



**Bushehr Petrochemical Company**  
Safety Data Sheets

**Section 1: Identification**

**Product Name:** Fusel Oil  
**Chemical Name/Synonyms:** Fusel Oil  
**CAS-No:** Mixture  
**Company:** BUPC ( Bushehr Petrochemical Company )

**Section 2: Hazard(s) Identification**

**2.1 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):**

Refer to section 3.

**2.2 Precautionary Statement Codes:**

Refer to section 3.

The corresponding statement to each P-code can be found at the GHS Classification.

**2.3 GHS Label Elements Labelling:**



**2.4 Hazard Diamond:**

Health :1  
 Flammability:3  
 Physical Hazard:0  
 Specific Hazard : -



**2.5 Other Hazards:**

**Section 3: Composition/information on ingredients**

**3.1 Substance**

N.A

**3.2 Mixture**

Name	CAS NO	WT%	Classification( GHS )
Methanol	67-56-1	48%	H225,H301,H311,H331,H370 P210, P233, P240, P241, P242, P243, P260, P261, P262, P264, P270, P271, P280, P301+P316, P302+P352, P303+P361+P353, P304+P340, P308+P316, P316, P321, P330, P361+P364, P370+P378, P403+P233, P403+P235, P405, and P501
Water	7732-18-5	33.20%	N.A
Ethanol	64-17-5	10.10%	H225, H319 P210, P233, P240, P241, P242, P243, P264+P265, P280, P303+P361+P353, P305+P351+P338, P337+P317, P370+P378, P403+P235, and P501
ISO-Propanol	67-63-0	0%	H225,H319,H336 P210, P233, P240, P241, P242, P243, P261, P264+P265, P271, P280, P303+P361+P353, P304+P340, P305+P351+P338, P319, P337+P317, P370+P378, P403+P233, P403+P235, P405, and P501
1-Propanol	71-23-8	5.10%	H225,H319,H318,H336 P210, P233, P240, P241, P242, P243, P261, P264+P265, P271, P280, P303+P361+P353, P304+P340, P305+P351+P338, P319, P337+P317, P370+P378, P403+P233, P403+P235, P405, and P501
ISO-Butanol	78-83-1	0%	H226,H315,H318,H335,H336 P210, P233, P240, P241, P242, P243, P261, P264, P264+P265, P271, P280, P302+P352, P303+P361+P353, P304+P340, P305+P354+P338, P317, P319, P321, P332+P317, P362+P364, P370+P378, P403+P233, P403+P235, P405, and P501
1-Butanol	71-36-3	3.80%	H226,H315,H318,H335,H336 P210, P233, P240, P241, P242, P243, P261, P264, P264+P265, P271, P280, P302+P352, P303+P361+P353, P304+P340, P305+P354+P338, P317, P319, P321, P332+P317, P362+P364, P370+P378, P403+P233, P403+P235, P405, and P501
2-Butanol	78-92-2	0%	H226,H319,H335,H336 P210, P233, P240, P241, P242, P243, P261, P264+P265, P271, P280, P303+P361+P353, P304+P340, P305+P351+P338, P319, P337+P317, P370+P378, P403+P233, P403+P235, P405, and P501

2-pentanol	6032-29-7	0%	H226,H332,H335 P210, P233, P240, P241, P242, P243, P261, P271, P280, P303+P361+P353, P304+P340, P317, P319, P370+P378, P403+P233, P403+P235, P405, and P501
1-Hexanol	111-27-3	0%	H302 P264, P270, P301+P317, P330, and P501
Other	Mixture	0%	No data available.
The corresponding statement to each P-code can be found at the GHS Classification.			

#### Section 4: First-Aid Measures

##### 4 Description of First Aid Measures

##### 4.1 After Inhalation :

Fresh air, rest. Refer for medical attention.

##### 4.2 In case of Skin contact :

Rinse contaminated clothes (fire hazard) with plenty of water. Refer for

##### 4.3 After Eye contact:

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

##### 4.4 After Swallowing:

Do NOT induce vomiting. Give one or two glasses of water to drink. Refer immediately for medical attention.

#### Section 5: Fire-Fighting Measures

##### 5.1 Extinguishing media:

Dry chemical, CO<sub>2</sub>, water spray, or alcohol-resistant foam. Consult with local fire authorities before attempting large scale fire fighting operations.

##### 5.2 Special hazards arising from the substance or mixture:

These products include: Carbon monoxide and carbon dioxide.

##### 5.3 Advice for firefighters:

Wear self-contained respirator. Wear fully protective impervious suit.

#### Section 6: Accidental Release Measures

##### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

##### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

##### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

#### Section 7: Handling and storage

##### 7.1 Precautions for safe handling

Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Open and handle container with care.

##### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Separated from incompatible materials. Cool. Fireproof. Keep in a well-ventilated room.

#### Section 8: Exposure Controls/Personal Protection

##### 8.1 Exposure parameters

Chemical Name	CAS NO	TLV	Celling	TWA	STEL	IDLH
Methanol	67-56-1	200 ppm	*	200 ppm	250 ppm	6000 ppm
Water	7732-18-5	N.A	N.A	N.A	N.A	N.A
Ethanol	64-17-5	1000 ppm	*	1000 ppm	1000 ppm	330 ppm
ISO-Propanol	67-63-0	200 ppm	*	400 ppm	500 ppm	2000 ppm
1-Propanol	71-23-8	100 ppm	*	100 ppm	250 ppm	800 ppm
ISO-Butanol	78-83-1	50 ppm	*	50 ppm	*	1600 ppm
1-Butanol	71-36-3	20 ppm	*	100 ppm	*	1400 ppm
2-Butanol	78-92-2	100 ppm	*	100 ppm	150 ppm	2000 ppm
2-pentanol	6032-29-7	*	*	100 ppm	*	500 ppm
1-Hexanol	111-27-3	*	*	*	*	*
Other	Mixture	*	*	*	*	*

\* = No data available.

**8.2 General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment

**8.3 Breathing equipment:**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**8.4 Protection of hands:**

Handle with gloves.

**8.5 Eye protection:**

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

**Section 9: Physical and Chemical Properties****9.1 Information on basic physical and chemical properties**

**Form:** Liquid

**Odor:** Sweet smell like.

**Odor threshold:** No data available.

**pH:** No data available.

**Melting point/melting range:** No data available.

**Boiling point/boiling range:** No data available.

**Flash point:** No data available.

**Evaporation rate:** Not determined.

**Flammability:** Not determined.

**Upper flammability or explosive limits:** No data available.

**lower flammability or explosive limits:** No data available.

**Autoignition temperature:** No data available.

**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures is possible.

**Vapor pressure:**No data available.

**Vapor density:** No data available.

**Relative density:** No data available.

**Solubility in/Miscibility with water:** Miscible with water at 25 °C

**9.2 Other data****Section 10: Stability and Reactivity****10.1 Reactivity:**

Highly Flammable

**10.2 Chemical stability:**

Stable under recommended storage conditions.

**10.3 Conditions to avoid:**

no smoking, flares, sparks or flames.

**10.4 Incompatible materials:**

Acid chlorides, acid anhydrides, oxidizing agents, alkali metals,

**10.5 Hazardous decomposition products:**

Carbon monoxide and carbon dioxide.

**Section 11: Toxicological Information****11.1 Information on toxicological effects****Acute toxicity:**

Toxic in contact with skin. Toxic if inhaled. Toxic if swallowed. Danger through skin absorption.

**Skin:** Dry skin. Redness.

**Eye:** Redness. Pain. Blurred vision.

**Inhalation:** Cough. Dizziness. Headache. Weakness. Visual disturbances. Drowsiness. Shortness of breath. Convulsions. Unconsciousness.

**Ingestion:** Abdominal pain. Further see Inhalation.

**Carcinogenic effects:**No indication of carcinogenicity to humans(not

**Reproductive toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

**Target organs:**Eyes,Skin,Respiratory System,Central Nervous System,

**11.2 Further information:**

## Section 12: Ecological Information

### 12.1 Toxicity

No data available.

### 12.2 Persistence and degradability

No further relevant information available.

### 12.3 Bioaccumulative potential

No further relevant information available.

### 12.4 Mobility in soil

Fusel Oil is expected to have very high mobility in soil.

### 12.5 Results of PBT and vPvB assessment

Not applicable

### 12.6 Other adverse effects

## Section 13: Disposal Considerations

SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean, non-sparking tools to collect absorbed material.

LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor, but may not prevent ignition in closed spaces.

## Section 14: Transport Information

### 14.1 DOT regulations:

UN Number : 1201

**Proper Shipping Name:** Fusel Oil

**Class or Division:** 3 Flammable liquid

**Hazard class:** UN Hazard Class: 3; UN Subsidiary Risks: 6.1; UN Pack

## Section 15: Regulatory Information

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

No data available.

### 15.2 Chemical Safety Assessment

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

## Section 16: Other Information

### Methods of Dissemination:

Indoor Air: Fusel Oil can be released into indoor air as a liquid spray (aerosol).

Water: Fusel Oil can be used to contaminate water.

Food: Fusel Oil may be used to contaminate food.

Outdoor Air: Fusel Oil can be released into outdoor air as a liquid spray (aerosol).

Agricultural: If Fusel Oil is released into the air as a liquid spray (aerosol), it has the potential to contaminate agricultural products.

### Toxic Combustion Products:

Poisonous gases, including formaldehyde, are produced in fire.

### Other Hazardous Reactions:

Accidental use of Fusel Oil in place of hexane to rinse out a hypodermic syringe used for a dilute alkylaluminium solution caused a violent reaction which blew the plunger out of the barrel.

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