



SILVER FERN
CHEMICAL INC

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Methyl Propyl Ketone

Additional identification

Chemical name: Methyl Propyl Ketone
CAS-No.: 107-87-9

Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Solvent

Uses advised against: None known.

Details of the supplier of the safety data sheet

Distributor:

Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North, Suite C
Seattle, WA 98109
Phone: 1-866-282-3384

Website: www.silverfernchemical.com
Email address: info@silverfernchemical.com

Emergency telephone number:

24 Hour Emergency Contact

Infotrac: 1-800-535-5053 (USA & Canada)

Outside USA & Canada: 1-352-323-3500

SECTION 2: Hazards identification

Hazard Classification:

Physical Hazards

Flammable liquids Category 2

Health Hazards

Acute toxicity (Oral) Category 4

Serious Eye Damage/Eye Irritation Category 2A

OSHA Specified Hazards: not applicable

Warning label items including precautionary statement:

Pictogram:



Signal Words: DANGER!

Hazard Statement(s): H225: Highly flammable liquid and vapor.
H302: Harmful if swallowed.
H319: Causes serious eye irritation.

Precautionary Statement:

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.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P271: Use only outdoors or in a well-ventilated area.

Response: P370 + P378: In case of fire: Use water spray, carbon dioxide, dry chemical or foam for extinction.
P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330: Rinse mouth.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical advice/attention.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.

Storage: 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

Substances / Mixtures

General information:

Chemical name	Concentration	Additional identification	Notes
methyl propyl ketone	>90%	CAS-No.: 107-87-9	#
methyl isobutyl ketone	<10%	CAS-No.: 108-10-1	#

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

SECTION 4: First aid measures**Description of first aid measures**

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention. In case of irritation from airborne exposure, move to fresh air. Get medical attention if symptoms persist.

Skin Contact: Wash with soap and water. Get medical attention if symptoms occur.

Ingestion: Seek medical advice.

Most important symptoms and effects, both acute and delayed: May irritate and cause redness and pain.

Indication of any immediate medical attention and special treatment needed

Hazards: None known.

Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

General Fire Hazards: Flammable liquid and vapor. USE WATER WITH CAUTION. Material will float and may ignite on surface of water.

Extinguishing media

Suitable extinguishing media: Water spray. Dry chemical. Carbon Dioxide. Foam.

Unsuitable extinguishing media: None known.

Special hazards arising from the substance or mixture: Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. May form peroxides of unknown stability.

Advice for firefighters

Special fire fighting procedures: Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear appropriate personal protective equipment.

Environmental Precautions: Avoid release to the environment.

Methods and material for containment and cleaning up: Eliminate sources of ignition. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Use water spray to disperse vapors and dilute spill to a nonflammable mixture. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.

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

SECTION 7: Handling and storage:

Precautions for safe handling: Avoid contact with eyes. Wash thoroughly after handling. Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed and in a well-ventilated place. Store away from heat and light.

Specific end use(s): Solvent

SECTION 8: Exposure controls/personal protection

**Control Parameters
Occupational Exposure Limits**

Country specific exposure limits have not been established or are not applicable unless listed below.

Chemical name	Type	Exposure Limit Values	Source
methyl propyl ketone	STEL	150 ppm	US. ACGIH Threshold Limit Values (01 2010)
	PEL	200 ppm 700 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
methyl isobutyl ketone	TWA	20 ppm	US. ACGIH Threshold Limit Values (01 2010)
	STEL	75 ppm	US. ACGIH Threshold Limit Values (01 2010)
	PEL	100 ppm 410 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Biological Limit Values

Chemical name	Exposure Limit Values	Source
methyl isobutyl ketone (methyl isobutyl ketone: Sampling time: End of shift.)	1 mg/l (Urine)	ACGIH BEL (01 2010)

Exposure controls

Appropriate engineering controls: 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.

Individual protection measures, such as personal protective equipment

General information: Eye bath. Washing facilities.

Eye/face Protection: Wear safety glasses with side shields (or goggles). Wear a full-face respirator, if needed.

Skin protection

Hand Protection: It is a good industrial hygiene practice to minimize skin contact.

Other: No data available.

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. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: 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: Observe good industrial hygiene practices.

Environmental Controls: No data available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical State: Liquid

Form: Liquid

Color: Colorless

Odor: ketone

Odor Threshold: 11 ppm

pH: No data available.

Melting Point -78 °C

Boiling Point:	101 °C
Flash Point:	7.8 °C (Tag closed cup)
Evaporation Rate:	2.3
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%)-:	8.7 %(V)
Flammability Limit - Lower (%)-:	1.56 %(V)
Vapor pressure:	37 mbar (20 °C)
Vapor density (air=1):	2.9
Specific Gravity:	0.81 (20 °C)
Solubility(ies)	
Solubility in Water:	Moderate
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	log Pow: 0.857
Autoignition Temperature:	450 °C
Decomposition Temperature:	(DTA) No exotherm to boiling
Dynamic Viscosity:	0.607 mPa.s (20 °C)
Kinematic viscosity:	Not determined.
Explosive properties:	No data available.
Oxidizing properties:	No data available.

Other information

Minimum ignition temperature:	449 °C (ASTM D2155)
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SECTION 10: Stability and reactivity

Reactivity:	None known.
Chemical Stability:	Stable
Possibility of Hazardous Reactions:	May form peroxides of unknown stability.
Conditions to Avoid:	Heat, sparks, flames.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decomposition Products:	Carbon Dioxide. Carbon Monoxide.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation:	None known.
Ingestion:	Harmful if swallowed.
Skin Contact:	None known.
Eye contact:	Causes serious eye irritation.

Information on toxicological effects

Acute Toxicity

Oral

Product: No data available.

Specified substance(s)

methyl propyl ketone Oral LD-50: (Rat): 1,600 mg/kg
methyl isobutyl ketone Oral LD-50: (Rat): 2,080 mg/kg

Dermal

Product: No data available.

Specified substance(s)

methyl propyl ketone Dermal LD-50: (Guinea Pig): > 20 ml/kg
methyl isobutyl ketone Dermal LD-50: (Rabbit): >10 ml/kg

Inhalation

Product: No data available.

Specified substance(s)

methyl propyl ketone LC50 (Rat, 4 h): 25.5 mg/l
methyl isobutyl ketone LC50 (Rat, 4 h): 2000 - 4000 ppm

Repeated Dose Toxicity

Product: No data available.

Specified substance(s)

methyl propyl ketone No data available.
methyl isobutyl ketone No data available.

Skin Corrosion/Irritation:

Product: No data available.

Specified substance(s)

methyl propyl ketone (Guinea Pig, 24 h): slight
methyl isobutyl ketone (Rabbit, 72 h): none

Serious Eye Damage/Eye Irritation:

Product: No data available.

Specified substance(s)

methyl propyl ketone (Rabbit, 24 h): moderate
methyl isobutyl ketone (Rabbit): slight to moderate

Respiratory or Skin Sensitization:

Product: No data available.

Specified substance(s)

methyl propyl ketone No data available.
methyl isobutyl ketone No data available.

Mutagenicity

In vitro

Product: No data available.

Specified substance(s)

methyl propyl ketone

Salmonella typhimurium assay (Ames test), Bacterial Reverse Mutation Assay :
negative +/- activation
Mutagenicity - Mammalian, In vitro Mammalian Cell Gene Mutation Test : negative
+/- activation

methyl isobutyl ketone

Chromosomal aberration, In vitro Mammalian Chromosome Aberration Test :
negative +/- activation
No data available.

In vivo

Product: No data available.

Specified substance(s)

methyl propyl ketone

No data available.

methyl isobutyl ketone

No data available.

Carcinogenicity

Product: No data available.

Specified substance(s)

methyl propyl ketone

No data available.

methyl isobutyl ketone

IARC 2B: possibly carcinogenic to humans.

Reproductive Toxicity

Product: No data available.

Specified substance(s)

methyl propyl ketone

No data available.

methyl isobutyl ketone

No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s)

methyl propyl ketone

No data available.

methyl isobutyl ketone

No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s)

methyl propyl ketone

No data available.

methyl isobutyl ketone

No data available.

Aspiration Hazard

Product: No data available.

Specified substance(s)

methyl propyl ketone

May be harmful if swallowed and enters airways.

methyl isobutyl ketone

May be harmful if swallowed and enters airways.

Other Adverse 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**Toxicity****Acute toxicity****Fish**

Product: No data available.

Specified substance(s)

methyl propyl ketone LC-50 (Fathead Minnow, 96 h): 1,240 mg/l
methyl isobutyl ketone LC-50 (goldfish, 24 h): 460 mg/l
LC-50 (golden orfe, 48 h): 675 - 750 mg/l

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

methyl propyl ketone EC-50 (Water Flea, 48 h): > 110 mg/l
methyl isobutyl ketone LC-50 (Water Flea, 24 h): 4,300 mg/l
LC-50 (Brown Shrimp, 24 h): 1,250 mg/l

Chronic Toxicity**Fish**

Product: No data available.

Specified substance(s)

methyl propyl ketone No data available.
methyl isobutyl ketone No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

methyl propyl ketone No data available.
methyl isobutyl ketone No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)

methyl propyl ketone NOEC: (Alga, 72 h): 74 mg/l
EC-50 (Alga, 72 h): 150 mg/l
methyl isobutyl ketone No data available.

Persistence and Degradability**Biodegradation**

Product: No data available.

Specified substance(s)

methyl propyl ketone No data available.
methyl isobutyl ketone No data available.

Biological Oxygen Demand:

Product	No data available.
Specified substance(s)	
methyl propyl ketone	BOD-5: 1,380 mg/g BOD-20: 1,800 mg/g
methyl isobutyl ketone	BOD-5: 1,940 - 2,060 mg/g

Chemical Oxygen Demand:

Product	No data available.
Specified substance(s)	
methyl propyl ketone	1,800 mg/g
methyl isobutyl ketone	2,160 - 2,460 mg/g

BOD/COD Ratio

Product	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
methyl isobutyl ketone	No data available.

Bioaccumulative Potential

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
methyl isobutyl ketone	No data available.

Mobility in Soil:

No data available.

Known or predicted distribution to environmental compartments

methyl propyl ketone	No data available.
methyl isobutyl ketone	No data available.

Results of PBT and vPvB assessment:

	No data available.
methyl propyl ketone	No data available.
methyl isobutyl ketone	No data available.

Other Adverse Effects:

No data available.

SECTION 13: Disposal considerations**Waste treatment methods****General information:** No data available.**Disposal methods:** Dispose of waste and residues in accordance with local authority requirements. Mix with compatible chemical which is less flammable and incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.

SECTION 14: Transport information

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.

DOT

Reportable Quantity: 5,000lbs (methyl isobutyl ketone)
Possible Shipping Description(s):

UN 1224 Ketones, liquid, n.o.s. (methyl propyl ketone,methyl isobutyl ketone) 3 II

IMDG - International Maritime Dangerous Goods Code

Possible Shipping Description(s):

UN 1224 KETONES, LIQUID, N.O.S. (methyl propyl ketone,methyl isobutyl ketone) 3 II

IATA

Possible Shipping Description(s):

UN 1224 Ketones, liquid, n.o.s. (methyl propyl ketone,methyl isobutyl ketone) 3 II

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS (Canada) Status: controlled

WHMIS (Canada) Hazard Classification: B/2, D/2/A, D/2/B

SARA 311-312 Hazard Classification(s):

immediate (acute) health hazard
delayed (chronic) health hazard
fire hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List

METHYL ISOBUTYL KETONE

OSHA: hazardous

TSCA (US Toxic Substances Control Act): All components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): All components of this product are listed on AICS or otherwise comply with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): All components of this product are listed in the Handbook or have been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): All components of this product are listed on the Korean inventory or otherwise comply with the Korean Toxic Substances Control Act.

Philippines Inventory (PICCS) : All components of this product are listed on the Philippine inventory or otherwise comply with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 2, Flammability - 3, Chemical Reactivity - 1

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Revision Information: Not relevant.

Key literature references and sources for data: No data available.

Training information: No data available.

Issue Date: 12/17/2016

SDS No.:

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