



## MATERIAL SAFETY DATA SHEET

## HIGH PURITY ISOBUTYLENE

ISSUE DATE: July 21, 2000

Emergency Phone Number: (713)475-7771

LAST REVISION: March 2, 1999

CHEMTREC (800)424-9300

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: High Purity IsobutyleneChemical Name: 2-Methyl Propene-1Manufacturer: Texas Petrochemicals LP  
8600 Park Place Blvd.  
Houston, Texas 77017Synonyms: isobutylene

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

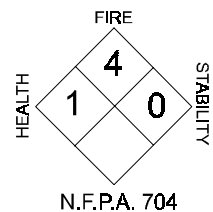
<u>Component</u>	<u>CAS Reg. No.:</u>	<u>Liq Vol %:</u>
Isobutylene	115-11-7	99.9

*Compositions given are typical values, not specifications.*

## 3. HAZARD IDENTIFICATION

Emergency Overview

- Colorless gas with mild aromatic odor
- Extremely flammable
- Irritating to the eyes and mucous membranes
- Harmful if inhaled – may cause unconsciousness
- Contact with liquid can cause frostbite



Eye Contact: Vapors may cause eye irritation. Direct contact of liquid to the eye may cause severe injury due to frostbite.

Skin Contact: Liquid isobutylene can cause frostbite to skin due to the cooling from rapid evaporation.

Inhalation: Vapors may irritate the nose, throat and lungs. High concentrations in immediate area can displace oxygen and cause dizziness, unconsciousness, and even death with longer exposures.

Ingestion: Liquid contact may cause injury due to frostbite.

Chronic Effects: See Section 11.

## 4. FIRST AID MEASURES

Eye Contact: Flush with plenty of water. Seek medical attention immediately.

First Aid Measures continued:

Skin Contact: Remove contaminated clothing. Flush with plenty of water. Seek medical attention if skin is frostbitten.

Inhalation: Remove victim to fresh air. If not breathing, give artificial respiration. Get immediate medical attention.

Ingestion: Seek medical attention. Do not give anything by mouth.

**5. FIRE FIGHTING MEASURES**

Flash Point: °F

- 105°

Flammability Limits

(Vol. % in Air)

Lower: 1.8

Upper: 9.6

Auto Ignition Temperature

869°F

Fire Hazards

Extremely flammable gas. Releases flammable vapors below normal ambient temperatures. Vapors are heavier than air and may travel long distances before igniting and flashing back to vapor source.

Extinguishing Media

Water, dry chemical, or carbon dioxide.

Fire Fighting Procedures

Do not extinguish the fire until the flow of isobutylene can be stopped. Use water streams to cool exposed structures and equipment. Firefighting personnel should wear full turnout gear and a positive pressure self contained breathing apparatus (SCBA). For unignited vapor releases, see Section 6

Hazardous Combustion Products

Carbon monoxide

**6. ACCIDENTAL RELEASE MEASURES**

Spill/Leak Procedures: Evacuate non-essential personnel. Extinguish all ignition sources in the area. Prevent vapors/liquid from entering sewers and/or ditches. Apply water sprays from a safe distance to help disperse the vapor cloud. Be prepared for sudden ignition of vapors. In cold climates pooled liquid may remain on the ground. Dike down grade to prevent spread of the spill. Collection of liquid spill should be done only if suitable collection and storage equipment are available (minimum pressure rating 75 psig). Consult appropriate regulatory agencies for reporting and disposal requirements.

**7. HANDLING AND STORAGE**

Handling: Avoid eye and skin contact, and inhalation of vapors. See Section 8 for personal protective Equipment recommendations. Properly and/or ground hoses and equipment used for transferring this product to prevent ignition from static electrical charge.

Storage: Isobutylene must be stored in pressure rated vessels and containers, (see NFPA 58).

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION

### Exposure Limits:

<u>Component</u>	<u>OSHA</u>	<u>ACGIH</u>	<u>Other</u>
isobutylene	none	none	none

Exposure Control: Process enclosures, closed systems, and local exhaust ventilation should be used to control exposures. Ventilation systems should have explosion proof equipment. Never use isobutylene in closed or confined spaces without ventilation. For fires or releases involving isobutylene always approach from upwind/uphill. Safety showers and eyewash stations should be located near areas with liquid contact hazards.

### Personal Protection

Eye Protection: In addition to safety glasses, chemical splash goggles and/or faceshield should be worn depending on the task.

Skin Protection: Gloves, aprons, and chemical resistant garments should be selected with regard to the task to be performed and the hazard potential for skin contact. In general, garments and gloves made from an impervious material that provides thermal protection should be used if liquid contact is probable. End users are strongly urged to consult glove/garment manufacturers for specific guidance.

Respiratory Protection: Air purifying respirators with organic vapor cartridges may be used if the airborne concentration of the contaminant is known. Refer to NIOSH's Respirator Decision Logic and/or the respirator manufacturer for guidance on the specific type of respirator to use. For isobutylene releases, spills, fires, or situations where the airborne concentration is unknown, use a NIOSH approved, positive pressure self-contained breathing apparatus (SCBA).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<u>Physical Form:</u>	Clear Liquid (under pressure)	<u>Odor:</u>	Mild Aromatic
<u>Boiling Point:</u>	14 – 39°F	<u>Melting Point:</u>	Not Applicable
<u>Ph:</u>	Not Applicable	<u>Solubility in Water:</u>	Negligible
<u>Specific Gravity:</u>	0.6 60°F/60°F	<u>% Volatile by Weight:</u>	100
<u>Vapor Pressure:</u>	approx 32 psia @ 60°F	<u>Vapor Density:</u>	2 (air = 1)
<u>Evaporation Rate:</u>	gas at room temperature	<u>Molecular Weight:</u>	approx 56

## 10. STABILITY AND REACTIVITY

Stability: Stable

Reactivity: Incompatible with oxidizing materials

Hazardous Polymerization: Will not occur

## 11. TOXICOLOGICAL INFORMATION

### Isobutylene

LC50: Inhalation: Rat – 620 g/m<sup>3</sup>/4H, Mouse – 415 g/m<sup>3</sup>/2H

Isobutylene is a simple asphyxiant. In short term animal inhalation studies effects ranged from narcosis and cardiac sensitization, to respiratory paralysis and death in extremely high concentrations. Isobutylene produced negative results in the following mutagenicity tests: AmesTest, Mouse Lymphoma, and Cell Transformation

## 12. ECOLOGICAL INFORMATION

None available

## 13. DISPOSAL CONSIDERATIONS

The user of this product is urged to consult local, state, and federal regulatory agency guidelines regarding proper disposal.

## 14. TRANSPORTATION INFORMATION

D.O.T Shipping Name: Liquefied Petroleum Gas

D.O.T. Hazard Class: 2.1

Packing Group:

U.N. Number: UN1075

## 15. REGULATORY INFORMATION

OSHA: This product is considered hazardous according to 29 CFR 1910.1200 Federal OSHA Hazard Communications Standard

EPA:

Section 302-Extremely Hazardous Substances: No constituents of this product are listed.

CAA – RMP Threshold Quantity: 10,000 pounds

CERCLA Reportable Quantity: None

SARA Section 311/312 Hazards: Isobutylene – fire, pressure, and immediate health

## 16. OTHER INFORMATION

The information presented herein is to the best of the company's knowledge true and reliable. This information is supplied for informational purposes only, and without any guarantee or warranty, expressed or implied, regarding its accuracy, correctness, or completeness. Since the actual use of the product by others is beyond our control, Texas Petrochemicals LP assumes no responsibility or liability for loss, damage, or expense arising out of any use by others of the products referred to herein.