

Product Name: Tert-Butyl Methyl Ether

Company: Bandar Imam Petrochemical Company-kimia

Catalogue NO: S.B.2398.3

Unit: MTBE

Section 1: Identification

Product Name : MTBE	Other Name: ----			<input type="checkbox"/> Flammability <input type="checkbox"/> Health <input type="checkbox"/> Instability <input type="checkbox"/> Special hazard	
Formula: C ₅ H ₁₂ O	CAS NO: 1634-04-4	UN NO: 2398	Class: 3 (flammable liquids)		
Identified Uses: Reagent for analysis. In compliance with the conditions described in the annex to this safety data sheet.					
Email & phone Number & Fax : dmoffice@bipc.org.ir / 0615225-2300 ,2311					
Emergency phone number: 2222-125-119 / 2242-115					

Section 2: Hazard(s) Identification

Classification of the substance or mixture: Flammable liquid, Skin irritation.	
Label elements: Labelling according Regulation (EC) No 1272/2008 Signal word: Danger	Hazard pictogram Flammable Irritation
Hazard statements: Highly flammable liquid and vapour. Causes skin irritation.	
Precautionary statements <ul style="list-style-type: none"> ▪ Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. ▪ Response: IF ON SKIN: Wash with plenty of soap and water. ▪ Storage: Store in a well-ventilated place. Keep container tightly closed. 	
Other hazards: None known.	

Section 3: Composition/Information on Ingredients

Name	Formula	CAS NO	Concentration%	Classification
tert-butyl methyl ether	C ₅ H ₁₂ O	1634-04-4	>= 50 % - <= 100 %	Flammable liquid, Skin irritation.
Methanol	CH ₃ OH	67-56-1	< 1 %	Flammable liquid, Acute toxicity, Specific target organ toxicity - single exposure.

Mixture: Not applicable.

Section 4: First-Aid Measures

GENERAL ADVICE

After inhalation: fresh air.

Following skin contact : Take off immediately all contaminated clothing. Rinse skin with water/ shower.

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

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Most important symptoms and effects, both acute and delayed: irritant effects, Dizziness, Unconsciousness, narcosis, agitation, spasms, euphoria, Nausea, Vomiting, somnolence, CNS disorders, Cough, respiratory arrest.

Indication of any immediate medical attention and special treatment needed: No information available.

Section 5: Fire-Fighting Measures

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.

SPECIFIC HAZARDS DURING FIRE FIGHTING : Combustible. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at ambient temperatures. Pay attention to flashback. Development of hazardous combustion gases or vapours possible in the event of fire.



SDS

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Advice for firefighters

Special protective equipment 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.

FURTHER INFORMATION

Prevent fire extinguishing water from contaminating surface water or the ground water system. Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet.

Section 6: Accidental Release Measures

Personal precautions ,protective equipment and emergency procedures for:

Advice for non-emergency personnel: Do not breathe vapours, 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.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions: Do not empty into drains. Risk of explosion.

Methods and materials for containment and cleaning up: Observe possible material restrictions (see sections 7 and 10). Cover drains. Collect, bind, and pump off spills.

Other information relating to spills and releases: Indications about waste treatment see section 13.

Section 7: Handling and Storage

Precautions for safe handling

- **Advice on safe handling:** Observe label precautions.
- **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.

Conditions for safe storage, including any incompatibilities

- **Storage conditions:** Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Protected from light. Recommended storage temperature see product label.

Section 8: Exposure Controls/Personal Protection

Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See section 7.

Individual protection measures : Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection : Safety glasses.

Hand protection

splash contact	
Glove material	Nitrile rubber
Glove thickness	0,40 mm
Break through time	> 120 min

Respiratory protection :

required when vapours/aerosols are generated.

Recommended Filter type: Filter AX (EN 371)

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.

Environmental exposure controls : Do not empty into drains.

Other protective equipment: Flame retardant antistatic protective clothing.

Section 9: Physical and Chemical Properties

From: Liquid.	Vapour Density: Not available.	PH: Not available.
Color: Colourless.	Density: ca.0,74 g/cm ³ at 20 °C	FLASH POINT: -28 °C
Odour: characteristic	Relative density : No information available.	AUTOIGNITION TEMP: 460 °C
Molar Mass: 88.17 g/mol	Vapour pressure: ca.268 hPa at 20 °C	LEL (V/V %): 1,5 %(V)
Water solubility: ca.42 g/l at 20 °C	Oxidizing properties: none.	UEL (V/V %): 8,5 %(V)
Melting point/range: -108,6 °C	Viscosity dynamic: 0,36 mPa.s at 20 °C	Decomposition temperat: Distillable in an undecomposed state at normal pressure.
Boiling point/range: 55,3 °C at 1.013 hPa	Explosive properties: Not classified as explosive.	

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Section 10: Stability and Reactivity

Reactivity: Vapours may form explosive mixture with air. Formation of peroxides possible.

Chemical stability: Sensitivity to light.

Possibility of hazardous reactions

Violent reactions possible with: Oxidizing agents, Strong acids, halogens, Strong bases.

Hints to prevent fire or explosion : ---

Conditions to avoid: Warming.

Incompatible materials: rubber, various plastics.

Hazardous decomposition products: Peroxides.

Section 11: Toxicological Information

Information on toxicological effects		Endpoint	Species	Exposure route	Value
OT: 0.051 ppm	TLV-TWA: 50 ppm	LD50	Rat	oral	> 2.000 mg/kg
IDLH: -	TLV-STEL: -	LC50	Rat	inhalation	85 mg/l; 4 h ; vapour

Sensitisation: Does not cause skin sensitisation.

Carcinogenicity: This information is not available.

Teratogenicity: No indication of teratogenic properties.

Specific target organ toxicity - single exposure: This information is not available.

Specific target organ toxicity - repeated exposure: This information is not available.

Aspiration hazard : This information is not available.

Symptoms LD50 : Nausea, Vomiting, Pulmonary failure possible after aspiration of vomit., Aspiration may cause pulmonary oedema and pneumonitis.

Symptoms LC50 : Possible damages:, mucosal irritations.

Further information

Systemic effects:

After absorption of large quantities: somnolence, Dizziness, euphoria, agitation, spasms, CNS disorders, Unconsciousness, narcosis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Section 12: Ecological Information (non-mandatory)

Toxicity:

Toxicity to fish : yes.

Toxicity to algae: yes.

Toxicity to bacteria: yes.

Chronic toxicity to fish: yes.

Toxicity to daphnia and other aquatic invertebrates: yes.

Chronic toxicity to daphnia and other aquatic invertebrates: yes.

Persistence and degradability

Biodegradability: 2 %; 28 d; aerobic /Not readily biodegradable.

Bioaccumulative potential: Bioaccumulation is not expected.

Partition coefficient:n-octanol/waterlog

Pow: 1,06 (20 °C)

Mobility in soil: No information available.

Other adverse effects:

Surface tension72,5 mN/m

at 21,5 °C

Method: Surface tension

Discharge into the environment must be avoided.

Section 13: Disposal Considerations (non-mandatory)

Waste treatment-relevant information:

for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Section 14: Transport Information (non-mandatory)

Basic shipping description:

In accordance with TDG

Labelling



Proper shipping name: METHYL TERT-BUTYL ETHER

UN number:2398

Class:3

Packing group : II

Environmentally hazardous:--

Special precautions for user : Yes

Section 15: Regulatory Information

Safety , Health and Environmental regulations / legislation specific for the substance or mixture

EU regulations



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Major Accident Hazard:

SEVESO III

FLAMMABLE LIQUIDS

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: not regulated.

Carcinogens: -

National legislation: Storage class 3

Chemical safety assessment: For this product a chemical safety assessment was not carried out.

Section 16: Other information

Further information

Full text of H-Statements referred to under sections 2 and 3.

H225: Highly flammable liquid and vapour.

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H315: Causes skin irritation.

H331: Toxic if inhaled.

H370: Causes damage to organs.

Hazard statements

H225: Highly flammable liquid and vapour.

H301: Toxic if swallowed.

Precautionary statements

Prevention

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P240 Ground/bond container and receiving equipment.

Response

- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P313 Get medical advice/ attention.

Storage

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

Training advice:

Provide adequate information, instruction and training for operators.

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Version: 1.1

Editors: HS&E Manager.

Reference:

according to Regulation (EC) No. 1907/2006

DISCLAIMER OF LIABILITY

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.