



# Material Safety Data Sheet

## 1. Product and Company Identification

Product name : **N-Butane**

Chemical formula : C-H<sub>3</sub>-(C-H<sub>2</sub>)<sub>2</sub>-C-H<sub>3</sub>

Synonyms : Butane, Liquefied Petroleum Gas, Normal Butane, Butyl Hydride

Company : Specialty Gases of America, Inc  
6055 Brent Dr.  
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

## 2. Composition/Information on Ingredients

Components	CAS Number	% Volume
N-Butane	106-97-8	100%

## 3. Hazards Identification

### Emergency Overview

Flammable gas. May cause flash fire.  
May cause central nervous system depression, difficulty breathing.

### Potential Health Effects

Inhalation : Irritation, nausea, vomiting, headache, drowsiness, symptoms of drunkenness, tingling sensation, suffocation, convulsion, coma.

Eye contact : Blurred vision, frostbite.

Skin contact : Blisters, frostbite.

Ingestion : Frostbite.

Chronic Health Hazard : Not applicable.

## 4. First Aid Measures

General advice : None.

Eye contact : Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : If frostbite or freezing occur, 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 blanket. Get immediate medical attention.

Ingestion : If a large amount is swallowed, get medical attention.

Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

## 5. Fire-Fighting Measures

- Suitable extinguishing media : Carbon dioxide, regular dry chemical.
- Specific hazards : Severe explosion hazards. Vapor/air mixtures are explosive. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.
- Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. 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. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Stop flow of gas.

## 6. Accidental Release Measures

- Personal precautions : None.
- Environmental precautions : None.
- Methods for cleaning up : Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away. Isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.
- Additional advice : None.

## 7. Handling and Storage

### Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

### Storage

Store in accordance with all current regulations and standards. Subject to storage regulation: U.S. OSHA 29 CFR 1910.110. Grounding and bonding required. Subject to storage regulation: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

## 8. Exposure Controls / Personal Protection

### Exposure limits

- N-Butane : 800 ppm (1900 mg/m<sup>3</sup>) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)  
800 ppm (1900 mg/m<sup>3</sup>) NIOSH recommended TWA 10 hour(s)
- Liquified Petroleum Gas (LPG) : 1000 ppm (1800 mg/m<sup>3</sup>) OSHA TWA  
1000 ppm ACGIH TWA  
1000 ppm (1800 mg/m<sup>3</sup>) NIOSH recommended TWA 10 hour(s)
- Aliphatic Hydrocarbon Gases Alkane (C1-C4) : 1000 ppm ACGIH TWA

### Engineering measures

Not available.

### Personal protective equipment

- Respiratory protection : The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.  
2000 ppm – Any supplied-air respirator. Any self-contained breathing apparatus with a full facepiece.  
Escape – Any appropriate escape-type, self-contained breathing apparatus.  
For unknown concentrations or immediately dangerous to life or death – Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.  
Any self-contained breathing apparatus with a full facepiece.
- Hand protection : Wear insulated gloves.
- Eye protection : For the gas: Eye protection is not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn.  
Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
- Skin and body protection : For the gas, Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.
- Ventilation : Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

## 9. Physical and Chemical Properties

- Form : Gas.
- Color : Colorless.
- Odor : Unpleasant odor.
- Molecular weight : 58.12
- Vapor pressure : 1557 mmHg @ 20 C
- Vapor density : 2.1 (air = 1)
- Specific gravity : 0.5788 @ 0 C (water = 1)
- Boiling point : 30 F (-1 C)
- Freezing point : -216 F (-138 C)
- Water solubility : 15%

## 10. Stability and Reactivity

- Stability : Stable at normal temperatures and conditions.
- Conditions to avoid : Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.
- Materials to avoid : Oxidizing materials.
- Hazardous decomposition products : Thermal decomposition products: oxides of carbon.

## 11. Toxicological Information

### Toxicity Data

658000 mg/m<sup>3</sup>/4 hour(s) inhalation-rat LC50.

### Acute Health Hazard

- Ingestion : Not available.
- Inhalation : Relatively non-toxic.
- Skin : Not available.
- Target organs : Central nervous system.

## 12. Ecological Information

### Fate And Transport

KOW	:	630.96 (log = 2.80) (estimated from water solubility)
KOC	:	979.49 (log = 3.0) (estimated from water solubility)
Henry's Law Constant	:	7.9 E -4 atm-m <sup>3</sup> /mol
Bioconcentration	:	0.74 (estimated from water solubility)
Aquatic Processes	:	1.9827586 hours (River Model: 1 m deep, 1 m/s flow, 3 m/s wind)
Environmental Summary	:	Relatively non-persistent in the environment. Leaches through the soil or the sediment at a slow rate. Accumulates very little in the bodies of living organisms. Moderately volatile from water.

## 13. Disposal Considerations

Waste from residues / unused products	:	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
Contaminated packaging	:	Return cylinder to supplier.

## 14. Transport Information

### DOT (US only)

Proper shipping name	:	Butane
Class	:	2.1
UN/ID No.	:	UN1011
Labeling	:	Flammable Gas

### Further information

Cylinders should be transported in a secure upright position in a well ventilated truck.

## 15. Regulatory Information

### OSHA Process Safety (29 CFR 1910.119) Hazard Class(es)

Not regulated.

### TCSA

Material is listed in TCSA inventory.

### SARA Title III Section 302 Extremely Hazardous Substances (40 CFR 355.30)

Not regulated.

### SARA Title III Section 304 Extremely Hazardous Substances (40 CFR 355.40)

Not regulated.

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

Acute: Yes  
Chronic: No  
Fire: Yes  
Reactive: No  
Sudden Release: Yes

### SARA Title III Section 313 (40 CFR 372.65)

Not regulated.

## 16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at [www.americangasgroup.com](http://www.americangasgroup.com).