Material Safety Data Sheet

1. Product and Company Identification

Product name : **Sulfur Tetrafluoride**

Chemical formula : F4-S

Synonyms : (T-4)-Sulfur Fluoride (SF4); Sulfur Fluoride (SF4); Tetrafluorosulfurane; UN 2418

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
Sulfur tetrafluoride	7783-60-0	100%

3. Hazards Identification

Emergency Overview

May cause respiratory tract burns, skin burns, eye burns.
Containers may rupture or explode if exposed to heat. May react on contact with air, heat, light or water.
Contact with water or moist air may generate flammable and/or toxic gases.

Potential Health Effects

Inhalation : Burns.
Eye contact : Burns.
Skin contact : Burns.
Ingestion : Ingestion of a gas is unlikely.
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 : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Destroy contaminated clothing and shoes.
Ingestion : Ingestion is not a route of exposure.
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. Containers may rupture or explode if exposed to heat.
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. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

6. Accidental Release Measures

Occupational spill/lease	:	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. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).
Additional advice	:	None.

7. Handling and Storage

Handling

When using, do not eat, drink or smoke. Subject to handling regulations: U.S. OSHA 29 CFR 1910.119.

Storage

Store in accordance with all current regulations and standards. Protect from physical damage. Store in a well-ventilated area. Avoid direct sunlight. Avoid contact with water or moisture. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355 Part B). Keep separated from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH	:	2.5 mg/m3 TWA (as F) 0.1 ppm Ceiling
OSHA (final)	:	2.5 mg/m3 TWA F
OSHA (vacated)	:	2.5 mg/m3 TWA 0.1 ppm Ceiling; 0.4 mg/m3 Ceiling
NIOSH	:	0.1 ppm Ceiling; 0.4 mg/m3 Ceiling

Engineering measures/Ventilation

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

Personal protective equipment

Respiratory	:	Under conditions of frequent use or heavy exposure, respiratory protection may

protection		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 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. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
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	:	Not available.
Molecular weight	:	108.07
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Specific gravity	:	1.95 @ -78°C (water = 1)
Boiling point	:	-36°F (-38°C)
Melting point	:	-186°F (-121°C)
Water solubility	:	Reacts violently.
Evaporation rate	:	Not applicable.
Solvent solubility	:	Soluble: benzene

10. Stability and Reactivity

Stability	:	Contact with water or moist air may form flammable and/toxic gases or vapors. May react on contact with air, heat, light or water.
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	:	Metals, concrete, glass.
Hazardous decomposition products	:	Thermal decomposition products or combustion: acid halides, oxides of sulfur, fluorinated compounds.

11. Toxicological Information

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

Component Carcinogenicity

ACGIH	:	A4 – Not classifiable as a Human Carcinogen

Local Effects

SULFUR TETRAFLUORIDE (7783-60-0)	:	Corrosive: inhalation, skin, eye, ingestion

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. Hazardous Waste Number(s): D003.
Contaminated packaging	:	Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name	:	Sulfur tetrafluoride
Class	:	2.3
UN/ID No.	:	UN2418
Labeling	:	Poison Gas, Corrosive
Additional shipping description	:	Toxic-Inhalation Hazard Zone A

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.

SULFUR TETRAFLUORIDE (7783-60-0)

SARA 302	:	100 lb TPQ
OSHA (safety)	:	250 lb TQ

SARA 311/312

Acute: Yes
Chronic: No
Fire: No
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
SULFUR TETRAFLUORIDE	7783-60-0	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65.