



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Sulfuryl Fluoride**

Chemical formula : F2-O2-S

Synonyms : Sulfuric Oxyfluoride; Vikane; Vikane fumigant; UN 2191

Company : Med Tech Gases, Inc.
20 Hall Street
Medford, MA 02155

Telephone : 800-FINE-GAS

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Sulfuryl Fluoride	2699-79-8	99+%

3. Hazards Identification

Emergency Overview

Harmful if inhaled, respiratory tract irritation, eye irritation.
Containers may rupture or explode if exposed to heat.

Potential Health Effects

Inhalation : Irritation, itching, nausea, vomiting, stomach pain, symptoms of drunkenness, tingling sensation, lung congestion, convulsions.

Eye contact : Irritation, blurred vision.

Skin contact : Frostbite.

Ingestion : No information on significant adverse effects.

Chronic Health Hazard : None known.

4. First Aid Measures

General advice : None.

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

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.

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 : Negligible fire hazard.
- Fire fighting : Do not get water inside container. Move container from fire area if it can be done without risk. Cool containers with water spray until well after fire is out. Stay away from ends of tanks. Keep unnecessary people away, isolate hazard area and deny entry.

6. Accidental Release Measures

- Occupational spill/release : Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water directly on material. Do not get water inside container. Keep unnecessary people away, isolate hazard area and deny entry. Small spills: Flood with water. Large spills: Dike for later disposal. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet.
- 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.

8. Exposure Controls / Personal Protection

Exposure limits

- ACGIH : 5 ppm TWA
10 ppm STEL
- OSHA (final) : 5 ppm TWA; 20 mg/m³ TWA
- OSHA (vacated) : 10 ppm STEL; 40 mg/m³ STEL
5 ppm TWA; 20 mg/m³ TWA
- NIOSH : 10 ppm STEL; 40 mg/m³ STEL
5 ppm TWA; 20 mg/m³ TWA

IDLH

200 ppm

Engineering measures/Ventilation

Provide local exhaust or process enclosure 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.
50 ppm – Any supplied-air respirator.
125 ppm – Any supplied-air respirator operated in a continuous-flow mode.
200 ppm – Any self-contained breathing apparatus with a full facepiece.
Any supplied air-respirator with a full facepiece.
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 canister providing protection against the compound of concern.

Any appropriate escape-type, self-contained breathing apparatus.

- Hand protection : Wear insulated 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 : For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

9. Physical and Chemical Properties

- Form : Gas.
- Color : Colorless.
- Odor : Odorless.
- Molecular weight : 102.10
- Vapor pressure : > 760 mmHg @ 20°C
- Vapor density : 3.7 (air = 1)
- Specific gravity : 1.35 @ 20°C (water = 1)
- Boiling point : -67°F (-55°C)
- Melting point : -215°F (-137°C)
- Water solubility : 750 ppm @ 25°C
- Evaporation rate : Not applicable.
- Solvent solubility : Soluble: alcohol, toluene, carbon tetrachloride

10. Stability and Reactivity

- Stability : Stable at normal temperatures and pressure.
- Conditions to avoid : Minimize contact with material. Avoid inhalation of material or combustion by-products. Containers may rupture or explode if exposed to heat.
- Materials to avoid : Oxidizing materials.
- Hazardous decomposition products : Thermal decomposition products: acid halides, oxides of sulfur.

11. Toxicological Information

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

- SULFURYL FLUORIDE (2699-79-8) : Inhalation LC50 Rat: 991 ppm/4H; Oral LD50 Rat: 100 mg/kg

Acute Toxicity Level

- SULFURYL FLUORIDE (2699-79-8) : Toxic: inhalation, ingestion

Component Carcinogenicity

- ACGIH : A4 – Not classifiable as a Human Carcinogen

Local Effects

SULFURYL FLUORIDE (2699-79-8) : Irritant: inhalation, eye.

Medical Conditions Aggravated by Exposure

Respiratory disorders

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.
Contaminated packaging : Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name : Sulfuryl fluoride
Class : 2.3
UN/ID No. : UN2191
Labeling : Poison Gas
Additional shipping description : Toxic-Inhalation Hazard Zone D

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

SULFURYL FLUORIDE (2699-79-8)
SARA 313 : 1.0% de minimis concentration

SARA 311/312

Acute: Yes
Chronic: No
Fire: No
Reactive: No
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
SULFURYL FLUORIDE	2699-79-8	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65.