



WARNING



DANGER

## Safety Data Sheet

SDS ID NO: 003

Revision date: April 2014

### Section 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Iso-butane  
**Synonyms:** Liquefied butane, liquefied petroleum gas (LPG), L-methyl propane, 2-methyl propane, 1 dimethylethane  
**Chemical family:** Aliphatic hydrocarbon  
**Formula:** (CH<sub>3</sub>)<sub>3</sub>CH  
**Producer:** EnLink Midstream, L.P.  
2501 Cedar Springs Road  
Suite 100  
Dallas, TX 75201  
[www.EnLink.com](http://www.EnLink.com)

<b>Emergency Line</b>	<b>866-394-9839</b>	<b>Available 24 hours</b>	
<b>CHEMTREC</b>	<b>800-424-9300</b>		
<b>EnLink</b>	<b>214-953-9500</b>	<b>Available during normal business hours</b>	<b>**Ask for Compliance Dept**</b>

### Section 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Iso-butane is a colorless gas or liquid with a slight hydrocarbon odor. It is typically transported as a liquid gas under pressure. Iso-butane is extremely flammable and explosive and can be an asphyxiant, displacing oxygen. Mucous membranes and skin can burn upon liquid contact. May cause frostbite.

#### OSHA-GHS Hazard Statements:

**DANGER** — Extremely Flammable Gas (*category 1*)

**WARNING** — Liquefied gas under pressure; may explode if heated

**Inhalation:** **Acute:** At high concentrations, the product can cause drowsiness. At very high concentrations, it may cause dizziness, headache, nausea or narcosis as the result of being a simple asphyxiant. Asphyxiation and death can result from higher concentrations, which cause the displacement of oxygen.  
**Chronic:** Currently, no known adverse health effects are associated with chronic exposure. However, some animal studies indicate weak cardiac sensitization to iso-butane. See Section 11 (Toxicological Information) for additional information.

**Ingestion:** An unlikely route of exposure. This product is a gas under normal atmospheric conditions, but frostbite of the lips and mouth may result from contact with the liquid.

**Skin contact:** Liquid may cause frostbite, a cryogenic injury resembling a burn.

**Eye contact:** Gas is relatively non-irritating to eyes, but the liquid may cause frostbite.

**Carcinogenic evaluation:** No component of this product present at levels greater than 0.1 % is identified as a known, suspected or potential carcinogen by the NTP, the IARC or OSHA.

### Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

This product is a mixture of aliphatic petroleum hydrocarbons.

**Material information:**

Name	CAS No.	Weight %
Iso-butane	75-28-5	85-100
Propane	74-98-6	0.1-6
Normal butane	106-97-8	0.5-6

*Note: The above are represented in ranges as estimates. Due to sources, components of iso-butane may vary due to the variations produced by a natural product.*

### Section 4. FIRST AID MEASURES

- Inhalation:** Move exposed persons to fresh air. If the person is not breathing or breathing is irregular, provide artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
- Skin contact:** For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). In case of massive exposure, remove contaminated clothing while showering with warm water. Call a physician.
- Ingestion:** An unlikely route of exposure. This product is a gas at normal temperature and pressure.
- Eye contact:** Check for and remove any contact lenses. Immediately consult physician after flushing eyes with tepid water for at least 15 minutes.

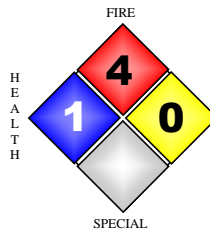
### Section 5. FIREFIGHTING MEASURES

**Suitable extinguishing media:** Small fires — Class B fire-extinguishing media including CO<sub>2</sub> or dry chemicals can be used. Larger fires — water spray, fog. Use of extinguishers should be undertaken only by adequately trained personnel.

**Specific hazards:** Refer to NFPA 30 or North American Emergency Response Guide 115.

**Special protective equipment for firefighters:** If possible, stop product flow and allow it to burn out. The fire should not be extinguished unless flow of gas can be immediately stopped. Product can produce both internal/external explosions in any vessel if Bleve's point is reached. Extinguishing flame may lead to formation of other dangerous mixtures. Extinguishing flame may lead to formation of other dangerous mixtures. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. **CAUTION — Contact with water and other liquefied product can cause increased vaporization.**

**NFPA rating:**  
**Health:** 1  
**Flammability:** 4  
**Instability/reactivity:** 0  
**Other:** N/A



<b>Slightly Hazardous</b>
<b>FP - Below 73 F</b>
<b>Stable</b>
<b>N/A</b>

## Section 6. ACCIDENTAL RELEASE MEASURES

**Personal:** Immediately contact emergency personnel. Evacuate any potentially affected area and isolate personnel from entry. Isolate the area until gas has dispersed. Use suitable personal protective equipment (Section 8).

**Precautions:** Shut off source if possible and if safe. Use spark-proof tools and explosion-proof equipment. Ventilate the area if the spill is indoors. Prevent entry into waterways, sewers, basements and confined areas.

## Section 7. HANDLING AND STORAGE

**Handling:** Ensure proper grounding methods are used in the handling of this product. Comply with 29 CFR 1910.110, "Storage and Handling of Liquefied Petroleum Gases," and all other applicable regulatory agencies related to environmental, health, and safety. Hydrocarbon liquids, including this product, can act as a non-conductive flammable liquid (or static accumulator) and may form ignitable vapor-air mixtures in storage tanks or other containers. For more information on precautions to prevent static-initiated fire or explosion, see NFPA 77, "Recommended Practice, Protection Against Static Electricity."

## Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational exposure limits:

Name	CAS No.	Weight %	OSHA – PEL (ppm)	ACGIH® TLV® (ppm)	NIOSH REL (ppm)
Iso-butane	75-28-5	85-100	None	None	800 1800 mg/m <sup>3</sup>
Propane	74-98-6	0.1-6	1000	1000 <sup>A</sup> 1800 mg/m <sup>3</sup>	1000 1800 mg/m <sup>3</sup>
Normal butane	106-97-8	0.5-6	None	800 <sup>A</sup> 1900 mg/m <sup>3</sup>	800 <sup>B</sup> 1800 mg/m <sup>3</sup>

All exposure limits listed are 8-hour time weighted average (TWA) — except where noted otherwise.

TWA — Time Weighted Average is an average value of exposure over the course of an 8-hour work shift.

<sup>A</sup>Time-Weighted Average (TWA) aliphatic hydrocarbon gas (alkane C<sub>1</sub>-C<sub>4</sub>)

PEL — Permissible Exposure Limit is the maximum amount or concentration of a chemical that a worker may be exposed to under OSHA regulations.

<sup>B</sup> Federal OSHA 1989 PELs were vacated but are in use and enforced by many state OSHA plans.

**Engineering measures:** Ensure proper ventilation and methods of exhaust are operating to reduce potential hazards. Ensure all equipment is intrinsically safe or explosion-proof and approved for classified areas.

### PERSONAL PROTECTIVE EQUIPMENT

**Respiratory protection:** If product levels are detected in the applicable ranges, use NIOSH/ MSHA-approved positive pressure supplied air respirators.

**Skin and body protection:** Cover exposed skin areas with appropriate personal protection coverings.

**Eye protection:** Ensure proper use of goggles and/or face shields in handling of any pressurized gases or materials.

**Hygiene measures:** Avoid repeated or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove contaminated clothing and laundry before reuse.

**Section 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Colorless liquefied gas  
**Physical state (solid/liquid/gas):** Liquid  
**Substance type (pure/mixture):** Mixture  
**Color:** Colorless  
**Odor:** N/A  
**Molecular weight:** 58  
**pH:** Neutral  
**Boiling point/range (5-95%):** 11°F  
**Melting point/range:** No data available  
**Decomposition temperature:** N/A  
**Specific gravity:** (H<sub>2</sub>O = 1) 0.563  
**Vapor density:** 2.0  
**Vapor pressure:** 72 PSIA at 70°F  
**Evaporation rate:** N/A  
**Flash point:** -117°F  
**Auto-ignition temperature:** 863°F  
**Flammable limits in air – lower (%):** 1.8%  
**Flammable limits in air – upper (%):** 8.4%

**Section 10. STABILITY AND REACTIVITY**

**Stability:** The material is stable at 70°F, 760 mm pressure.  
**Polymerization:** Will not occur.  
**Hazardous decomposition products:** Carbon monoxide  
**Materials to avoid:** Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine  
**Conditions to avoid:** Heat/ignition sources

**Section 11. TOXICOLOGICAL INFORMATION**

**Acute toxicity:**

**Product information:**

Name	CAS No.	Inhalation:	Dermal:	Oral:
Iso-butane	75-28-5	>570,000 for 15 min. (rat)	N/A	N/A

**Sensitization:** Iso-butane is not known to cause sensitization in humans; however, some animal studies indicate that exposure to iso-butane can cause weak cardiac sensitization.

**Section 12. ECOLOGICAL INFORMATION**

**Ecotoxicity effects:** Product is not toxic to aquatic life/waterfowl.  
**Products of degradation:** Products of degradation: carbon oxides (CO, CO<sub>2</sub> and water)

### Section 13. DISPOSAL CONSIDERATIONS

**Cleanup considerations:** Disposal of this material must be done in accordance with federal, state and/or local regulations. The material destined for disposal must be characterized properly and may differ from the product described in this MSDS if mixed with other wastes.

### Section 14. TRANSPORT INFORMATION

Please refer to 40 CFR 172.101:

**DOT:**

<b>Transport information:</b>	This material is regulated under DOT when transported via U.S. commerce routes.
<b>Proper shipping name:</b>	Iso-butane
<b>UN/identification no.:</b>	UN 1969
<b>Hazard class:</b>	2.1
<b>Packing group:</b>	N/A
<b>DOT reportable quantity (lbs):</b>	N/A

### Section 15. REGULATORY INFORMATION

**U.S. federal regulatory information:**

**State and community right-to-know regulations:**

*The following component(s) of this material are identified on the regulatory lists below:*

**U.S. TSCA Chemical inventory Section 8(b)**

**OSHA — This product is determined to be hazardous as defined in the OSHA Hazard Communications Standard.**

**CERCLA Sections 102a/103 (40 FR 302.4):**

**SARA Title III Section 302 — N/A**

**SARA Title III Section 304 — N/A**

**SARA Title III Section 313 — N/A**

**SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21)**

<b>ACUTE:</b>	<b>HEALTH HAZARD</b>
<b>CHRONIC:</b>	<b>NO</b>
<b>FIRE:</b>	<b>FIRE HAZARD</b>
<b>REACTIVE:</b>	<b>NO</b>
<b>SUDDEN RELEASE:</b>	<b>SUDDEN RELEASE OF PRESSURE</b>

**NOTE:** User must consult with applicable state and local agencies for special specifics, determinations or compliance obligations regarding this product.

### Section 16. OTHER INFORMATION

The information and recommendations contained herein are based upon tests, data, and information resources believed to be reliable. However, EnLink Midstream, L.P., and its related operations or divisions (EnLink) do not guarantee the accuracy or completeness, nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of goods, the merchantability of the goods or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage may be

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