ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

SAFETY DATA SHEET

Print Date: February 4, 2022

Section 1: Product & Company Information

Product Identifier: Methyl Ethyl Ketone

Other Means of Identification
Product Number: 151752

Recommended Use and Restrictions on Use
Recommended Use: Solvent
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)
(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.
H336: May cause dizziness or drowsiness

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)

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Section 3: Composition/Information on Ingredients

Substance

Chemical Identity [2]	Common Name/Synonym(s)	CAS # [3]	Weight %	Impurity or Stabilizing Additive
Methyl Ethyl Ketone	MEK	78-93-3	99 – 100%	No

1. 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.
2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
3. "—"Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Call a poison center/doctor/physician if you feel unwell.

Inhalation

Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Skin Contact

Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

Eye Contact

Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

Ingestion

If swallowed, do NOT induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101 °F (38.3 °C), shortness of breath, chest congestion or continued coughing or wheezing.

Most important symptoms/effects, acute and delayed

Symptoms

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/ or fever. Defattening dermatitis signs and symptoms may include a burning sensation, redness, swelling, and/ or blurred vision. Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

Indication of immediate medical attention and special treatment needed

Hazards

Irritating to eyes, respiratory system and skin.

Treatment

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/ or fever. Defattening dermatitis signs and symptoms may include a burning sensation, redness, swelling, and/ or blurred vision. Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

Section 5: Fire-Fighting Measures

General Fire Hazards

Highly flammable liquid and vapour. In case of fire and/or explosion do not breathe fumes.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media

None

Specific Hazards Arising from the Chemical

Vapor is heavier than air, spreads along the ground and distant ignition is possible. Carbon monoxide may be evolved if incomplete combustion occurs.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.
Gloves. Protective goggles. Protective clothing.
Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Methods and Materials for Containment and Clean-Up

Take up liquid spill into a non combustible material e.g.: kieselguhr, powdered limestone or dry sand/earth/vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Notification Procedures

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

Environmental Precautions

Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.
Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Use spark-proof tools and explosion-proof equipment. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Conditions for Safe Storage, including any Incompatibilities

Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep away from heat, sparks, and flame. Store in flammable cabinet or area. Incompatible Materials are strong oxidizing agents., strong acids, strong bases, strong reducing agents, ammonia, copper, and amines.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Methyl Ethyl Ketone	TWA	200 ppm	US. ACGIH Threshold Limit Values
Methyl Ethyl Ketone	STEL	300 ppm	US. ACGIH Threshold Limit Values
Methyl Ethyl Ketone	PEL	200 ppm 590 mg/m3	US OSHA Table Z-1
Methyl Ethyl Ketone	TWA	200 ppm 590 mg/m3	US OSHA Table Z-1
Methyl Ethyl Ketone	STEL	300 ppm 885 mg/m3	US OSHA Table Z-1

Biological Limit Values

Chemical Identity	CAS #	Parameter	Value	Biological Specimen	Source
Methyl Ethyl Ketone	78-93-3	MEK	2 mg/l (Urine)	Urine	ACGIH – Biological Exposure Indices (BEI)
	Remarks: Sampling Time: End of Shift				

Appropriate Engineering Controls

Use explosion-proof ventilation equipment. Provide ventilation or other engineering controls to keep the airborne concentrations of vapors or mists below the applicable workplace exposure limits indicated above. The level of protection and types of controls will vary depending upon potential exposure conditions. Eyewash station and drenching shower in close proximity of use are advised.

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.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information

Hygiene Measures

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:	
Physical State:	Liquid
Color:	Colorless
Odor:	Fresh minty odor
Odor Threshold:	No data available.
pH:	No data available.
Melting Point/Freezing Point:	-86.6 °C
Initial Boiling Point and Boiling Range:	80 °C
Flash Point (Closed Cup)**:**	-6 °C (-21 °F)
Evaporation Rate (butyl acetate=1)**:**	7.7
Flammability (solid, gas):	No data available.
Upper/Lower Limit on Flammability or Explosive Limits	
Flammability Limit – Upper:	10 % (V)
Flammability Limit – Lower:	1.8 % (V)
Explosive Limit – Upper:	1.5-12 vol %
Explosive Limit – Lower:	45-378 g/m^3
Vapor Pressure:	10.4 kPa (20 °C)
Vapor Density (air =1)**:**	2.41 AIR=1
Relative Density (gas air mixture)**:**	1.2
Solubility(ies):	
Solubility in water:	280 g/l
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	0.29
Auto-Ignition Temperature:	404 °C
Decomposition Temperature:	No data available.
Viscosity:	No data available.

Other Information:	
Molecular Weight:	72.11 g/mol
Formula:	$C_{44}H_8O$
Minimum ignition energy	0.53 mJ
Specific Conductivity	36000 pS/m
Saturation concentration	311 g/m^3
VOC Content	100%
Other properties	Gas/Vapor heavier than air at 20 °C. Clear, volatile

Section 10: Stability and Reactivity

Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Reacts with strong oxidizing agents.

Conditions to Avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: Harmful if swallowed.
Inhalation: Harmful if inhaled.
Skin Contact: May cause irritation.
Eye Contact: Causes serious eye irritation.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Methyl Ethyl Ketone: LD 50 (Mouse): 670 mg/kg
Methyl Ethyl Ketone: LD 50 (Rat): 2,300 - 3,500 mg/kg

Dermal

Methyl Ethyl Ketone: LD 50 (Rabbit): > 8,000 mg/kg

Inhalation

Methyl Ethyl Ketone: LC 50 (Rat, 4 h): 11700 ppm

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

May cause skin irritation.

Serious Eye Damage/Eye Irritation

Causes serious eye irritation.

Respiratory/Skin Sensitization

Not a skin nor a respiratory sensitizer.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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 mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

None known.

Specific Target Organ Toxicity – Single Exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

Specific Target Organ Toxicity – Repeated Exposure

No data available.

Aspiration Hazard

May be harmful if swallowed and enters airways.

Other Effects

No data available.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Methyl Ethyl Ketone: LC 50 (Bluegill (Lepomis macrochirus), 48 h): 5,640 mg/l Mortality
Methyl Ethyl Ketone: LC 50 (Fathead minnow (Pimephales promelas), 96 h): 3,130 - 3,320 mg/l Mortality
Methyl Ethyl Ketone: LC 50 (Western mosquitofish (Gambusia affinis), 96 h): 5,600 mg/l Mortality
Methyl Ethyl Ketone: LC 50 (Carp (Leuciscus idus melanotus), 48 h): 4,600 mg/l Mortality

Aquatic Invertebrates

Methyl Ethyl Ketone: LC 50 (Brine shrimp (Artemia salina), 24 h): 1,950 mg/l Mortality
Methyl Ethyl Ketone: LC 50 (Water flea (Daphnia magna), 24 h): 8,890 mg/l Mortality
Methyl Ethyl Ketone: EC 50 (Water flea (Daphnia magna), 48 h): 4,025 - 6,440 mg/l Intoxication

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

Expected to be readily biodegradable.

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Log Kow: 0.29

Mobility in Soil

The product is water soluble and may spread in water systems.

Other Adverse Effects

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Section 13: Disposal Considerations

Disposal Instructions

Dispose of contents/container in accordance with licensed collector's sorting instructions.

Contaminated Packaging

Do not discharge into surface water. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. May be discharged to wastewater treatment installation. Flammable vapors may accumulate in the container.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number:	UN1193
UN Proper Shipping Name:	Methyl ethyl 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):	5000lb (2270kg)
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 Ethyl Ketone (CAS# 7722-84-1)

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

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

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

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any 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: 1
Chronic Health Hazard: /
Flammability: 3
Physical Hazard: 0
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 1
Fire Hazard: 3
Reactivity Hazard: 0
Special: N/A
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

Prepared By:	Regulatory Manager
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Key to Abbreviations and Acronyms

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

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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