

# SAFETY DATA SHEET

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT

**Product Name:** Methyl Isobutyl Ketone  
**Product Description:** -  
**Chemical Formula:** -  
**Recommended Use:** -

### COMPANY IDENTIFICATION

**Supplier:** UNION PETROCHEMICAL PUBLIC COMPANY LIMITED  
728 Union House Building, Baromratchonnani Rd.,  
Bangbumru, Bangplad, Bangkok 10700  
**Supplier General Contact:** +662 881 8288

This (M)SDS is a generic document with no country specific information included.

## SECTION 2 HAZARDS IDENTIFICATION

### GHS CLASSIFICATION:

Flammable liquid : Category 2  
Acute toxicity (Inhalation) : Category 3  
Eye irritation : Category 2B  
Carcinogenicity : Category 2  
Specific target organ toxicity - single exposure : Category 3 (Respiratory tract irritation, Narcotic effects)  
Specific target organ toxicity - repeated exposure : Category 1 (Nervous system)

\*what does not have statement in the above are: not classified, no classification or classification not possible.

### GHS LABEL ELEMENTS:

#### Pictogram:



**Signal Word:** Danger

**Hazard Statements:** Highly flammable liquid and vapour.  
Causes eye irritation.  
Toxic if inhaled.  
May cause respiratory irritation. May cause drowsiness or dizziness.  
Suspected of causing cancer.  
Causes damage to organs (Nervous system) through prolonged or repeated exposure.

### Precautionary Statements:

**Prevention:** Obtain special instructions before use, and DO NOT handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed and take precautionary measures against static discharge; ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment and non-sparking tools. Use only outdoors or in a well-ventilated area and DO NOT breathe dust/ fume/gas/mist/vapours/spray. Use personal protective equipment; protective helmet/eye protection/ face protection/respirator/protective gloves/protective



clothing/safety shoes/protective boots as required. Wash hands and face thoroughly after handling. Avoid release to the environment.

**Response:** In case of fire: Use Water mist, Foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>), Dry sand, etc. for extinction. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention. IF ON SKIN or HAIR: Immediately remove all contaminated clothing. Wash skin with soap and water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned, or if you feel unwell: Get medical advice/ attention.

**Storage:** Keep container tightly closed. Store in well ventilated area. Store locked up. Keep container tightly closed. Avoid direct sunlight, open flame, and ignition sources. Store in cool/well ventilated area.

**Disposal:** Dispose of contents/container in accordance with local/regional/ international regulations. Do not reuse the container for any other purpose. Dispose of in accordance with applicable laws and regulations.

### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Pure substance/mixture : Substance

Chemical Name (Synonyms)	CAS No.	Concentration*
4-Methylpentan-2-one (Methyl Isobutyl Ketone)	108-10-1	>=99%

### SECTION 4 FIRST AID MEASURES

#### INHALATION

Remove to fresh air. If vomiting, turn the face sideways to avoid asphyxiation.

If not breathing, give artificial respiration. Keep the affected person warm and at rest. Get medical attention immediately.

#### SKIN CONTACT

Immediately remove contaminated clothing and shoes. Flush skin with large amounts of water, clean off with soap and water. Get medical attention if symptoms develop.

#### EYE CONTACT

Get immediate medical advice/ attention. Immediately flush eyes with plenty of water for several minutes.

Part eyelids with fingers to assure complete flushing. Check for and remove contact lenses if easily possible.

#### SWALLOWED

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Keep the affected person warm and at rest. Get medical attention immediately.

#### PROTECTION OF FIRST-AIDERS

Wear appropriate personal protective equipment such as protective gloves, protective clothing, eye protection, face protection, etc.

#### NOTE TO PHYSICIAN

Treat symptomatically.

### SECTION 5 FIRE FIGHTING MEASURES

#### SUITABLE EXTINGUISHING MEDIA

Water mist, Foam, Dry chemical, Carbon dioxide (CO<sub>2</sub>), Dry sand

#### UNSUITABLE EXTINGUISHING MEDIA

Water jet

#### SPECIFIC HAZARDS DURING FIREFIGHTERS

Flammable liquid. Vapours may cause flash fire.

## SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Respiratory and eye protection required for fire-fighting personnel. Full protective equipment and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires.

## FURTHER INFORMATION

Remove all sources of ignition. Keep unnecessary and unprotected personnel away. Remove containers to safe place if possible. Fight fire from an upwind position. Keep surrounding areas cool by spraying water.

## SECTION 6

## ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear appropriate personal protective equipment such as protective gloves, protective clothing, eye protection, face protection, etc. Keep unnecessary and unprotected personnel away. Keep upwind, evacuate downwind. Wear appropriate personal protective equipment as specified in Section 8. Evacuate immediate area. Warn personnel of fire, explosion, and health hazard.

### ENVIRONMENTAL PRECAUTIONS

Do not flush into sewer, river, or any body of water. Warn and evacuate the neighborhood as necessary.

### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Use only non-sparking tools. Absorb or cover with dry earth, sand or other non-combustible material and transfer to sealable containers. Large spills: Dike far ahead of liquid spill for later disposal. Stop leak if possible without personal risk.

## SECTION 7

## HANDLING AND STORAGE

### HANDLING

Technical measures : Refer to the "Engineering measures" in Section 8. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Wear appropriate personal protective equipment. Provide hand and eye wash station near work area. Wash thoroughly after handling. Use only in well-ventilated area. Keep away from heat, sparks, and flame. Use explosion-proof electrical equipment. Take precautions against build-up of electrostatic charges. This material can form explosive mixture with air. Beware of vapour leaks.

Advice on safe handling : Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Prevent leak and spill. Avoid vapour formation. Do not fall, drop, shock or drag the container. Avoid contact with eyes, skin, and clothing. Avoid inhalation and ingestion. Use only in well-ventilated area or outdoors.

Avoidance of contact : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, flame, and all sources of ignition. Store in a segregated and approved area.

Hygiene measures : Wash hands thoroughly after handling. Do not eat, drink, or smoke when using this product.

### STORAGE

Conditions for safe storage : Store locked up. The floor must be protected from water and impermeable. The inventory location must be fire-resisting. Make the roof from nonflammable materials, and do not install the ceiling. Install appropriate facilities for lighting/ventilating. Ground and bond containers and equipment to prevent build-up of electrostatic charges. Materials to avoid: Strong oxidizers, Reducers, etc.

Suitable container and : Use UN approved containers or containers approved by local and national  
Packaging materials authorities. for Safe storage.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMIT VALUES

USA. ACGIH Threshold Limit Values (TLV)

4-methylpentan-2-one : TWA 20 ppm [2012]  
: STEL 75 ppm [2012]

Engineering measures : Provide safety shower and eye wash station near work area.  
Use closed system or local exhaust ventilation.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection : Respirator with filter for organic vapour

Hand protection : Protective gloves

Eye protection : Safety goggles, Eye shield, Face shield

Skin and body protection : Protective suit, Safety helmet, Safety boots, Apron

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

Physical state : liquid  
Colour : clear colorless  
Odour : characteristic  
Odour Threshold : 0.5 ppm

### SAFETY DATA

pH : not determined  
Melting point/range : -84.7 °C  
Boiling point/boiling range : 117 - 118 °C  
Flash point : 14 °C Test Method: closed cup  
Auto-ignition temperature : 460 °C  
Lower explosion limit : 1.4 %(V) (in air)  
Upper explosion limit : 7.5 %(V) (in air)  
Vapour pressure : 2.1 kPa ( 20 °C)  
Relative vapour density : 3.45 (air = 1.0)  
Density : 0.80  
Water solubility : 19.1 g/l ( 20 °C )  
Partition coefficient: log Pow: 1.38  
n-octanol/water :  
Thermal decomposition : not determined

## SECTION 10 STABILITY AND REACTIVITY

**CHEMICAL STABILITY :** Stable under normal conditions.

**CONDITIONS TO AVOID :** Heat

**MATERIALS TO AVOID :** Strong oxidizers, Reducers, etc.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Not available

**HAZARDOUS REACTIONS:** Reacts violently with strong oxidizers and reducers.  
Attacks many plastics and rubbers.

<b>SECTION 11</b>	<b>TOXICOLOGICAL INFORMATION</b>
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Acute oral toxicity :	Not classified
Acute dermal toxicity :	Not classified
Acute inhalation toxicity :	Category 3 Acute toxicity estimate : 8.18 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
Skin corrosion/irritation :	Not classified
Serious eye damage/eye Irritation :	Category 2B
Sensitisation :	Respiratory sensitisation: Classification not possible Skin sensitisation: Not classified
Germ cell mutagenicity :	Not classified
Carcinogenicity :	Category 2
Reproductive toxicity :	Not classified
STOT - single exposure :	Category 3(Respiratory tract irritation, Narcotic effects)
STOT - repeated exposure :	Category 1(Nervous system)
Aspiration toxicity :	Classification not possible

**Components :**

**4-methylpentan-2-one :**

Acute oral toxicity :	LD50 rat: 2080 mg/kg
Acute dermal toxicity :	LD50 rabbit: 3000 mg/kg
Acute inhalation toxicity :	LC50 rat: 8.18 mg/l Exposure time: 4 h Test atmosphere: vapour

<b>SECTION 12</b>	<b>ECOLOGICAL INFORMATION</b>
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**ECOTOXICITY**

Acute toxicity	
Acute aquatic toxicity :	Not classified
Chronic toxicity	
Chronic aquatic toxicity :	Not classified

**Components :**

**4-methylpentan-2-one :**

Acute toxicity	
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 170 mg/l Exposure time: 48 h

**BIOACCUMULATIVE POTENTIAL**

Partition coefficient n-octanol/water :	log Pow : 1.38
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**OTHER ADVERSE EFFECTS**

Hazardous to the ozone layer :	Not classifiable
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<b>SECTION 13</b>	<b>DISPOSAL CONSIDERATIONS</b>
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Waste from residues :	In accordance with local and national regulations. Dispose of wastes in an approved waste disposal facility.
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Contaminated packaging : Dispose of contents/container in accordance with local/regional/national/international regulations.  
Empty the container completely before disposal.

<b>SECTION 14</b>	<b>TRANSPORT INFORMATION</b>
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**International transport regulations**

**IATA**

UN number : UN1245  
Proper shipping name : Methyl isobutyl ketone  
Class : 3  
Packing group : II  
Environmentally hazardous : no

**IMDG**

UN number : UN1245  
Proper shipping name : METHYL ISOBUTYL KETONE  
Class : 3  
Packing group : II  
Marine pollutant : no

**IBC**

Proper shipping name : Methyl isobutyl ketone  
Pollution category : Z

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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**NOTIFICATION STATUS**

Japan	ENCS:	On the inventory, or in compliance with the inventory.
United States	TSCA:	On the inventory, or in compliance with the inventory.
European Union	EINECS, ELINCS, NLP:	All components of this product are on EINECS, ELINCS, or NLP.
Canada	DSL, NDSL:	All components of this product are on DSL.
Australia	AICS:	On the inventory, or in compliance with the inventory.
Korea	KECI:	On the inventory, or in compliance with the inventory.
China	IECSC:	On the inventory, or in compliance with the inventory.
New Zealand	NZIoC:	On the inventory, or in compliance with the inventory.
Philippine	PICCS:	On the inventory, or in compliance with the inventory.

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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Sources of key data used to : In-house data Information acquired by literature documentation compile the Safety Data Sheet

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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