

## Safety Data Sheet



## Section 1: Identification

**Product Name:** Isobutane

**Recommended Use:** Multiple Uses

**Manufacturer:** Anadarko Petroleum Corporation  
1201 Lake Robins Dr.  
The Woodlands, TX 77380  
United States  
www.anadarko.com  
(832) 636-1000 (General)

**Emergency Telephone Number:** ChemTel: (831) 248-0585 (International)  
(800) 255-3924 (North America)

## Section 2: Hazard Identification

**Classification:**

- Flammable Gases 1
- Gases Under Pressure- Liquefied gas

**Label Elements:** **DANGER**



**Hazard Statements:**

- Extremely flammable gas.
- Contains gas under pressure, may explode if heated.
- May displace oxygen and cause rapid suffocation.

**Precautionary Statements:**

**Prevention**

- Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
- Use only outdoors or in a well-ventilated area.

**Response**

- Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

**Storage/Disposal**

- Store in a well-ventilated place. Protect from extreme heat.
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Other  
information:****NFPA 704 Hazard Class**

Health: 1

Flammability: 4

Instability: 0

(0-Minimum, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

**HMIS Hazard Rating**

Health	1
Flammability	4
Physical Hazard	0

(0-Minimum, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

**Section 3: Composition/Information on Ingredients**

Component	CAS Number	Concentration
Isobutane	75-28-5	100%

All concentrations are percent by weight unless ingredient is gas. Gas concentrations are in percent by volume.

**Synonyms:**

Methylpropane

**Section 4: First-Aid Measures****Inhalation:**

If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. If symptoms persist, seek medical attention.

**Skin:**

Not likely to cause a problem due to high volatility of product. Contact with liquid or rapidly expanding gases released under high pressure may cause frostbite. Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Do not rub affected area. Do not remove clothing that adheres due to freezing. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

**Eye:**

Check for and remove contact lenses. Flush eyes with clear running water for 15 minutes while holding eyelids open. Seek medical attention.

**Ingestion:**

Not likely to cause a problem due to high volatility of product.

**Most Important Symptoms  
and Effects, both Acute  
and Delayed:**

Refer to Section 11 - Toxicological Information

<b>Notes to Physician:</b>	Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.
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## Section 5: Fire-Fighting Measures

<b>Suitable Extinguishing Media:</b>	Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.
<b>Unsuitable Extinguishing Media:</b>	Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
<b>Unusual Fire and Explosion Hazards:</b>	Closed containers can explode due to buildup of pressure when exposed to extreme heat. Caution- Material is extremely flammable.
<b>Hazardous Combustion Products:</b>	Smoke, vapors, oxides of carbon.
<b>Advice for Firefighters:</b>	If possible, stop the flow of gas. Firefighters must wear full facepiece self-contained breathing apparatus in positive pressure mode in enclosed areas. Fine water spray can be used to keep fire - exposed containers cool.

## Section 6: Accidental Release Measures

<b>Personal Precautions:</b>	Eliminate all sources of ignition. Keep public away from danger area. Ventilate closed spaces before entering. Do not breathe gas. Wear appropriate personal protective equipment.
<b>Emergency Procedures:</b>	Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.
<b>Environmental Precautions:</b>	Stop spill/release if it can be done safely. Water spray may be useful in minimizing or dispersing vapors. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.
<b>Methods for Containment and Clean-up:</b>	Notify relevant authorities in accordance with all applicable regulations. Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

## Section 7: Handling and Storage

<b>Precautions for Safe Handling:</b>	Provide adequate ventilation. Do not enter storage areas or confined spaces unless adequately ventilated. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Vapors may be ignited by a spark, a hot surface or an ember. Take precautionary measures against static discharges. Do not breathe gas. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. The product is extremely flammable. May form explosive mixtures with air. Avoid heat, sparks, open flames and other ignition sources. Observe good industrial hygiene practices.
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**Conditions for Safe Storage:** Store in pressurized container. Provide adequate ventilation. Keep away from heat, sparks and open flame.

## Section 8: Exposure Controls/Personal Protection

Component	ACGIH	NIOSH	OSHA	Other
Isobutane	TWA: 1000 ppm as Aliphatic Hydrocarbon Gases: Alkane (C1-C4)	TWA: 800 ppm TWA: 1900 mg/m <sup>3</sup>		

**Engineering Measures/Controls:** Use adequate ventilation to keep gas and vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use explosion-proof equipment and lighting in classified/controlled areas.

**Respiratory Protection:** None required while threshold limits are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.

**Eye/Face Protection:** Wear chemical splash safety goggles.

**Skin/Body Protection:** Wear thermal insulating gloves and face shield or eye protection when working with materials that present thermal hazards (hot or cold).

**Environmental Exposure Controls:** Refer to local regulations for restriction of emissions to the atmosphere.

## Section 9: Physical and Chemical Properties

<b>Physical Form:</b>	Liquefied gas
<b>Appearance:</b>	Colorless gas
<b>Color:</b>	Colorless
<b>Odor:</b>	No distinct odor
<b>Odor Threshold:</b>	No data available
<b>Boiling Point:</b>	11°F (-11.6°C)
<b>Melting Point:</b>	No data available
<b>Decomposition Temperature:</b>	No data available
<b>pH:</b>	No data available
<b>Specific Gravity (water=1):</b>	0.536
<b>Water Solubility:</b>	Negligible
<b>Viscosity:</b>	No data available
<b>Explosive Properties:</b>	No data available
<b>Oxidizing Properties:</b>	No data available
<b>Vapor Pressure:</b>	58 psia (2999 mmHg) @ 100°F (37.8°C)
<b>Vapor Density (air=1):</b>	2.0
<b>Evaporation Rate (water=1):</b>	Gas at normal ambient conditions
<b>VOC (Wt.):</b>	No data available
<b>VOC (Vol.):</b>	No data available
<b>Flash Point (TCC):</b>	-100 to 73°F (-73 to 58°C)
<b>UEL:</b>	8.5%
<b>LEL:</b>	1.8%
<b>Autoignition:</b>	761°F (405°C)
<b>Flammability (solid, gas):</b>	No data available
<b>Octanol/Water Partition Coefficient:</b>	No data available

## Section 10: Stability and Reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Stable under normal temperatures and pressures.
<b>Possibility of Hazardous Reactions:</b>	Hazardous polymerization will not occur.
<b>Conditions to Avoid:</b>	Heat, flames and sparks.
<b>Incompatible Materials:</b>	Avoid contact with acids, aluminum chloride, chlorine, chlorine dioxide, Halogens and oxidizing agents.
<b>Hazardous Decomposition Products:</b>	Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, vapors, and smoke may be produced.

## Section 11: Toxicological Information

Components	CAS Number	Acute Toxicity
Isobutane (100%)	75-28-5	Inhalation-Rat LC50: 57 ppm 15 Minute(s)

### Potential Health Effects

<b>Inhalation:</b>	Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness. Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels.
<b>Skin:</b>	Not expected to be irritating. Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn).
<b>Eye:</b>	Not expected to be irritating. Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.
<b>Ingestion:</b>	Ingestion is unlikely.
<b>Chronic (Delayed):</b>	Prolonged exposure may cause chronic effects.
<b>Mutagenic Effects:</b>	This product is not reported to have any mutagenic effects.
<b>Carcinogenic Effects:</b>	This product is not reported to have any carcinogenic effects.
<b>Reproductive Effects:</b>	No data available.

## Section 12: Ecological Information

<b>Toxicity:</b>	Petroleum gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment. Classification: No classified hazards.
<b>Persistence and Degradability:</b>	Material data lacking.
<b>Bioaccumulative Potential:</b>	Not regarded as having the potential to bioaccumulate.
<b>Mobility in Soil:</b>	Material data lacking.
<b>Other Adverse Effects:</b>	No studies have been found.

## Section 13: Disposal Considerations

<b>Product Waste:</b>	Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
<b>Packaging Waste:</b>	Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Section 14: Transport Information

	UN Number	UN Proper Shipping Name	Transport Hazard Class(es)	Packing Group
<b>DOT</b>	UN1969	Isobutane	2.1	NDA
<b>TDG</b>	UN1969	Isobutane	2.1	NDA
<b>IMO/IMDG</b>	UN1969	Isobutane	2.1	NDA
<b>IATA/ICAO</b>	UN1969	Isobutane	2.1	NDA

<b>Special Precautions for User:</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Transport in bulk according to Annex II Of MARPOL 73/78 and the IBC Code:</b>	Data lacking.

## Section 15: Regulatory Information

### CERCLA/SARA – Section 311/312 (Title III Hazard Categories)

Acute Health: Yes  
 Chronic Health: No  
 Fire Hazard: Yes  
 Pressure Hazard: Yes  
 Reactive Hazard: No

### International Hazard Classification

#### **Canada:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by Regulations.

**WHMIS Hazard Class:**A  
B1**National Chemical Inventories**

Component	CAS Number	TSCA
Isobutane	75-28-5	Yes

**Section 16: Other Information****Last Revision Date:** 30/September/2010**Preparation Date:** 29/May/2015**Other Information:** Version 1

**Disclaimer/Statement of Liability:** The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor makes no warranties, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose or course of performance or usage of trade. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

**Key to abbreviations**

NDA = No data available

LD = Lethal Dose

TC = Toxic Concentration

D = Toxic Dose

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures