



Safety Data Sheet

Methyl Ethyl Ketone

SECTION 1: IDENTIFICATION

Product Name	Methyl Ethyl Ketone
Recommended Use	Use exclusively to thin industrial maintenance coatings
Other Means of Identification	166-1, 166-4, 166-19, 166-205
Other Identification	MEK
Restrictions on Use	None known.
Manufacturer	Gotham Industries Inc. 231 Rene A Robert Sainte Therese, Quebec J7E 4L1 (450) 435-1224 www.Gothamindustries.com
Emergency Phone No.	CANUTEC, 613-996-6666, 24 Hours

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification

Flammable liquid - Category 2; Serious eye damage/eye irritation - Category 2A; Specific target organ toxicity (single exposure) - Category 3

GHS Label Elements



Signal Word:
Danger

Hazard Statement(s):

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary Statement(s):

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical, ventilating, lighting, and other equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust, fume, gas, mist, vapours or spray.

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/eye protection/face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P312 Call a POISON CENTRE/doctor if you feel unwell.

P337 + P313 If eye irritation persists: Get medical advice/attention. carbon dioxide dry chemical powder water spray or fog

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Percentage in weight
Methyl ethyl ketone	78-93-3	100%

SECTION 4: FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. Call a Poison Centre or doctor if you feel unwell or are concerned.

Skin Contact

Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely. Call a Poison Centre or doctor if you feel unwell or are concerned.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. If eye irritation persists, get medical advice/attention.

Ingestion

Rinse mouth with water. Call a Poison Centre or doctor if you feel unwell or are concerned. Do not induce vomiting.

First-aid Comments

If exposed or concerned, get medical advice/attention.

Most Important Symptoms and Effects, Acute and Delayed

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Immediate Medical Attention and Special Treatment

Special Instructions

Not applicable.

SECTION 5 : FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Small fire: Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Large fire: Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Chemical

Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapour forms explosive mixture with air between upper and lower flammable limits. Not known to generate any hazardous decomposition products in a fire.

Special Protective Equipment and Precautions for Fire-fighters

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills. See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Evacuate downwind locations.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for Safe Storage

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Methyl ethyl ketone	200 ppm	300 ppm	200 ppm	300 ppm		

Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Control static electricity discharges which includes bonding of equipment to ground. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Skin Protection

Wear chemical safety goggles and face shield when contact is possible.

Eye/Face Protection

Wear chemical safety goggles.

Individual Protection Measure.

Wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear liquid.
Odour	Pungent
Odour Threshold	2 - 85 ppm (5.9 - 250.2 mg/m ³)
pH	Not available
Melting Point/Freezing Point	-87 °C (melting); -87 °C (freezing)
Initial Boiling Point/Range	70 - 79 °C
Flash Point	-6.1 °C (closed cup)
Evaporation Rate	2.6 (n-butyl acetate = 1)
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability Or Explosive Limit	10.1% (upper); 1.8% (lower)
Vapour Pressure	77.48 mm Hg (10.33 kPa) at 20 °C

Vapour Density (air = 1)	2.49
Relative Density (water = 1)	0.8 at 20 °C
Solubility	27.5 g/100 mL (Soluble (more than 10-50 g/100 mL)) in water; Soluble in all proportions in common organic solvents.
Partition Coefficient, n-Octanol/Water (Log Kow)	0.29 at 20 °C
Auto-ignition Temperature	404 °C
Decomposition Temperature	Not available
Viscosity (dynamic)	0.53 mm ² /s at 20 °C (kinematic); 0.428 mPa.s at 20 °C (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	72.11

SECTION 10: STABILITY AND REACTIVITY

Reactivity

None known

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Reacts in the presence of acidic conditions (low pH), alkaline conditions (high pH). Oxidizing substances metals reducing agents.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. High temperatures. Hot surfaces. Prolonged exposure to air. Evaporation of solution. Temperatures above -9 °C

Incompatible Materials

Reacts violently with: strong oxidizing agents (e.g. perchloric acid).
Releases excessive heat on contact with: strong acids (e.g. hydrochloric acid).

Hazardous Decomposition Products

Irritating chemicals; toxic chemicals; very toxic carbon monoxide, carbon dioxide; very toxic, flammable aldehydes; very toxic, flammable formaldehyde.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin absorption; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Methyl ethyl ketone	11300-11700 ppm (rat) (4-hour exposure)	2737 mg/kg (rat)	> 8050 mg/kg (rabbit)

Skin Corrosion/Irritation

Human experience and animal tests show no or very mild irritation.

Serious Eye Damage/Irritation

Human experience and animal tests show serious eye irritation. The vapour also irritates the eyes.

STOT (Specific Target Organ Toxicity) - Single Exposure**Inhalation**

May cause nose and throat irritation. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. Depression of the central nervous system. A severe exposure can cause unconsciousness.

Skin Absorption

Not harmful based on animal tests.

Ingestion

May be harmful based on information for closely related materials.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Harmful based on studies in people. If inhaled: effects on the central nervous system. Symptoms may include restlessness, reduced ability to think, muscle tremors, memory loss and personality changes. effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above.

Causes Following skin contact: dermatitis. Symptoms may include dry, red, cracked skin (dermatitis). effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Methyl ethyl ketone	Not Listed	Not Listed	Not Listed	Not Listed

Not known to cause cancer.

Reproductive Toxicity**Development of Offspring**

Animal studies show effects on the offspring. However, these effects are only seen with significant toxicity in the mothers. Has been associated with: decreased weight.

Sexual Function and Fertility

May cause effects on sexual function and/or fertility based on limited evidence. Has been associated with: reduced male fertility.

Effects on or via Lactation

Does not cause effects on or via lactation.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Methyl ethyl ketone	3130-3320 mg/L (Pimephales promelas (fathead minnow); 96-hour)	Not available		Not available

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Methyl ethyl ketone	400 mg/L (salt water)			

Persistence and Degradability

No information was located.

Bioaccumulative Potential

No information was located.

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1193	METHYL ETHYL KETONE	3	II
US DOT	1193	METHYL ETHYL KETONE	3	II

Marine Pollutant: No.

Special Precautions

Please note: In containers of 1 L capacity or less this product is classified as a "Limited Quantities" "Consumer Commodity" under TDG regulations. IB2, T4, TP1. In containers of 1 L this product is qualified as a "consumer commodity" ORM-D under DOT

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

New Jersey Right To Know: F3.

SECTION 16: OTHER INFORMATION

SDS Prepared By Health and Safety

Phone No. 450-435-1227

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References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).

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