



Bushehr Petrochemical Company Safety Data Sheets

Section 1: Identification

Product Name: Butane

Chemical Name/Synonyms: n-Butane, Methylene methane

CAS-No: 106-97-8

Company: BUPC (Bushehr Petrochemical Company)

Section 2: Hazard(s) Identification

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

H220 (99.8%): Extremely flammable gas [Danger Flammable gases]

H280 (32.76%): 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 :1

Flammability:4

Physical Hazard:0

Specific Hazard : -



2.5 Other Hazards:

Section 3: Composition/information on ingredients

3.1 Substance

Formula : C₄H₁₀, CH₃CH₂CH₂CH₃

Molar Mass : 58.12 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
Butane	*	*	1000 ppm	1000 ppm	1600 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: Faint, disagreeable odor.

Odor threshold: Odor Threshold Low: 1.2 [ppm] / Odor Threshold High: 6.5 [ppm]

pH: Not determined.

Melting point/melting range: -138.3 °C

Boiling point/boiling range: -0.50 °C

Flash point: -60 °C

Evaporation rate: Not determined.

Flammability: Flammable Gas

Upper flammability or explosive limits: 8.4%

lower flammability or explosive limits: 1.6%

Autoignition temperature: 365 °C

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

Vapor pressure: 1820 mm Hg at 25 °C

Vapor density: 2.046 (Air = 1)

Relative density: 0.6 g/mL

Solubility in/Miscibility with water: Very soluble in ethanol, ethyl ether, chloroform / Solubility in water

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:

No data available.

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. Danger through skin absorption.

Skin: Dry skin. Redness.

Eye: Redness. Pain. Blurred vision.

Inhalation: Inhalation of butane 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 component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

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

11.2 Further information:

Section 12: Ecological Information

12.1 Toxicity

LC50: 658 g/m³ over 4 hours (Inhalation, Rat) (T14)

LC50 (rat) = 658,000 mg/m³

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

Butane 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

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 : 1011

Proper Shipping Name: Butane

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:

N.A.

15.2 Chemical Safety Assessment

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

Section 16: Other Information

Methods of Dissemination:

N.A

Toxic Combustion Products:

Hazardous decomposition products formed under fire conditions. -Carbon oxides.

Other Hazardous Reactions:

On loss of containment this substance can cause suffocation by lowering the oxygen content of the air in confined areas.

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