



# Material Safety Data Sheet

## 1. Product and Company Identification

Product name : **Vinyl Fluoride**

Chemical formula : C-H<sub>2</sub>-C-H-F

Synonyms : Fluoroethylene; Monofluoroethylene; Fluoroethene; Vinyl Fluoride, Inhibited; UN 1860

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
Vinyl Fluoride	75-02-5	100%

## 3. Hazards Identification

### Emergency Overview

May cause respirator tract irritation, skin irritation, eye irritation, suspect cancer hazard (in animals).  
Flammable gas. May cause flash fire. May polymerize.  
Containers may rupture or explode.

### Potential Health Effects

Inhalation : Irritation, difficulty breathing, headache, dizziness, blurred vision.  
Eye contact : Irritation, blurred vision.  
Skin contact : Irritation.  
Ingestion : Ingestion of a gas is unlikely.  
Chronic Health Hazard : Not available.

## 4. First Aid Measures

General advice : None.

Eye contact : Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains. 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 blankets. 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.  
Note to physicians : For inhalation, consider oxygen.

## 5. Fire-Fighting Measures

Suitable extinguishing media : Carbon dioxide, regular dry chemical.  
Large fires: Use regular foam or flood with fine water spray.  
Specific hazards : Severe fire hazard. Severe explosion hazard. Gas/air mixtures are explosive. The gas is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion. Containers may rupture or explode if exposed to heat.  
Fire fighting : Move container from fire area if it can be done without risk. 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, 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

Water release : Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.  
Occupational spill/release : Avoid heat, flames, sparks and other sources of ignition. 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 regulations: U.S. OSHA 29 CFR 1910.101.

## 8. Exposure Controls / Personal Protection

### Exposure limits

ACGIH : 1 ppm TWA  
OSHA (final) : 2.5 mg/m<sup>3</sup> TWA F  
OSHA (vacated) : 2.5 mg/m<sup>3</sup> TWA  
NIOSH : 1 ppm TWA  
5 ppm Ceiling

### Engineering measures/Ventilation

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

### Personal protective equipment

Respiratory protection	: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. 10 ppm – Any air-purifying half-mask respirator equipped with organic vapor cartridge(s). Any supplied-air respirator. 25 ppm – Any supplied-air respirator operated in a continuous-flow mode. Any powered, air-purifying respirator with organic vapor cartridge(s). 50 ppm – Any air-purifying respirator with a full facepiece and organic vapor canister. Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister. Any powered, air-purifying respirator with a tight-fitting facepiece and organic vapor cartridge(s). Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece. 200 ppm – Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive pressure mode. Emergency or planned entry into unknown concentrations or IDLH conditions – Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape – Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister. Any appropriate escape-type, self-contained breathing apparatus.
Hand protection	: Wear appropriate chemical resistant gloves.
Eye protection	: Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and body protection	: Wear appropriate chemical resistant clothing.

## 9. Physical and Chemical Properties

Form	: Gas.
Color	: Colorless.
Odor	: Faint, sweet odor.
Molecular weight	: 46.0
Vapor pressure	: 19119 mmHg @ 21.1°C
Vapor density	: 1.6 (air = 1)
Specific gravity	: 0.7 @ 0°C (water = 1)
Boiling point	: -98°F (-72°C)
Melting point	: -258°F (-161°C)
Water solubility	: Slightly soluble.
Evaporation rate	: Not applicable.
Solvent solubility	: Soluble: alcohol, ether, acetone

## 10. Stability and Reactivity

Stability	: Polymerizes with evolution of heat. Avoid contact with heat, air, light or moisture and monitor inhibitor content.
Conditions to avoid	: Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.
Materials to avoid	: Oxidizing materials.

Hazardous decomposition products : None.

## 11. Toxicological Information

The components of this material have been reviewed in various sources and the following selected endpoints are published:

VINYL FLUORIDE : Inhalation LC50 Rat: 1600000 mg/m<sup>3</sup>/4H  
(75-02-5)

### Acute Toxicity Level

VINYL FLUORIDE : Non toxic: inhalation  
(75-02-5)

### Component Carcinogenicity

ACGIH : A2 – Suspected Human Carcinogen  
IARC : Monograph 97 [2008]; Monograph 63 [1995]; Supplement 7 [1987]; (Group 2A (probably carcinogenic to humans))  
Present  
Reasonably anticipated to be a Human Carcinogen

### Local Effects

VINYL FLUORIDE : Irritant: inhalation, skin, eye  
(75-02-5)

### Target Organs

VINYL FLUORIDE : Central nervous system  
(75-02-5)

## 12. Ecological Information

No LOLI ecotoxicity data are available for this product's components.

## 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. D001. D003.  
Contaminated packaging : Return cylinder to supplier.

## 14. Transport Information

### DOT (US only)

Proper shipping name : Vinyl fluoride, stabilized  
Class : 2.1  
UN/ID No. : UN1860  
Labeling : Flammable Gas.

## 15. Regulatory Information

### U.S. Federal Regulations

None of this product's components are listed under SARA Section 302/304 (40 CFR 355 Appendix A), SARA 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312

Acute: Yes  
Chronic: Yes  
Fire: Yes  
Reactive: Yes  
Pressure: Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
VINYL FLUORIDE (related to: Fluorides)	75-02-5	No	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

**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).