



# Material Safety Data Sheet

## 1. Product and Company Identification

Product name : **Hexafluoroethane**

Chemical formula : C<sub>2</sub>F<sub>6</sub>

Synonyms : Halon 26; perfluoroethane; refrigerant gas R116

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
Hexafluoroethane	76-16-4	99+%

## 3. Hazards Identification

### Emergency Overview

Liquid and gas under pressure.  
Can cause rapid suffocation.  
May cause frostbite.  
May cause dizziness and drowsiness.

### Potential Health Effects

Inhalation : Asphyxiant. High concentrations may cause dizziness, nausea, vomiting, disorientation, confusion, incoordination, and narcosis. Very high concentrations may cause suffocation. Lack of oxygen can kill.

Eye contact : Liquid may cause severe corneal injury.

Skin contact : Liquid halocarbon 116 may cause frostbite; harmful amounts may be absorbed if skin contact is prolonged or widespread.

Ingestion : An unlikely route of exposure, but frostbite of the lips and mouth may result from contact with the liquid.

Chronic Health Hazard : No harm expected.

## 4. First Aid Measures

Eye contact : For contact with the liquid, immediately flush eyes thoroughly with warm water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure all surfaces are flushed thoroughly. See a physician, preferably an ophthalmologist, immediately.

Skin contact : For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105 F (41 C). In case of massive exposure, remove clothing while showering with warm water. Call a physician.

- Ingestion : An unlikely route of exposure; this product is gas at normal temperature and pressure.
- Inhalation : Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician immediately.

## 5. Fire-Fighting Measures

- Suitable extinguishing media : Halocarbon 116 cannot catch fire. Use media appropriate for surrounding fire.
- Specific hazards : Heat of fire can build pressure in cylinder and cause it to rupture. No part of a cylinder should be subjected to a temperature higher than 125 F (52 C). Halocarbon 116 cylinders are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT).
- Fire fighting : Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distant until cool; then move them away from fire area if without risk. Self-contained breathing apparatus may be required by rescue workers. On site fire fighters must comply with OSHA 29 CFR 1910.156.

## 6. Accidental Release Measures

- Personal precautions : None.
- Environmental precautions : Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations. If necessary, call your local supplier for assistance.
- Methods for cleaning up : Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Shut off flow if without risk. Ventilate area of leak or move cylinder to a well-ventilated area. Test for sufficient oxygen, especially in confined spaces, before allowing reentry.
- Additional advice : None.

## 7. Handling and Storage

### Handling

Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. 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. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier.

### Storage

Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection caps firmly in place by hand. Store only where temperature will not exceed 125 F (52 C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

## 8. Exposure Controls / Personal Protection

### Engineering measures

Use a local exhaust system, if necessary, to control the concentration of this product in the worker's breathing zone.

### Personal protective equipment

- Respiratory protection : Use air-supplied respirators for protection against high concentrations. In confined spaces or oxygen-deficient atmospheres, use a full-face, self-

- contained breathing apparatus operated in the pressure demand mode.
- Hand protection : Wear work gloves when handling cylinders.
- Eye protection : Wear safety glasses when handling cylinders; insulated neoprene gloves when changing them out.
- Skin and body protection : Metatarsal shoes for cylinder handling. Protective clothing where needed. Regardless of protective equipment, never touch live electrical parts.

## 9. Physical and Chemical Properties

- Form : Gas.
- Color : Colorless.
- Odor : Odorless.
- Molecular weight : 138.01
- Vapor pressure : 430.3 psig (2967 kPa) @ 70 F (21.1 C)
- Gas density : 0.3576 lb/ft<sup>3</sup> (5.729 kg/m<sup>3</sup>) @ 70 F (21.1 C)
- Specific gravity : 4.773 @ 70 F (21.1 C) (air = 1)
- Boiling point : -108.76 F (-78.20 C)
- Melting point : -149.26 F (-100.7 C)
- Water solubility : Negligible.

## 10. Stability and Reactivity

- Stability : Stable under normal conditions.
- Conditions to avoid : Elevated temperatures. (The presence of some metals may promote catalytic decomposition of the gas).
- Materials to avoid : Halocarbon 116 is incompatible with polystyrene and alloys containing more than 2% magnesium in the presence of water.
- Hazardous decomposition products : Thermal decomposition may produce toxic fumes of fluorides.

## 11. Toxicological Information

### Acute Health Hazard

- Ingestion : Not available.
- Inhalation : Not available.
- Skin : Not available.

## 12. Ecological Information

No adverse ecological effects expected. This product does not contain any Class I or Class II ozone-depleting chemicals. This product is not listed as a marine pollutant by DOT.

## 13. Disposal Considerations

- Waste from residues / unused products : Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.
- Contaminated packaging : Return cylinder to supplier.

## 14. Transport Information

DOT (US only)

Proper shipping name : Hexafluoroethane, compressed  
Class : 2.2  
UN/ID No. : UN2193  
Labeling : Non-Flammable Gas

Further information

Cylinders should be transported in a secure upright position in a well ventilated truck.  
Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law [49 CFR 173.301(b)].

**15. Regulatory Information**

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

Hexafluoroethane is not listed in Appendix A as a highly hazardous chemical.

TCSA

Material is listed in TSCA inventory.

SARA Sections 302/304 (40 CFR 355)

Threshold Planning Quantity (TPQ): None  
Extremely Hazardous Substances (EHS) RQ: None

SARA Sections 311/312

Immediate: Yes  
Delayed: No  
Pressure: Yes  
Reactivity: No  
Fire: No

SARA Section 313 (40 CFR 372.65)

Halocarbon 116 does not require reporting under Section 313.

CERCLA (40 CFR Parts 117 and 302)

Reportable Quantity (RQ): None

**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).