

METHYL ISOBUTYL KETONE

1. Chemical product and company identification

Trade name : Methyl Isobutyl Ketone
Synonym : Methyl Isobutyl Ketone, 2-methylpropyl methyl ketone, Hexone, Isobutyl methyl ketone, 2-methyl-4-pentanone
Product code : 2111
Use : Solvent

C. Manufacturer / Supplier / Distributor Information

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2. COMPOSITION AND INFORMATION ON INGREDIENTS

Identification of the risk

R11 : Highly Flammable
R20 : Harmful by inhalation
R36 / 37 : Irritating to eyes and respiratory system.
R66 : Repeated exposure may cause skin dryness or cracking.

3. COMPOSITION / INFORMATION ON INGREDIENTS

4-methylpentan-2-one; isobutyl methyl ketone

Contents : 99.50 % W/W

CAS-No : 108-10-1 Index-No. :606-004-00-4 EC-No. : 203-550-1
Symbol(s) : F, Xn R-phrases) -R11-R20-R36/37- R66

For the text of the R- phrase mentioned in this section, See section 16

4. FIRST AID MEASURES

General advice : Consult a physician if necessary
Inhalation : Consult a physician if necessary
Skin contact : Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. Monitoring breathing, get medical attention immediately.

DISCLAIMER

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Skin contact	: Wash off immediately with plenty of water for at least 15 minutes. When symptoms persist or in all cases of doubt seek medical advice.
Eye contact	: Rinse immediately with plenty of running water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Call a physician immediately.
Ingestion	: Do not induce vomiting without medical. Seek medical advice

5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray, Dry powder, Alcohol - resistant foam
Special protective equipment for firefighters	: Wear self-contained breathing apparatus and protective suit
Further information	: Cool containers/ tanks with water spray

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.
Environmental precautions	: Prevent product from entering drains.
Methods for cleaning	: Soak up with inert absorbent material and dispose of as hazardous waste.
Additional advice	: Never return spills in original containers for re-use.

7. HANDLING AND STORAGE

Handling	
Safe handling advice	: Avoid inhalation of vapour mist. Wear personal protective equipment.
Advice on protection against fire and explosion	: Keep away from heat and sources of ignition. Use only explosion- proof equipment.
Storage	
Requirements for storage areas and containers	: keep containers tightly closed in a dry, cool and well- ventilated place.

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8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Components with workplace control parameter

NATIONAL OCCUPATIONAL EXPOSURE LIMITS

EUROPEAN OCCUPATIONAL EXPOSURE LIMITS

Components	Type	Control parameters	Update	Basis
4-METHYLPENTAN-2-ONE	TWA	83mg/m ³	12 2009	EU Exposure Limit Values
	TWA	20 ppm	12 2009	EU Exposure Limit Values
	STEL	208 mg/m ³	12 2009	EU Exposure Limit Values
	STEL	50 ppm	12 2009	EU Exposure Limit Values

Engineering measures

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

Personal protective equipment

Respiratory protection	: In case of insufficient ventilation, wear suitable respirator equipments.
Hand protection	: Gloves suitable for permanent contact: - Material: butyl-rubber - Break through time: 4 h - Material thickness: 0.5 mm
Eye protection	: Safety glasses with side- shields
Skin and body protection	: Protective suit, Safety shoes
Hygiene measures	: Wash hands before breaks and immediately after handling the product.
Protective measures	: Wear suitable protective equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: Liquid
State of matter	: Liquid; at 20 °C; 1,013 hPa
Colour	: Colourless
Odour	: Pleasant
Melting point/range	: -84 °C
Boiling point/ boiling range	: 115.9 °C

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Flash point	: 14 °C; Closed cup
Autoignition temperature	: 448 °C
Lower explosion limit	: 1.4 % (V)
Upper explosion limit	: 7.5 % (V)
Vapour pressure	: 15.7 hPa; 20 °C
Density	: 0.80 g/cm ³ ; 20 °C
Water Solubility	: immiscible
Partition coefficient: n-octano/water	: log Pow: 1.2
Viscosity, dynamic	: 0.575 mPa.s; 20 °C
Relative vapour density	: 3.45

10. STABILITY AND REACTIVITY

Materials to avoid	: Oxidizing agents, Reducing agents
Hazardous decomposition products	: Carbon oxides
Thermal decomposition	: Stable under recommended storage conditions.
Hazardous reactions	: No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMARION

Acute oral toxicity	: LD50 rat: 2,080 mg/kg; (literature value)
Acute inhalation toxicity	: LC50 rat: 100 g/ m ³ ; (literature value)
Acute dermal toxicity	: LD50 rabbit: 1,600 mg/kg; (literature value)
Skin irritation	: rabbit: Mild skin irritation; (literature value)
Eye irritation	: rabbit: Moderate eye irritation; ; irritating (literature value)
Sensitisation	: No data available
Genotoxicity in Vitro	: No data available
Reproductive toxicity	: This information is not available
Teratogenicity	: This information is not available.
Human experience: if inhaled	: Harmful by inhalation
Human experience: In case of skin contact	: Repeated exposure may cause skin dryness or cracking.
Human experience: In case of eye contact	: Irritating to eyes
Human experience: if swallowed	: No data available

12. ECOLOGICAL INFORMATION

Biodegradability	: Readily biodegradable. ; 84 %; 14 d; (literature value)
Bioaccumulation	: No data available
Ecotoxicity effects	
Toxicity to fish	: LC50 Pimephales promelas: 505- 540 mg/l; 96 h (literature value).

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**Toxicity to daphnia and other aquatic
Toxicity to algae**

: LC50 Salmo gairdneri: 600 mg/l; 96 h; (literature value)
: EC50 Daphnia magna: 1000 mg/l; 24 h; (literature value)
: EC50 Pseudokirchneriella subcapitata: 400 mg/l; 96 h; (literature value)
: EC50 Desmodesmus subspicatus (green algae): 980 mg/l

Further information

: No data available

13. DISPOSAL CONSIDERATIONS

**Product
Contaminated packaging**

: Dispose of in accordance with local regulations.
: Store containers and offer for recycling of material when in accordance with the local regulations

14. TRANSFORM INFORMATION

ADR

: UN number: 1245; Class 3, Packaging group: II; F1;
Description of the goods: METHYL ISOBUTYL KETONE

RID

: UN number: 1245; Class 3, Packaging group: II; F1;
Description of the goods: METHYL ISOBUTYL KETONE

ADNR

: UN number: 1245; Class 3, Packaging group: II; F1;
Description of the goods: METHYL ISOBUTYL KETONE

IMDG

: UN number: 1245; Class 3; Packaging group: II;
Description of the goods: Methyl isobutyl ketone

15. REGULATORY INFORMATION

Labelling



**Regulatory base
Symbol(s)**

: 67 / 548 / EEC
: F: Highly flammable
: Xn: harmful

R- phrase(s)

: R11: Highly flammable
: R20 Harmful by inhalation
: R 36/37: Irritating to eyes and respiratory system.
: R 66: Repeated exposure may cause skin dryness or cracking.

S- phrase(s)

: S 2: Keep out of the reach of children
: S 9: Keep container in a well- ventilated place
: S 16: keep away from sources of ignition- no smoking.
: S 29: Do not empty into drains.

**Hazardous components
which must be listed on**

: 4- methylpentan-2-one; isobutyl methyl ketone

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16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R11	Highly flammable.
R36	Irritating to eyes.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

All reasonable efforts were exercised to compile this SDS in accordance with ISO 11014 and ANSIZ400.1.1993. The SDS provides information regarding the health, safety and environmental hazards, at the date of issue, to facilitate the safe receipt, use and handling of the product in the workplace. Since RAR Resin & Chemical Industries and its subsidiaries cannot anticipate or control all conditions under which the 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 the 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 as regards 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 the product.

Although all reasonable efforts were exercised in the compilation of this SDS, RAR Resin & Chemical Industries does not expressly warrant the accuracy or assume any liability for the incompleteness of the information contained herein or any advice given. The product is sold and risk passes in accordance with the specific terms and conditions of sale.

The MSDS was created by: F. SHAI

The MSDS was approved by: M. HUYSER