

Methyl Isobutyl Ketone

Version 1.02

Revision Date 12.09.2017

Material Safety Data Sheet

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

Trade name	Methyl Isobutyl Ketone	
Synonyms	2-methyl-4-pentanone, 2-methylproyl methyl ketone, Hexone, isobutyl methyl ketone, MIBK.	
Use	Solvent. Raw material for printing inks and printing ink additives. Raw material for photochemicals.	
Company	Sasol Chemicals, a division of Sasol South Africa (Pty) Ltd Sasol Place, 50 Katherine Street Sandton 2090 South Africa +27103445000	
Telephone	CHEMTREC North America Transport Emergency (24-hr)	(800) 424-9300
	CHEMTREC World Wide Transport Emergency (24-hr)	(703) 527-3887
	MSDS and Product Information (8:00am-4:30pm CST)	(281) 588-3315
	Sasol LCCC Main Gate Guard	(337) 494-5142
E-mail address	SasolElectronicSDS@us.sasol.com	

SECTION 2 Hazards identification

Classification of the substance or mixture

Classification	Flammable liquids	Category 2
	Acute oral toxicity	Category 4
	Eye irritation	Category 2A
	Specific target organ toxicity - single exposure	Category 3

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Label elements

South Africa. GHS Classification and Labelling of Chemicals - SANS

10234

Pictogram



Signal word

Danger

Hazard statements

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

Precautionary statements

Prevention

P210: Keep away from open flames/hot surfaces. - No smoking.
 P240: Ground/bond container and receiving equipment.
 P241: Use explosion-proof electrical/ ventilating/ lighting equipment.
 P243: Take precautionary measures against static discharge.
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P271: Use only outdoors or in a well-ventilated area.
 P264: Wash hands thoroughly after handling.

Response

P303 + P361 + P353: IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P312: Call a POISON CENTER/doctor if you feel unwell.
 P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for

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several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P337 + P313: If eye irritation persists: Get medical advice/ attention.

P370 + P378: In case of fire: Use alcohol-resistant foam, carbon dioxide or dry sand for extinction.

Storage

P403 + P233 + P235: Store in a well-ventilated place. Keep container tightly closed. Keep cool.

P405: Store locked up.

Disposal

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

Other hazards

No data available

SECTION 3 Composition/information on ingredients

<u>Components</u>	<u>CAS-No.</u>	<u>Weight percent</u>
Methyl Isobutyl Ketone	108-10-1	100.00

Exposure limit(s): See chapter 8

Classification and hazard labelling: See chapter 15

SECTION 4 First aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before re-use. If skin irritation persists, call a physician.

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Inhalation Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

Ingestion If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5 Firefighting measures

Fire/explosion Vapours may form explosive mixtures with air. Flash back possible over considerable distance.

Hazardous combustion products Carbon oxides.

Suitable extinguishing media Water spray.
Alcohol-resistant foam.
Dry chemical.
Carbon dioxide (CO₂).

Unsuitable extinguishing media No information available.

Protection measures and instructions Wear self-contained breathing apparatus and protective suit.

Further information Cool containers/tanks with water spray.

SECTION 6 Accidental release measures

Personal precautions Keep people away from and upwind of spill/leak. Remove all sources of ignition. Do not breathe vapours or spray mist. Material can create slippery conditions.

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Environmental precautions Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material and dispose of as hazardous waste.

Exposure controls/personal protection: See chapter 8

SECTION 7 Handling and storage

Safe handling advice Provide sufficient air exchange and/or exhaust in work rooms. Wear personal protective equipment. Ensure all equipment is electrically grounded before beginning transfer operations. Take precautionary measures against static discharges.

Advice on protection against fire and explosion Keep away from heat and sources of ignition. Use explosion-proof equipment.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8 Exposure controls/personal protection

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Eyes Safety glasses with side-shields

Skin Protective suit Safety shoes

Inhalation In case of insufficient ventilation, wear suitable respiratory equipment.

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Hand protection Gloves suitable for permanent contact:

Material: butyl-rubber

Break through time: 4 h

Material thickness: 0.5 mm

Hygiene measures Wash hands before breaks and immediately after handling the product.

Protective measures Wear suitable protective equipment.

Exposure Guidelines

Components Exposure limit(s)

PEL= Permissible Exposure Limits
TLV= Threshold Limit Value
EL= Excursion Limit

TWA= Time Weighted Average (8 hr.)
STEL= Short Term Exposure Limit (15 min.)
WEEL= Workplace Environmental Exposure Level

SECTION 9 Physical and chemical properties

State of matter Liquid

Colour Colourless

Odour Characteristic

Form Liquid

Boiling point/boiling range 117 ° C

Flash point 14 ° C DIN 51755 closed cup

Lower explosion limit 01.2 %(V)

Upper explosion limit 08.0 %(V)

Vapour pressure 20.2 hPa at 20 ° C

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Solubility(ies)	14.1 g/l
Viscosity, dynamic	0.585 mPa.s at 20 ° C
Melting point/range	-84 ° C
Density	0.79 g/cm ³ at 20 ° C
pH	No data available
Partition coefficient: n-octanol/water	No data available

SECTION 10 Stability and reactivity

Reactivity	Hazardous decomposition products formed under fire conditions.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Heat, flames and sparks.
Hazardous decomposition products	Carbon oxides.
Materials to avoid	Strong oxidizing agents Incompatible with acids. Halogenated compounds
Hazardous polymerisation	Hazardous polymerisation does not occur.

SECTION 11 Toxicological information

Acute oral toxicity	Methyl Isobutyl Ketone: LD50 Rat: > 2,000 mg/kg; (literature value)
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Acute inhalation toxicity	Methyl Isobutyl Ketone: LC50 Rat: 4 h; 2 - 20 mg/l; (literature value)
Acute dermal toxicity	Methyl Isobutyl Ketone: LD50 Rat: > 2,000 mg/kg; (literature value)
Skin irritation	Methyl Isobutyl Ketone: Rabbit: Slightly irritating; (literature value)
Eye irritation	Methyl Isobutyl Ketone: Rabbit: irritating (literature value)
Sensitisation	Methyl Isobutyl Ketone: Maximisation Test; Guinea pig: Not sensitizing; OECD Test Guideline 406; (literature value)
Mutagenicity	Methyl Isobutyl Ketone: Ames test: Salmonella typhimurium; with and without; Not mutagenic; (literature value)

SECTION 12 Ecological information

Ecotoxicity effects

Toxicity to fish	Methyl Isobutyl Ketone: static test; Pimephales promelas; 96 h; LC50; > 100 mg/l; (literature value)
Toxicity to daphnia and other aquatic invertebrates	Methyl Isobutyl Ketone: static test; Daphnia magna; 48 h; EC50; > 100 mg/l (literature value)
Toxicity to algae	Methyl Isobutyl Ketone: static test; Desmodesmus subspicatus (green algae); EC50; > 100 mg/l; (literature value)

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Biodegradability	Methyl Isobutyl Ketone: aerobic; activated sludge, domestic, non-adapted; 100 mg/l; Biochemical oxygen demand; > 70 %; 7 d; Readily biodegradable.; OECD Guideline 301 E; (literature value)
Mobility in soil	No data available
Results of PBT and vPvB assessment	This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13 Disposal considerations

Waste Classification US. EPA Resource Conservation and Recovery Act: (RCRA) D List of Characteristic Hazardous Wastes (40 CFR 261.21-24): D001

**Waste from residues /
unused products** In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. The product should not be allowed to enter drains, water courses or the soil.

**Uncleaned empty
packaging** Do not burn, or use a cutting torch on, the empty drum. Triple rinse containers. Can be offered for recycling, re-conditioning or puncture.

Handling and storage: See chapter 7

Exposure controls/personal protection: See chapter 8

SECTION 14 Transport information

DOT/49CFR UN 1245 METHYL ISOBUTYL KETONE, 3, II

IMDG UN 1245 METHYL ISOBUTYL KETONE, 3, II; EmS F-E, S-D

ICAO/IATA UN 1245 METHYL ISOBUTYL KETONE, 3, II

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Methyl Isobutyl Ketone
Marine pollutant	Pollution Category: Z
	Ship Type: 3
	Not a Marine Pollutant

SECTION 15 Regulatory information

U.S. Federal Classifications:

OSHA Hazards Flammable liquid, Mild eye irritant, Mild respiratory irritant

SARA 311/312 Fire Hazard, Acute Health Hazard

U.S. Regulated Ingredients:

Hazard information reporting

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

<u>Components</u>	<u>CAS-No.</u>
4-Methylpentan-2-one	108-10-1

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

<u>Components</u>	<u>CAS-No.</u>
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.	

Spill reporting

US. EPA CERCLA Hazardous Substances (40 CFR 302)

<u>Components</u>	<u>CAS-No.</u>	<u>Reportable Quantity</u>
4-Methylpentan-2-one	108-10-1	5000 lbs

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Health

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

Components

4-Methylpentan-2-one

Listed.

CAS-No.

108-10-1

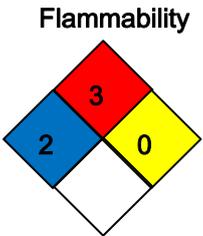
Inventories

USA TSCA Inventory	All chemical constituents are listed in: USA TSCA Inventory (See chapter 3)
Canadian Domestic Substances List (DSL)	All chemical constituents are listed in: Canadian Domestic Substances List (DSL) (See chapter 3)
Australian Inv. of Chem. Substances (AICS)	All chemical constituents are listed in: Australian Inv. of Chem. Substances (AICS) (See chapter 3)
New Zealand Inventory of Chemicals (NZIoC)	All chemical constituents are listed in: New Zealand Inventory of Chemicals (NZIoC) (See chapter 3)
Jap. Inv. of Exist. & New Chemicals (ENCS)	All chemical constituents are listed in: Jap. Inv. of Exist. & New Chemicals (ENCS) (See chapter 3)
Japan. Industrial Safety & Health Law (ISHL)	All chemical constituents are listed in: Japan. Industrial Safety & Health Law (ISHL) (See chapter 3)
Korea. Existing Chemicals Inventory (KECI)	All chemical constituents are listed in: Korea. Existing Chemicals Inventory (KECI) (See chapter 3)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	All chemical constituents are listed in: Philippines Inventory of Chemicals and Chemical Substances (PICCS) (See chapter 3)
China Inv. Existing Chemical Substances (IECSC)	All chemical constituents are listed in: China Inv. Existing Chemical Substances (IECSC) (See chapter 3)

Other international regulations

WHMIS Classification Flammable liquid

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SECTION 16 Other information
Hazard Ratings

NFPA:	HMIS:						
<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;">Health</div>  <div style="margin-left: 20px;">Reactivity Hazard</div> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr style="background-color: #0070C0; color: white;"> <td style="padding: 2px;">Health</td> <td style="text-align: center; padding: 2px;">2</td> </tr> <tr style="background-color: #FF0000; color: white;"> <td style="padding: 2px;">Flammability</td> <td style="text-align: center; padding: 2px;">3</td> </tr> <tr style="background-color: #FFFF00;"> <td style="padding: 2px;">Reactivity Hazard</td> <td style="text-align: center; padding: 2px;">0</td> </tr> </tbody> </table> <p style="font-size: small; margin-top: 5px;"> 0 = not significant, 1 = Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic </p>	Health	2	Flammability	3	Reactivity Hazard	0
Health	2						
Flammability	3						
Reactivity Hazard	0						

All reasonable efforts were exercised to compile this SDS in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The SDS only provides information regarding the health, safety and environmental hazards at the date of issue, to facilitate the safe receipt, use and handling of this product in the workplace and does not replace any product information or product specifications. Since Sasol and its subsidiaries cannot anticipate or control all conditions under which this product may be handled, used and received in the workplace, it remains the obligation of each user, receiver or handler to, prior to usage, review this SDS in the context within which this product will be received, handled or used in the workplace. The user, handler or receiver must ensure that the necessary mitigating measures are in place with respect to health and safety. This does not substitute the need or requirement for any relevant risk assessments to be conducted. It further remains the responsibility of the receiver, handler or user to communicate such information to all relevant parties that may be involved in the receipt, use or handling of this product.

Although all reasonable efforts were exercised in the compilation of this SDS, Sasol does not expressly warrant the accuracy of, or assume any liability for incomplete information contained herein or any advice given. When this product is sold, risk passes to the purchaser in accordance with the specific

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terms and conditions of sale.