



Material Safety Data Sheet

1. Product and Company Identification

Product name : **1-Butene**

Chemical formula : C-H3-C-H2-C-H-C-H2

Synonyms : Alpha-Butylene, Ethylethylene, Butylene, Alpha-Butene, Butene-1, N-Butene, N-Butylene, 1-Butylene

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
1-Butene	106-98-9	100%

3. Hazards Identification

Emergency Overview

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

Potential Health Effects

Inhalation : Mild irritation, nausea, vomiting, symptoms of drunkenness, suffocation, convulsion, coma.

Eye contact : Mild irritation, 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 fire hazards. Moderate explosion hazard. Vapor/air mixtures are explosive. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Pressurized containers may rupture or explode if exposed to sufficient heat. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.
- 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. 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

No occupational exposure limits established.

Engineering measures

Not available.

Personal protective equipment

- Respiratory protection : Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.
For unknown concentrations or immediately dangerous to life or health – Any supplied-air respirator with a full facepiece that is operated in 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.
Special instructions for protection and hygiene	:	None.
Remarks	:	None.

9. Physical and Chemical Properties

Form	:	Gas.
Color	:	Colorless.
Odor	:	Distinct odor.
Molecular weight	:	56.11
Vapor pressure	:	1976 mmHg @ 21.1 C
Vapor density	:	2.0 (air = 1)
Density	:	2.3655 kg/m ³ @ 25 C
Specific gravity	:	Not applicable.
Boiling point	:	21 F (-6 C)
Freezing point	:	-301 F (-185 C)
Water solubility	:	Insoluble.

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	:	Metal salts, oxidizing materials, halogens, acids.
Hazardous decomposition products	:	Thermal decomposition products: oxides of carbon.

11. Toxicological Information

Acute Health Hazard

Ingestion	:	Not available.
Inhalation	:	Not available.
Skin	:	Not available.
Target organs	:	Central nervous system.

12. Ecological Information

Not available.

13. Disposal Considerations

Waste from residues : Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste

/ unused products Number(s): D001. Dispose in accordance with all applicable regulations.
Contaminated : Return cylinder to supplier.
packaging

14. Transport Information

DOT (US only)

Proper shipping : Butylene
name
Class : 2.1
UN/ID No. : UN1012
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 TSCA 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.