



# Bushehr Petrochemical Company

## Safety Data Sheets

### Section 1: Identification

**Product Name:** Propane  
**Chemical Name/Synonyms:** Dimethylmethane, Propyl hydride  
**CAS-No:** 74-98-6  
**Company:** BUPC ( Bushehr Petrochemical Company )

### Section 2: Hazard(s) Identification

**2.1 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):**  
H220 (99.46%): Extremely flammable gas [Danger Flammable gases]  
H280 (38.72%): Contains gas under pressure; may explode if heated [Warning Gases under pressure]  
**2.2 Precautionary Statement Codes:**  
P203, P210, P222, P280, P377, P381, P403, and P410+P403  
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 :2  
Flammability:4  
Physical Hazard:0  
Specefic Hazard : -



**2.5 Other Hazards:**

### Section 3: Composition/information on ingredients

**3.1 Substance**  
Formula : C<sub>3</sub>H<sub>8</sub>, CH<sub>3</sub>CH<sub>2</sub>CH<sub>3</sub>  
Molar Mass : 44.10 g/mol  
**3.2 Mixture**  
N.A

### Section 4: First-Aid Measures

#### 4 Description of First Aid Measures

##### 4.1 After Inhalation :

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

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

Wash off with soap and plenty of water. Consult a physician.

##### 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:

N.A

### Section 5: Fire-Fighting Measures

#### 5.1 Extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### 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 breathing apparatus for firefighting if necessary.

#### 5.4 Other data

Stable under recommended storage conditions.

## Section 6: Accidental Release Measures

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

Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours 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

Clean up promptly by sweeping or vacuum.

## 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. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

### 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	TLV	Celling	TWA	STEL	IDLH
Propane	*	*	1000 ppm	*	2100 ppm

### 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:** Gaseous

**Odor:** Odorless

**Odor threshold:** Odor Threshold Low: 12225.0 [ppm] / Odor Threshold High: 20005.0 [ppm]

**PH:** Not determined.

**Melting point/melting range:** -187.6 °C

**Boiling point/boiling range:** -42 °C

**Flash point:** -104 °C

**Evaporation rate:** No data available.

**Flammability:** Flammable Gas

**Upper flammability or explosive limits:** 9.5%

**lower flammability or explosive limits:** 2.1%

**Autoignition temperature:** 450 °C

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

**Vapor pressure:** 13,096 hPa (9,823 mmHg) at 37.7 °C (99.9 °F)

**Vapor density:** (air = 1): 1.6

**Relative density:**(water = 1): 0.5

**Solubility in/Miscibility with water:** Slightly soluble in acetone; soluble in ethanol; very soluble in ethyl ether, benzene, chloroform / In water, 62.4 ppm 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:

PROPANE is incompatible with strong oxidizing agents.

#### 10.5 Hazardous decomposition products:

The principal volatile decomposition products /of phenolic resins/ are methane, acetone, carbon monoxide, propanol, & propane.

### Section 11: Toxicological Information

#### 11.1 Information on toxicological effects

##### Acute toxicity:

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

**Skin:** Dry skin. Redness.

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

**Inhalation:** Inhalation of Propane can cause euphoria, hallucinations, confusion, blurred vision, slurred speech, nausea, vomiting, coughing, sneezing, increased salivation, drowsiness, narcosis, asphyxia, cardiac arrhythmia, and frostbite.

**Ingestion:** No data available.

**Carcinogenic effects:**No data available.

**Reproductive toxicity:** No data available.

**Target organs:**Skin,Respiratory System,Central Nervous System,cardiovascular system

#### 11.2 Further information:

### Section 12: Ecological Information

#### 12.1 Toxicity

LC50: 658 g/m<sup>3</sup> over 4 hours (Inhalation, Rat) (T14)

LC50 (rat) = 658,000 mg/m<sup>3</sup>

#### 12.2 Persistence and degradability

No data available.

#### 12.3 Bioaccumulative potential

No data available.

#### 12.4 Mobility in soil

Propane is expected to have moderate mobility in soil.

#### 12.5 Results of PBT and vPvB assessment

Not Applicable.

#### 12.6 Other adverse effects

### Section 13: Disposal Considerations

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

### Section 14: Transport Information

#### 14.1 DOT regulations:

UN Number : 1978

Proper Shipping Name: Propane

Class or Division: 2.1

Hazard class: UN Hazard Class: 2.1

### 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:

No data available.

#### Toxic Combustion Products:

The practice of burning propane and kerosene to heat ... produces NO<sub>x</sub> in potentially toxic concentrations

#### Other Hazardous Reactions:

As a result of flow, agitation, etc, electrostatic charges can be generated ... On loss of containment this liquid evaporates very quickly displacing the air and causing a serious risk of suffocation when in confined areas.

The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood).