

Section 1: Product & Company Information

Product Identifier: Methyl Isobutyl Ketone

Other Means of Identification

Product Number: 151753

Recommended Use and Restrictions on Use

Recommended Use: Industrial Solvent. Chemical Intermediate. Processing Aid.
Restrictions on Use: Not known.

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.
Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239
Fax Number: 1-865-524-3375
Website: www.corecheminc.com
Contact Person: Regulatory Manager
E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Flammable, Liquids - 2

Health Hazard(s)

Acute Toxicity, Inhalation - 4
(Corrosion)Damage/Irritation, Eye - 2A
Specific Target Organ Toxicity (STOT)-Respiratory Irritation, Single exposure - 3

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word
DANGER

Hazard Symbol(s)



Hazard Statement(s)

H225: Highly flammable liquid and vapor.
H319: Causes serious eye Irritation.
H332: Harmful if inhaled.
H335: May cause respiratory Irritation.

Precautionary Statements

General
Not applicable.

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/equipment.
 P242: Use only non-sparking tools.
 P243: Take precautionary measures against static discharge.
 P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264: Wash face, hands and any exposed skin thoroughly after handling.
 P271: Use only outdoors or in a well-ventilated area.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304 + P340: IF INHALED: Remove to fresh air and keep at rest in a position 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 CENTER or doctor/physician if you feel unwell.
 P337 + P313: If eye irritation persists: Get medical advice/attention.
 P370 + P378: In case of fire: Use suitable extinguishing media for extinction.

Storage

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.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

Potential peroxide former.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Methyl Isobutyl Ketone	MIBK, Isobutyl Methyl Ketone, 4-methylpentan-2-one	108-10-1	100%	No

- Information regarding the composition and the percent ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
- Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
- "—"Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin Contact

Wash off with soap and water. If symptoms persist, call a physician. Wash contaminated clothing before reuse.

Eye Contact

Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists: Get medical advice, attention.

Ingestion

Seek medical advice. Do NOT induce vomiting. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. Hold persons head low, to prevent aspiration.

Most important symptoms/effects, acute and delayed

Symptoms

Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Treat symptomatically.

Section 5: Fire-Fighting Measures

General Fire Hazards

Highly flammable liquid and vapor. Use water spray to cool unopened containers.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Water spray. Dry chemical. Carbon Dioxide. Foam.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Chemical

Water may be ineffective. The product will float on water and can be reignited on the surface water.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Use water spray to keep fire-exposed containers cool. Stay upwind of fire. Keep out of low areas where gases and fumes can accumulate. Water may not be effective in fighting this fire.

Special Protective Equipment for Fire-Fighters

Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.

Methods and Materials for Containment and Clean-Up

Contain spillage, soak up with noncombustible absorbent material. (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local/national regulations. After cleaning, flush away all traces with water. Eliminate all ignition sources if safe and easy to do so.

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions

Avoid release into the environment.

Section 7: Handling and Storage

Precautions for Safe Handling

Keep away from heat and sources of ignition. Avoid inhalation of vapor or mist. Do not get in the eyes. Do not swallow. Ensure adequate ventilation. Wash thoroughly after handling. Keep away from fire (No Smoking) keep away from fire, sparks and heated surfaces. Do not use sparking tools.

Conditions for Safe Storage, including any Incompatibilities

Keep container closed when not in use.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Methyl Isobutyl Ketone	TWA	20 ppm	US. ACGIH Threshold Limit Values
Methyl Isobutyl Ketone	STEL	75 ppm	US. ACGIH Threshold Limit Values
Methyl Isobutyl Ketone	ST	75 PPM ;300 mg/m3	NIOSH REL
Methyl Isobutyl Ketone	TWA	50 ppm ;205 mg/m3	NIOSH REL
Methyl Isobutyl Ketone	TWA	100 ppm; 410 mg/m3	OSHA Z-1
Methyl Isobutyl Ketone	TWA	50 ppm; 205 mg/m3	OSHA P0
Methyl Isobutyl Ketone	STEL	75 ppm; 300 mg/m3	OSHA P0
Methyl Isobutyl Ketone	PEL	100 ppm	US OSHA Table Z-1

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed. Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Ensure that eye flushing systems and safety showers are located close to the working place. Use personal protective equipment as required.

Respiratory Protection

Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposure are within recommended exposure guidelines.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Appearance:

Physical State: Liquid
Color: Colorless

Odor:

Alcohol like

Odor Threshold:

No data available

pH:

No data available

Melting Point/Freezing Point:

-85°C

Initial Boiling Point and Boiling Range:

117°C

Self-Ignition

443°C Method: ASTM D2155

Flash Point:

16 °C (Tagliabue Closed Cup)

Evaporation Rate (butyl acetate=1):

No data available

Flammability (solid, gas):

No data available

Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: 8.0 %(V)

Flammability Limit – Lower: 1.2 %(V)

Explosive Limit – Upper: No data available

Explosive Limit – Lower: No data available

Vapor Pressure:

No data available

Vapor Density (air =1):

3.5

Relative Density (water=1):

0.80 (20 °C)

Solubility(ies):

Solubility in water: Moderate

Solubility (other): No data available

Partition coefficient (n-octanol/water):

Pow: 24 log Pow: 1.38

Auto-Ignition Temperature:

443 °C (ASTM D2155)

Decomposition Temperature:

(DTA) No exotherm to boiling

Viscosity:

No data available

Other Information:

Molecular Weight: 100.16 g/mol

Formula: C₆H₁₂O

Section 10: Stability and Reactivity

Reactivity

May form peroxides of unknown stability.

Chemical Stability

Stable

Possibility of Hazardous Reactions

Polymerization will not occur.

Conditions to Avoid

Heat, sparks flames. Avoid prolonged exposure to air to reduce formation of explosive peroxides.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Carbon Dioxide. Carbon Monoxide. Decomposition products depend upon temperature, air supply and the presence of other materials.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: None known.

Inhalation: Harmful if inhaled.

Skin Contact: Prolonged or repeated skin contact may cause drying, cracking, or irritation.

Eye Contact: Causes serious eye irritation.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Methyl Isobutyl Ketone: LD50 (Rat): 2,080 mg/kg

Dermal

Methyl Isobutyl Ketone: LD50 (Rat, male and female): > 2,000 mL/kg Test guideline 402 No deaths occurred at this concentration.

Inhalation

Methyl Isobutyl Ketone: LC50 (Rat, 4 h): 16.4 mg/l

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

Prolonged contact may cause slight skin irritation with local redness. May cause drying and flaking of skin.

Serious Eye Damage/Eye Irritation

May cause moderate eye irritation. May cause slight corneal injury. Vapor may cause eye irritation experienced as mild discomfort and redness.

Respiratory/Skin Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Group 2B, Probably carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

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.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

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.

Germ Cell Mutagenicity

In Vitro

No data available.

In Vivo

No data available.

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity – Single Exposure

No data available.

Specific Target Organ Toxicity – Repeated Exposure

Excessive exposure to methyl isobutyl ketone may cause respiratory irritation, Gastrointestinal distress, anesthesia, kidney and liver effects.

Aspiration Hazard

No data available.

Other Effects

Contains an IARC (International Agency for Research on Cancer) 2B material. IARC 2B is a classification for possible human carcinogen based on sufficient evidence on carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Methyl Isobutyl Ketone: LC50 (Goldfish, 24 h): 460 mg/l
Methyl Isobutyl Ketone: LC50 (Golden Orfe, 48 h): 675 – 750 mg/l

Aquatic Invertebrates

Methyl Isobutyl Ketone: LC50 (Water Flea, 24 h): 4,300 mg/l
Methyl Isobutyl Ketone: LC50 (Brown Shrimp, 24 h): 1,250 mg/l

Toxicity to Aquatic Plants

No data available.

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

Readily biodegradable

BOD/COD Ratio

BOD -5: 1,940-2,060 mg/g
COD: 2,160-2,460 mg/g
ThOD: 2,720 mg/g

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Pow: 24
Log Pow: 1.38

Mobility in Soil

No data available.

Other Adverse Effects

No data available.

Section 13: Disposal Considerations

Disposal Instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging

Handle contaminated packages in the same way as the substance itself. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number: UN1245
UN Proper Shipping Name: Methyl Isobutyl Ketone
Technical Name: -
Hazard Class: 3
Subsidiary Hazard Risk: -
Packing Group: II

DOT Label/Placard Exemptions: Not determined

Special Provisions: IB2, T4, TP1

Packaging Exceptions: 49CFR 173.150

Packaging Non-Bulk: 49CFR 173.202

Packaging Bulk: 49CFR 173.242

Reportable Quantity (RQ): 1,000lb (454kg)

Marine Pollutant: No

Poison Inhalation Hazard: No

Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Emergency Response Guidebook (ERG) #: 127

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

The following chemical(s) in this material are subject to reporting levels established by CERCLA:

Methyl Isobutyl Ketone (CAS# 108-10-1)

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: Yes

Sudden Release of Pressure: No

Reactive: No

Acute (Immediate) Health Hazard: Yes

Chronic (Delayed) Health Hazard: No

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

The following chemical(s) in this material are subject to reporting levels established by SARA Title III, Section 313:

Methyl Isobutyl Ketone (CAS# 108-10-1)

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 2

Chronic Health Hazard: /

Flammability: 3

Physical Hazard: 1

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 2

Fire Hazard: 3

Reactivity Hazard: 1

Special: N/A

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate	ACGIH - American Conference of Industrial Hygienists
BCF - Bioconcentration Factor	AIHA - American Industrial Hygiene Association
EC50 - Effective concentration, 50%	BEI - Biological Exposure Indices
IDHL - Immediately Dangerous to Life and Health	CAS - Chemical Abstracts Service
Kg - Kilogram	DOT - US Department of Transportation
l - Liter	EPA - US Environmental Protection Agency
lb - Pound	GHS - Globally Harmonized System of Classification and Labelling of Chemicals
LC50 - Lethal Concentration, 50%	IARC - International Agency for Research on Cancer
LD50 - Lethal Dose, 50%	IATA - International Air Transport Association
mg - milligram	IBC - Intermediate Bulk Container
ml - milliliter	IMDG - International Maritime Dangerous Goods
N/A - Not Applicable	NIOSH - National Institute for Occupational Safety and Health
N/D - Not Determined	NTP - National Toxicology Program
PEL - Permissible Exposure Limit	OSHA - US Occupational Health and Safety Administration
REL - Recommended Exposure Limit	SARA - US EPA Superfund Amendments and Reauthorization Act
STEL - Short-term Exposure Limit	TSCA - US EPA Toxic Substances Control Act
TWA - Time weighted average	UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

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