

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Substance

Product Name: Isobutane

1.2. Intended Use of the Product

Use of the Substance/Mixture: Hydrocarbon

1.3. Name, Address, and Telephone of the Responsible Party

Company

High Precision Gas LLC
10770 Painter Avenue
Santa Fe Springs, CA 90670
714-868-6525

www.highprecisiongas.com

1.4. Emergency Telephone Number

Emergency Number : Professional Emergency Resource Services (PERS)
(800) 633-8253 24 / 7 / 365

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Simple Asphy

Flam. Gas 1 H220

Press. Gas (Liq.) H280

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P403 - Store in a well-ventilated place.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Asphyxiant gas, can be fatal.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name : Isobutane

Name	Synonyms	Product Identifier	%	GHS US classification
Isobutane	2-Methylpropane / Propane, 2-methyl- / ISOBUTANE / Butane / Butane, isomer	(CAS-No.) 75-28-5	100	Simple Asphy Flam. Gas 1, H220 Press. Gas (Liq.), H280

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

Isobutane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation persists. Thaw frosted parts with lukewarm water. Do not rub affected area.

First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Get immediate medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: May cause frostbite on contact with the liquid. Natural Gas is an asphyxiant. Lack of oxygen can be fatal.

Symptoms/Injuries After Inhalation: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. Asphyxia by lack of oxygen: risk of death. May cause drowsiness or dizziness.

Symptoms/Injuries After Skin Contact: Contact with the liquid may cause cold burns/frostbite.

Symptoms/Injuries After Eye Contact: This gas is non-irritating; but direct contact with liquefied/pressurized gas or frost particles may produce severe and possibly permanent eye damage from freeze burns.

Symptoms/Injuries After Ingestion: Ingestion is not considered a potential route of exposure. Non-irritating, but solid and liquid forms of this material and pressurized gas may cause freeze burns.

Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand. This product contains light hydrocarbon material, which is associated with cardiac sensitization following very high exposures or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine and catecholamines. Careful consideration should be applied preceding administration of epinephrine or similar heart stimulating substances.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Foam, dry chemical, carbon dioxide, water spray, fog.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable gas.

Explosion Hazard: May form flammable/explosive vapor-air mixture. Heating may cause an explosion. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leaking gas fire, eliminate all ignition sources if safe to do so. Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Hydrocarbons.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Eliminate every possible source of ignition. Keep away from flames, heat, sparks. - No smoking. Use only outdoors or in a well-ventilated area. Ruptured cylinders may rocket. Do not allow product to spread into the environment. Do not breathe vapor, mist or spray.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Isobutane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Notify authorities if liquid enters sewers or public waters. Use only non-sparking tools.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Isolate area until gas has dispersed. Use water spray to disperse vapors. For water based spills contact appropriate authorities and abide by local regulations for hydrocarbon spills into waterways. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. Extremely flammable gas. Do not pressurize, cut, or weld containers. Do not puncture or incinerate container. Liquid gas can cause frost-type burns.

Precautions for Safe Handling: Keep away from heat, sparks, open flames, hot surfaces. - No smoking. Avoid breathing gas, spray. Use only outdoors or in a well-ventilated area.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations. Use explosion proof equipment.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Keep/Store away from extremely high or low temperatures, ignition sources, direct sunlight, incompatible materials. Store in original container.

Incompatible Materials: strong acids. Strong bases. Strong oxidizers. Halogens. Chlorine.

7.3. Specific End Use(s)

Hydrocarbon

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Isobutane (75-28-5)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm (explosion hazard (Butane, isomers))
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	800 ppm

8.2. Exposure Controls

Appropriate Engineering Controls

: Gas detectors should be used when flammable gases/vapors may be released. Ensure adequate ventilation, especially in confined areas. Proper grounding procedures to avoid static electricity should be followed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use explosion-proof equipment.

Personal Protective Equipment

: Protective goggles. Protective clothing. Respiratory protection of the dependent type. Insulated gloves.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing.

Hand Protection

: Wear chemically resistant protective gloves. Insulated gloves.

Eye and Face Protection

: Chemical goggles or face shield.

Respiratory Protection

: Use a NIOSH-approved self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Thermal Hazard Protection

: Wear suitable protective clothing.

Isobutane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Other Information : When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Gas
Appearance	: Colorless gas (Clear liquid under pressure)
Odor	: Hydrocarbon
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: Extremely flammable gas
Vapor Pressure	: No data available
Relative Vapor Density at 20°C	: No data available
Relative Density	: No data available
Solubility	: Water: Slightly
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Extremely flammable gas. Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, ignition sources, combustible materials, incompatible materials.
- 10.5. Incompatible Materials:** strong acids. Strong bases. Strong oxidizers. Halogens. Chlorine.
- 10.6. Hazardous Decomposition Products:** Carbon oxides (CO, CO₂). hydrocarbons.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity: Not classified

Isobutane (75-28-5)	
LC50 Inhalation Rat	658 mg/l/4h
LC50 Inhalation Rat	11000 ppm
ATE (Vapors)	658.00 mg/l/4h
ATE (Dust/Mist)	658.00 mg/l/4h

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. Asphyxia by lack of oxygen; risk of death. May cause drowsiness or dizziness.

Symptoms/Injuries After Skin Contact: Contact with the liquid may cause cold burns/frostbite.

Isobutane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Symptoms/Injuries After Eye Contact: This gas is non-irritating; but direct contact with liquefied/pressurized gas or frost particles may produce severe and possibly permanent eye damage from freeze burns.

Symptoms/Injuries After Ingestion: Ingestion is not considered a potential route of exposure. Non-irritating, but solid and liquid forms of this material and pressurized gas may cause freeze burns.

Chronic Symptoms: None expected under normal conditions of use.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

12.2. Persistence and Degradability

Isobutane	
Persistence and Degradability	Product is biodegradable.

12.3. Bioaccumulative Potential

Isobutane	
Bioaccumulative Potential	Not expected to bioaccumulate.

Isobutane (75-28-5)	
BCF Fish 1	1.57 - 1.97
Log Pow	2.88 (at 20 °C)

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Adverse Effects : Can cause frost damage to vegetation.

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Proper Shipping Name : ISOBUTANE

Hazard Class : 2.1

Identification Number : UN1969

Label Codes : 2.1

ERG Number : 115



14.2. In Accordance with IMDG

Proper Shipping Name : ISOBUTANE

Hazard Class : 2

Division : 2.1

Identification Number : UN1969

Label Codes : 2.1

EmS-No. (Fire) : F-D

EmS-No. (Spillage) : S-U



14.3. In Accordance with IATA

Proper Shipping Name : ISOBUTANE

Identification Number : UN1969

Hazard Class : 2

Label Codes : 2.1

Division : 2.1

ERG Code (IATA) : 10L



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Isobutane

Isobutane

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SARA Section 311/312 Hazard Classes	Health hazard - Simple asphyxiant Physical hazard - Flammable (gases, aerosols, liquids, or solids) Physical hazard - Gas under pressure
--	--

Isobutane (75-28-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State Regulations

Isobutane (75-28-5)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision	: 04/22/2019
Indication of Changes	: Revision date.
Other Information	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

GHS Full Text Phrases:

Flam. Gas 1	Flammable gases Category 1
Press. Gas (Liq.)	Gases under pressure Liquefied gas
Simple Asphy	Simple Asphyxiant
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)