:** Aug 30, 2019
Version: 1.0 **Supersedes Date:** N.A.
Manufacturer's Name: Thames River Chemical Corp.
Address: 5230 Harvester Road Burlington, ON, CA, L7L 4X4
Emergency Phone: CHEMTREC (800) 424-9300
Information Phone Number: 905-681-5353
Fax: 905-681-5377
Product/Recommended Uses: For laboratory or industrial use only.

SECTION 2) HAZARDS IDENTIFICATION**Classification**

Eye Irritation - Category 2A
Flammable Liquids - Category 2
Specific Target Organ Toxicity - Single Exposure - Category 3

Pictograms**Signal Word**

Danger

Hazard Statements - Health

Causes serious eye irritation

Hazard Statements - Physical

Highly flammable liquid and vapor

Precautionary Statements - General

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.

Precautionary Statements - Prevention

Wash/Wash hands thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.

Use explosion-proof electrical, ventilating, lighting equipment.

Use only non-sparking tools.

Take action to prevent static discharges.

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

In case of fire: Use carbon dioxide, alcohol foam, water spray or dry chemical to extinguish.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

Physical Hazards Not Otherwise Classified

No data available.

Health Hazards Not Otherwise Classified

No data available.

SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000078-93-3	METHYL ETHYL KETONE	100%

SECTION 4) FIRST-AID MEASURES

Inhalation

Move victim to fresh air; if necessary, provide artificial respiration or oxygen. Keep airway open. Immediately get medical attention.

If experiencing respiratory symptoms: Call a POISON CENTER/doctor. Eliminate all ignition sources if safe to do so.

Eye Contact

Immediately flush eyes with plenty of flowing water for 10 to 15 minutes. Subsequently consult an ophthalmologist.

Skin Contact

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Store contaminated clothing under water and wash before re-use or discard. Rinse skin with water/shower and mild soap for 5 minutes or until product is removed.

Ingestion

Drink large quantities of water. Give activated carbon (20-40 g in a suspension of 10%). Do not give fatty oils and milk. Keep airway open. Immediately get medical attention.

Most Important Symptoms and Effects, Both Acute and Delayed

After absorption of large quantities: CNS disorders, inebriation, blood pressure drop, narcosis, cardiac arrhythmias.

Chronic uptake results in damage of: Liver.

In case of inhalation: Mucous membrane irritation, cough, shortage of breath, fatigue, drowsiness, dizziness.

In case of ingestion: Nausea and vomiting.

After contact with skin: May cause irritations. Danger of cutaneous absorption.

No data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Alcohol resistant foam, dry chemical powder, Water fog, carbon dioxide.

Unsuitable Extinguishing Media

Do not use straight stream of water.

Specific Hazards in Case of Fire

Flammable liquid and vapor. Vapors are heavier than air and will travel at floor level. Explosive mixtures with air may even form at room temperature. Vapor may travel great distances and cause fire and backflashes. In enclosed areas: risk of suffocation!
Hazardous vapors may form during fires. In case of fire may be liberated: Peroxides, carbon monoxide and carbon dioxide.

Fire-fighting Procedures

Cool endangered containers with water spray and, if possible, remove from danger zone. Do not allow water used to extinguish fire to enter drains, ground or waterways.

Special Protective Actions

Wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Evacuate and isolate hazard area and keep unauthorized personnel away. A vapor-suppressing foam may be used to reduce vapors.

Recommended Equipment

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA).

Personal Precautions

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Dike far ahead of liquid spill for later disposal.

Methods and Materials for Containment and Cleaning up

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean, non-sparking tools to collect absorbed material. Ventilate area after clean-up is complete.

SECTION 7) HANDLING AND STORAGE

General

Avoid generation of vapors/aerosols. Provide adequate ventilation, and local exhaust as needed. Recommendation: Execute works under fume hood. Do not inhale substance. Avoid contact with skin, eyes, and clothing. Do not breathe vapor or spray. Wear appropriate protective equipment. When using do not eat, drink or smoke.

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Do not weld. Avoid sparks. Use only spark proof tools. Vapors may form explosive mixtures with air.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. Report ventilation failures immediately. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements

Keep container tightly closed and in a well-ventilated place. Keep container dry. Keep cool. Protect from sunlight. Do not store together with combustible or self-igniting materials or any highly flammable solids. Keep away from: Strong oxidizing agents, strong acids, strong alkalis. Keep away from food, drink and animal feedingstuffs.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

Wear indirect-vent, impact and splash resistant goggles when working with liquids

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC,

neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CANsmg	CANspm	CANtmg	CANtpm	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)
METHYL ETHYL KETONE	885	300	590	200			590	200

Chemical Name	OSHA Carcinogen	OSHA Tables (Z1, Z2, Z3)	OSHA Skin designation	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH TLV Basis
METHYL ETHYL KETONE		1			300		200	URT irr; CNS & PNS impair

Chemical Name	ACGIH Carcinogen	ACGIH Notations
METHYL ETHYL KETONE		BEI

(C) - Ceiling limit, BEI - Substances for which there is a Biological Exposure Index or Indices, CNS - Central nervous system, impair - Impairment, irr - Irritation, PNS - Peripheral nervous system, URT - Upper respiratory tract

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	6.72 lb/gal
Specific Gravity	0.81
<hr/>	
Appearance	colourless liquid
Odor Description	characteristic
Odor Threshold	N/A
pH	No Data Available
Melting/Freezing Point	-122.8 °F
Low Boiling Point	175.28 °F
High Boiling Point	N/A
Flash Point	15.8 °F to 21.2 °F
Vapor Pressure	105 hPa
Vapor Density	1.15 g/L
Evaporation Rate	No Data Available
Upper Explosion Level	N/A
Lower Explosion Level	N/A
Water Solubility	270 g/L
Coefficient Water/Oil	0.3 log P(o/w)
Viscosity	0.405 mPa*s at 77 °F

SECTION 10) STABILITY AND REACTIVITY

Reactivity

Highly flammable liquid and vapor. Vapors may form explosive mixtures with air.

Stability

Stable under normal storage and handling conditions.

Conditions to Avoid

Protect from heat and direct sunlight.

Hazardous Reactions/Polymerization

Hazardous polymerization will not occur.

Incompatible Materials

Strong oxidizing agents, strong acids, strong alkalis. Exothermic reactions with: Oxidising agents (Chromium trioxide, chloroform/alkali hydroxide). Ignition hazard! Release of highly flammable gas/vapor. Danger of explosion with: Hydrogen peroxide/nitric acid, hydrogen peroxide/sulphuric acid. Unsuitable materials include various plastics.

Hazardous Decomposition Products

Carbon monoxide and carbon dioxide.

SECTION 11) TOXICOLOGICAL INFORMATION

Likely Route of Exposure

Inhalation, ingestion, skin absorption

Acute Toxicity

No data available.

Aspiration Hazard

No data available.

Carcinogenicity

No data available.

Germ Cell Mutagenicity

No data available.

Reproductive Toxicity

No data available.

Respiratory/Skin Sensitization

0000078-93-3 METHYL ETHYL KETONE

Can irritate the skin causing a rash. Breathing can irritate the nose and throat causing coughing and wheezing.

Serious Eye Damage/Irritation

Causes serious eye irritation

0000078-93-3 METHYL ETHYL KETONE

Contact can severely irritate and burn the eyes.

Skin Corrosion/Irritation

No data available.

Specific Target Organ Toxicity - Repeated Exposure

0000078-93-3 METHYL ETHYL KETONE

Repeated high exposure can damage the nervous system and may affect the brain.

Specific Target Organ Toxicity - Single Exposure

0000078-93-3 METHYL ETHYL KETONE

Exposure can cause dizziness, lightheadedness, headache, nausea, and blurred vision.

Potential Health Effects - Miscellaneous

0000078-93-3 METHYL ETHYL KETONE

Material is irritating to mucous membranes and upper respiratory tract. Increased susceptibility to the effects of this material may be

observed in people with preexisting disease of any of the following: central nervous system, eyes, respiratory system, skin. Prolonged or repeated overexposure may cause any of the following: conjunctivitis, dermatitis. High concentrations have caused embryotoxic effects in laboratory animals. Aspiration may occur during swallowing or vomiting, resulting in lung damage. Ingestion may cause headache, nausea, vomiting, dizziness, and drowsiness.

Likely Routes of Exposure

0000078-93-3 METHYL ETHYL KETONE

Can be absorbed into the body by inhalation, by ingestion and through the skin.

0000078-93-3 METHYL ETHYL KETONE

LC50 (male rat): 11,700 ppm (4-hour exposure) (3)

LC50 (male rat): 11,300 ppm (4-hour exposure); cited as 23.5 mg/L (7,990 ppm) (8-hour exposure) (4)

LD50 (oral, adult male rat): 2,740 mg/kg; cited as 3.4 mL/kg (1)

LD50 (dermal, rabbit): greater than 5,000 mg/kg (29)

SECTION 12) ECOLOGICAL INFORMATION

Toxicity

Fish toxicity:

LC50 Pimephales promelas (fathead minnow): 2993 mg/L/96h (OECD 203)

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 308 mg/L/48h (OECD 202)

Algae toxicity:

EC50 Pseudokirchneriella subcapitata (green algae): 2029 mg/L/96h (OECD 201)

Effects in sewage plants:

Bacterial toxicity: EC5 Pseudomonas putida: 1150 mg/L/16h.

Mobility in Soil

0000078-93-3 METHYL ETHYL KETONE

The substance is not PBT / vPvB

The substance is not PBT / vPvB.

Bio-accumulative Potential

No data available.

Persistence and Degradability

Degree of elimination: DOC reduction \geq 70%

Biodegradability in water: 98%/28 d (OECD 301 D).

Product is readily biodegradable.

0000078-93-3 METHYL ETHYL KETONE

Readily biodegradable.

Other Adverse Effects

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, provincial and local laws.

SECTION 14) TRANSPORT INFORMATION

	Transport Canada Information	U.S. DOT Information
UN number:	UN1193	UN1193
Proper shipping name:	ETHYL METHYL KETONE (METHYL ETHYLKETONE)	ETHYL METHYL KETONE (METHYL ETHYLKETONE)
Hazard class:	3	3
Packaging group:	II	II
Hazardous substance (RQ):		No Data Available
Marine Pollutant:	No Data Available	No Data Available
Note / Special Provision:	Note / Special Provision	No Data Available
Toxic-Inhalation Hazard:		No Data Available
Transport in bulk (according to Annex II of MARPOL 73/78):	No Data Available	

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0000078-93-3	METHYL ETHYL KETONE	100%	DSL,TSCA,EU_EC_Inventory

SECTION 16) OTHER INFORMATION

Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CANsmg or CANspmm - Canadian Short Term Exposure Level in mg/L or in ppm; CANTmg or CANTppm - Canadian Time Weighted Average in mg/L or in ppm; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

Version 1.0:

Revision Date: Aug 01, 2019
First Edition.

DISCLAIMER

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.