

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

**Product Form:** Substance

**Product Name:** n-Butane

**CAS-No.:** 106-97-8

**1.2. Intended Use of the Product** No additional information available

#### 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](http://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 pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite.

#### 2.4. Unknown Acute Toxicity (GHS-US)

No data available

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substance

Name : n-Butane

CAS-No. : 106-97-8

Name	Synonyms	Product Identifier	%	GHS US classification
Butane	n-Butane / BUTANE	(CAS-No.) 106-97-8	100	Simple Asphy Flam. Gas 1, H220 Press. Gas (Liq.), H280

Full text of H-phrases: see section 16

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## 3.2. Mixture

Not applicable

## 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).

**First-aid Measures After Inhalation:** First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**First-aid Measures After Skin Contact:** For brief contact with a small amount: Rewarm with body heat. Get immediate medical advice/attention. For extensive contact or a large amount: Immediately call a poison center/doctor and follow their advice. Specific treatment is urgent, incorrect first-aid practices will aggravate the injury. Protect affected area with a loose cover until proper medical treatment is received.

**First-aid Measures After Eye Contact:** Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

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

### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**Symptoms/Injuries:** May cause frostbite on contact with the liquid. Asphyxia by lack of oxygen: risk of death.

**Symptoms/Injuries After Inhalation:** In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

**Symptoms/Injuries After Skin Contact:** Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

**Symptoms/Injuries After Eye Contact:** Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

**Symptoms/Injuries After Ingestion:** Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

**Chronic Symptoms:** None known.

### 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:** Do not extinguish burning gas if flow cannot be shut off immediately. Extinguish secondary FIRES with appropriate materials. Use water spray to cool fire-exposed containers.

**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. Container may explode in heat of fire. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard. Gas has low electroconductivity. Flow may generate electrostatic charges resulting in risks of static discharge and possible ignition.

**Reactivity:** Hazardous reactions will not occur under normal conditions. May react violently with halogens or halogenated compounds. May react violently with oxidants, causing fire and explosion hazard.

### 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. Eliminate all ignition sources if safe to do so. Use water spray or fog for cooling exposed containers. 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, CO<sub>2</sub>).

**Other Information:** Use water spray to disperse vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Eliminate every possible source of ignition. Do not get in eyes, on skin, or on clothing. Do not breathe gas.

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### 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:** Evacuate unnecessary personnel, isolate, and ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and Materials for Containment and Cleaning Up

**For Containment:** Stop leak, if possible without risk. As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering. Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level. Use only non-sparking tools. Contact competent authorities after a spill.

### 6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Asphyxiating gas at high concentrations. This product may contain 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. Handle empty containers with care because residual vapors are flammable. As a result of flow, agitation, etc, electrostatic charges can be generated. Ruptured cylinders may rocket. Do not pressurize, cut, or weld containers.

**Precautions for Safe Handling:** Handle as a flammable gas. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe gas. Do not get in eyes, on skin, or on clothing. Use appropriate personal protective equipment (PPE).

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

**Storage Conditions:** Keep container closed when not in use. Store in a dry, cool and well-ventilated place. Keep in fireproof place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling.

**Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Halogens. Halogenated compounds. Chlorine. Nickel carbonyl. Oxygen.

### 7.3. Specific End Use(s) No additional information available

## 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).

Butane (106-97-8)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm (explosion hazard (Butane, isomers))
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	800 ppm
USA IDLH	US IDLH (ppm)	1600 ppm (>10% LEL)

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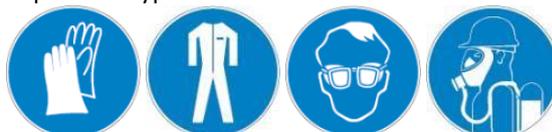
## 8.2. Exposure Controls

### Appropriate Engineering Controls

: Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases or vapors may be released. Oxygen detectors should be used when asphyxiating gases may be released. Have written confined space and tank entry procedures. Never allow tank entry without checking OXYGEN AND VAPOR levels. Use safety harness and safety line on person entering a tank. Stand-by person required with protective equipment available. Ensure all national/local regulations are observed.

### Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Respiratory protection of the dependent type.



### Materials for Protective Clothing

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

### Hand Protection

: Wear protective gloves. If material is cold, wear thermally resistant protective gloves.

### Eye and Face Protection

: Chemical safety goggles.

### Skin and Body Protection

: Wear suitable protective clothing.

### Respiratory Protection

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

### Thermal Hazard Protection

: Wear thermally resistant protective clothing.

### 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 to straw colored.
Odor	: Hydrocarbon
Odor Threshold	: 5000 ppm
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	: Slightly soluble in water.
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

### 9.2. Other Information

Gas Group : Press. Gas (Liq.)

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity:** Hazardous reactions will not occur under normal conditions. May react violently with halogens or halogenated compounds. May react violently with oxidants, causing fire and explosion hazard.

**10.2. Chemical Stability:** Contains gas under pressure; may explode if heated.

**10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

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**10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.

**10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Halogens. Halogenated compounds. Chlorine. Nickel carbonyl. Oxygen.

**10.6. Hazardous Decomposition Products:** None expected under normal conditions of use.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects

**Acute Toxicity:** Not classified

Butane (106-97-8)	
LC50 Inhalation Rat	30957 mg/m <sup>3</sup> (Exposure time: 4 h)
ATE (Vapors)	30,957.00 mg/l/4h
ATE (Dust/Mist)	30,957.00 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:** In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

**Symptoms/Injuries After Skin Contact:** Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

**Symptoms/Injuries After Eye Contact:** Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

**Symptoms/Injuries After Ingestion:** Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

**Chronic Symptoms:** None known.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General** : Not classified.

### 12.2. Persistence and Degradability

n-Butane (106-97-8)	
Persistence and Degradability	Not established.

### 12.3. Bioaccumulative Potential

n-Butane (106-97-8)	
Bioaccumulative Potential	Not established.

Butane (106-97-8)	
Log Pow	2.89

**12.4. Mobility in Soil** No additional information available

### 12.5. Other Adverse Effects

**Other Information** : Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste Treatment Methods

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, and international regulations.

**Additional Information:** Container may remain hazardous when empty. Continue to observe all precautions. Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling. Do not puncture or incinerate container.

**Ecology - Waste Materials:** Avoid release to the environment.

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## 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 : BUTANE  
Hazard Class : 2.1  
Identification Number : UN1011  
Label Codes : 2.1  
ERG Number : 115



### 14.2. In Accordance with IMDG

Proper Shipping Name : BUTANE  
Hazard Class : 2  
Division : 2.1  
Identification Number : UN1011  
Label Codes : 2.1  
EmS-No. (Fire) : F-D  
EmS-No. (Spillage) : S-U



### 14.3. In Accordance with IATA

Proper Shipping Name : BUTANE  
Identification Number : UN1011  
Hazard Class : 2  
Label Codes : 2.1  
Division : 2.1  
ERG Code (IATA) : 10L



## SECTION 15: REGULATORY INFORMATION

### 15.1. US Federal Regulations

<b>n-Butane (106-97-8)</b>	
<b>SARA Section 311/312 Hazard Classes</b>	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Physical hazard - Gas under pressure Health hazard - Simple asphyxiant
<b>Butane (106-97-8)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2. US State Regulations

<b>Butane (106-97-8)</b>
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  
**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

HMIS III Rating

**Health** : 1 Slight Hazard - Irritation or minor reversible injury possible  
**Flammability** : 4 Severe Hazard  
**Physical** : 3 Serious Hazard

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*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)