

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 00006
Product Name: Isobutylene
Company Name: Gas Innovations

 18005 E. Hwy 225
 La Porte, TX 77571

Web site address: www.gasinnovations.com **Phone Number:** +1 (281)471-2200
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Information: Infotrac (outside of United States) +1 (352)323-3500

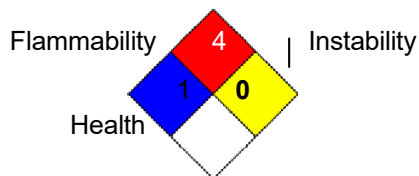
2. HAZARDS IDENTIFICATION

Flammable Gases: Category 1
Gas Under Pressure: Liquefied gas
Symbol:



GHS Signal Word: Danger
GHS Hazard Phrases: H220 - Extremely flammable gas.
 H280 - Contains gas under pressure; may explode if heated.
 OSHA-H01 - May displace oxygen and cause rapid suffocation
 CGA-HG01 - May cause frostbite
 CGA-HG04 - May form explosive mixtures with air
GHS Precaution Phrases: P202 - Do not handle until all safety precautions have been read and understood
 P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P280 - Wear eye protection, face protection, protective gloves, protective clothing.
 P308+P313 - If exposed or concerned: Get medical advice/attention
 P501 - Dispose of contents/container in accordance with local/regional/national/international regulations
GHS Response Phrases: P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 P381 - Eliminate all ignition sources if safe to do so.
 P302 - IF ON SKIN: Thaw frosted parts with lukewarm water. Do not rub affected area, Get immediate medical advice/attention.
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
GHS Storage and Disposal Phrases: P410+403 - Protect from sunlight when ambient temperature exceeds 52°C/125 °F and store in well-ventilated place.
 CGA-PG10 - Use only with equipment rated for cylinder pressure
 CGA-PG14 - Approach suspected leak area with caution
 CGA-PG21 - Open valve slowly
Additional Hazards Information: Use a back flow preventative device in the piping.
 Do not open the valve until connected to equipment prepared for use. Close valve after each use and when empty.

Hazard Rating System:



NFPA:	Special Hazard
Potential Health Effects (Acute and Chronic):	Isobutylene is a simple asphyxiant. Inhalation of high concentrations may cause rapid respiration, dizziness, fatigue, and nausea. Massive exposure may cause unconsciousness and death. Contact with the liquid phase or with the cold escaping from a cylinder may cause frostbite.
Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation. Isobutylene is a simple asphyxiant
Skin Contact:	May be harmful if absorbed through the skin. May cause skin irritation. May cause frostbite.
Eye Contact:	May cause eye irritation.
Ingestion:	May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
115-11-7	Isobutylene	100 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
In Case of Inhalation:	If inhaled, move the person into fresh air. If not breathing gives artificial respiration, preferably mouth-to-mouth. If breathing is difficult, oxygen should be administered by qualified personnel. Do not administer Epinephrine or other heart stimulants. Call a physician.
In Case of Skin Contact:	If frostbite or freezing occurs, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get medical advice/attention.
In Case of Eye Contact:	Immediately flush your eyes with plenty of water for at least 15 minutes. Hold eyelids apart and flush eyes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	Not expected to be a primary route of exposure. If swallowed, get medical attention.
Signs and Symptoms of Exposure:	Effects are due to lack of oxygen. Moderate concentration may cause headache, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness. Prolonged exposure to low concentrations of carbon monoxide can be fatal.

5. FIRE FIGHTING MEASURES

Flash Pt:	-80 °C
Method Used:	Not Applicable
Explosive Limits:	Lower level: 1.6% (Volume in air) Upper-level EL: 9.6 % (Volume in air)
Autoignition Pt:	465°C (869 F)
Suitable Extinguishing Media:	The only safe way to extinguish an Isobutylene fire is to stop the flow of gas. If the flow cannot be stopped, let the fire burn out while cooling the cylinder and the surrounding areas using a water spray. Small secondary fires may be brought under control by using carbon dioxide or a dry chemical fire extinguisher and stopping the flow.
Fire Fighting Instructions:	Move container from fire area if it can be done without risk. Do not direct water at source of leak or safety devices; icing may occur. Stay away from the ends of tanks. For fires in cargo or

storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Personnel may have to wear approach-type protective suits and positive pressure self-contained breathing apparatus. Firefighters' turnout gear may be inadequate. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

Cylinders exposed to fire may rupture with violent force. Extinguish surrounding fire and keep cylinders cool by applying water from a maximum possible distance with a water spray. Flammable gases may spread from a spill after the fire is extinguished and be subject to re-ignition.

Flammable Properties and Hazards: High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures: Use proper personal protective equipment as indicated in Section 8. Prevent from entering sewers, basements and work pits, or any place where its accumulation can be dangerous

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Steps To Be Taken in Case Material Is Released or Spilled: Shut off all sources of ignition. Ventilate the area. For controlling larger flows, personnel may have to wear approach-type protective suits and self-contained breathing apparatus.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling: Avoid inhalation of vapor or mist. Keep away from heat, sparks and flames. Keep away from sources of ignition - No smoking. Use spark-proof tools and explosion proof equipment. Use in a closed system. Secure the cylinder to prevent it from falling or being knocked over. Leak check the lines and equipment. Have an emergency plan covering steps to be taken in the event of an accidental release.

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving the cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder with its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.

Precautions To Be Taken in Storing: Cylinders should be stored and used in dry, well-ventilated areas away from sources of heat or ignition. Store away from oxidizers. Never attempt to transfer gases from one container to another. Containers should not be stored in conditions likely to encourage corrosion. Stored containers should be periodically checked for general conditions and leakage.

Other Precautions: When handling a product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; stored and used with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit. Do not remove or deface labels provided by the supplier for the identification of the container contents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
115-11-7	Isobutylene	No data	250 ppm	Mexico TWA: 250 ppm

Respiratory Equipment (Specify Type):	If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.
Eye Protection:	Wear safety glasses when handling cylinders, vapor-proof goggles and a face shield during cylinder change out or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Protective Gloves:	Wear appropriate gloves to prevent skin exposure.
Other Protective Clothing:	Wear safety shoes while handling container.
Engineering Controls (Ventilation etc.):	Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Work/Hygienic/Maintenance Practices:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid	
Appearance:	Colorless	
Odor:	Petroleum like.	
Vapor Pressure:	307.97 kPa (25 °C)	
Specific Volume:	0.418 m ³ /kg, 6.7ft ³ /lb @ 1 atm, 21.1C.	
Critical pressure:	3499 kPa	
Log Pow:	1.78	
Freezing Point:	-140 C (-221 F)	
Boiling Point:	-7.1 °C	
Decomposition Temperature:	NA	
Autoignition Pt:	465 C (869 F)	
Flash Pt:	-80 °C	
Method used:	Not Applicable	
Explosive Limits:	Lower level: 1.6% (Volume in air)	Upper level EL: 9.6 % (Volume in air)
Specific Gravity (Water = 1):	0.5879 at 25 °C	
Density:	NA	
Bulk Density:	NA	
Vapor Pressure (vs. Air or mm Hg):	24.3 PSI at 21.1 C (70.0 F)	
Vapor Density (air=1)	3278 mmHg at 37.7 °C	
Evaporation Rate:	NA	
Solubility in Water:	263 mg/l (25 °C)	
Saturated Vapor Concentration:	NA	
Viscosity:	NA	
pH:	NA	
Percent Volatile:	NA	
VOC / Volume:	NA	
Particle Size:	NA	
Heat Value:	NA	
Corrosion Rate:	NA	
Molecular Formula:	C ₄ H ₈	
Molar mass:	56.12 g/mol	

10. STABILITY AND REACTIVITY

Reactivity:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide.
Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	Heat, flames and sparks. No smoking. Minimize contact with material. Containers may rupture or explode if exposed to heat.
Incompatibility Materials to Avoid:	Air, Oxidizing materials, Compounds that can add across double bonds.
Hazardous Decomposition or Byproducts:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide.
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Epidemiology:	No data available.		
Teratogenicity	No data available.		
Reproductive Effects:	No data available.		
Mutagenicity:	No data available.		
Neurotoxicity:	No data available.		
CAS#	Acute toxicity		
115-11-7	LC50, Inhalation, Rat, 620 g/m3, 4H.		
Carcinogenicity:	NTP - No	IARC Monographs - No	OSHA Regulated - No

12. ECOLOGICAL INFORMATION

General Ecological Information:	Environmental: No information available. Physical: No information available.
Results of PBT and vPvB assessment:	No data available.
Persistence and Degradability:	No data available.
Bio accumulative Potential:	Bioconcentration potential in aquatic organisms is moderate based on a BCF value of 35.
Mobility in Soil:	Expected to have moderate mobility in soil.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Do not attempt to dispose of residual or unused quantities. Return container to supplier. Dispose of contents/containers in accordance with local/regional/national/international regulations. Waste gas should be flared through a suitable burner with flash back arrestor. Do not discharge into areas where there is a risk of forming an explosive mixture with air.
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14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping name: Isobutylene.
 DOT Hazard Class: 2.1 FLAMMABLE GAS
 UN/NA number: UN1055

Labels:



Sea Transport:

Transport document description (IMDG): UN 1055 UN 1055 ISOBUTYLENE, 2.1, (B/D), 2.1

UN-No. (IMDG): 1055

Proper Shipping Name (IMDG): UN 1055 ISOBUTYLENE, 2.1, (B/D)

Class(IMDG): 2.1 - Flammable gases

Air Transport:

Transport document description (IATA): UN 1055 UN 1055 ISOBUTYLENE, 2.1, (B/D), 2.1

UN-No. (IATA): 1055

Proper Shipping Name (IATA): UN 1055 ISOBUTYLENE, 2.1, (B/D)

Class (IATA): 2.1 - Gases: Flammable

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
115-11-7	Isobutylene	No	No	No

Other US EPA or State Lists

115-11-7 Isobutylene
 TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: Yes; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 1045; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: No; MN : No;

International Regulatory Lists

115-11-7 Isobutylene
 Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1055; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - (2)-16; Korea ECL: Yes -KE-24902; Philippines ICCS: Yes; REACH: Yes - (R), (P); TH – TECl: Yes.
 TW: Yes; CN: Yes; VN(Draft): Yes;

16. OTHER INFORMATION

Revision Date: 07/31/2024

Additional Information About This Product: No data available.

NFPA Ratings:

- 0= Minimal Hazard
- 1= Slight Hazard
- 2= Moderate Hazard
- 3= Serious Hazard
- 4= Severe Hazard

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