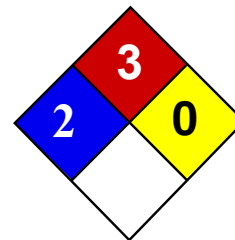




Safety Data Sheet

Isobutyl methyl ketone



Section 1: Chemical Product and Company Identification

Product Name: Isobutyl methyl ketone

Contact Information:

Catalog Codes: 285

CAS#: 108-10-1

Email: info@drm-chem.com

RTECS: -

Address: #7, Afshar javan Alley, Sohrevardi St, Tehran, Iran

TSCA: -

post code: 1551818111

Synonym: MIBK, Isopropylacetone, 4-Methyl-2-pentanone, Methyl isobutyl ketone

Tehran Sales: +98 21 88177760

Chemical Name: Isobutyl methyl ketone

Order Online: Drm-chem.com

Chemical Formula: C₆H₁₂O

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Isobutyl methyl ketone	108-10-1	-

Toxicological Data on Ingredients:

Section 3: Hazards Identification

3.1 Classification of the substance or mixture

Flammable liquids, (Category 2)
 Acute toxicity, (Category 4)
 Eye irritation, (Category 2)
 Carcinogenicity, (Category 2)
 Specific target organ toxicity - single exposure,
 (Category 3), Central nervous system

H225: Highly flammable liquid and vapor.
 H332: Harmful if inhaled.
 H319: Causes serious eye irritation.
 H351: Suspected of causing cancer if inhaled.
 H336: May cause drowsiness or dizziness.

3.2 Label elements

Pictogram	
Signal Word	Danger
Hazard Statements	
H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer if inhaled.
Precautionary Statements	
P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
Supplemental Hazard information (EU)	
EUH066	Repeated exposure may cause skin dryness or cracking.

Pictogram	
Signal Word	Danger
Hazard Statements	
H351	Suspected of causing cancer if inhaled.

Precautionary Statements

P202

Do not handle until all safety precautions have been read and understood.

P308 + P313

IF exposed or concerned: Get medical advice/attention.

Supplemental Hazard information (EU)

EUH066

Repeated exposure may cause skin dryness or cracking.

3.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 4: First Aid Measures

4.1 Description of first-aid measures

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire and Explosion Data

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂) Foam Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 3.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Protected from light. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Local effects	208 mg/m ³
Worker DNEL, acute	inhalation	Systemic effects	208 mg/m ³
Worker DNEL, longterm	inhalation	Local effects	83 mg/m ³
Worker DNEL, longterm	inhalation	Systemic effects	83 mg/m ³
Worker DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, acute	inhalation	Local effects	155,2 mg/m ³
Consumer DNEL, acute	inhalation	Systemic effects	155,2 mg/m ³
Consumer DNEL, longterm	inhalation	Local effects	14,7 mg/m ³
Consumer DNEL, longterm	inhalation	Systemic effects	14,7 mg/m ³
Consumer DNEL, longterm	dermal	Systemic effects	4,2 mg/m ³
	oral	Systemic effects	4,2 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment

Fresh water

Sea water

Aquatic intermittent release

Sewage treatment plant

Sewage treatment plant

Sea sediment

Soil

Value

0,6 mg/l

0,06 mg/l

1,5 mg/l

27,5 mg/l

8,27 mg/kg

0,83 mg/kg

1,3 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 240 min

Material tested: Butoject® (KCL 898)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion

Section 9: Physical and Chemical Properties

Physical state	liquid
Color	colorless
Odor	characteristic
pH	at 20 °C neutral
Melting point/freezing point	Melting point: -85 °C
Initial boiling point and boiling range	115,8 °C at 1.013,25 hPa
Flash point	14 °C - closed cup - DIN 51755 Part 1
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 8 %(V) Lower explosion limit: 1,2 %(V)

Vapor pressure	20 hPa at 20 °C
Density	0,80 g/cm ³ at 20 °C
Relative density	No data available
Water solubility	14,1 g/l at 20 °C - OECD Test Guideline 105- completely soluble
Partition coefficient: n-octanol/water	log Pow: 1,9 - Bioaccumulation is not expected.
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 0,59 mPa.s at 20 °C
Relative vapor density	No data available
Explosive properties	No data available
Oxidizing properties	None
Other safety information	No data available
Surface tension	23,6 mN/m at 20 °C
Relative vapor density	3,46 - (Air = 1.0)

Section 10: Stability and Reactivity Data

10.1 Reactivity

Stable under recommended storage conditions. Vapors may form explosive mixture with air.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents.

Reducing agents

Bases

10.4 Conditions to avoid

May form peroxides on contact with air.

Warming.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Peroxides

In the event of fire: see section 5

Section 11: Toxicological Information

11.1 Information on toxicological effects

Mixture

Acute toxicity

LD50 Oral - Rat - 2.080 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male - 4 h - 11,6 mg/l – vapor

(OECD Test Guideline 403)

Acute toxicity estimate Inhalation - 11 mg/l – vapor

(Acute toxicity estimate according to Regulation (EC) No. 1272/2008)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit Result:

No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: slight irritation - 72 h

(OECD Test Guideline 405)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2).

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test Test

system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: rat hepatocytes

Metabolic activation: without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Intraperitoneal
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Suspected of causing cancer if inhaled.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness. - Respiratory Tract

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Gavage - 90 d - NOAEL (No observed adverse effect level) - 250 mg/kg - LOAEL (Lowest observed adverse effect level) - 1.000 mg/kg

Remarks: Subchronic toxicity

Blurred vision, Dermatitis

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish	static test LC50 - Danio rerio (zebra fish) - > 179 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	semi-static test NOEC - Daphnia - 30 - 78 mg/l - 21 d (OECD Test Guideline 211)

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 83 % - Readily biodegradable. (OECD Test Guideline 301F)
Theoretical oxygen demand	2.720 mg/g Remarks: (Lit.)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

Section 13: Disposal Considerations

13.1 Waste treatment methods

No data available

Section 14: Transport Information

14.1 UN number

ADR/RID: 1245

IMDG: 1245

IATA: 1245

14.2 UN proper shipping name

ADR/RID: METHYL ISOBUTYL KETONE

IMDG: METHYL ISOBUTYL KETONE

IATA: Methyl isobutyl ketone

14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

Tunnel restriction code: (D/E)

Further information: No data available

Section 15: Other Regulatory Information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards

P5c FLAMMABLE LIQUIDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

Created: /08/2025

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