



# Scott Specialty Gases

## Material Safety Data Sheets

**MSDS No: 7783-61-1**  
**Date: 03/09/2001**

**SUPPLIER ADDRESS:** 6141 Easton Road, Bldg. 1  
PO Box 310  
Plumsteadville, PA 18949-0310

**EMERGENCY PHONE NUMBER:** (215) 766-8861

### 1. CHEMICAL PRODUCT

PRODUCT NAME: SILICON TETRAFLUORIDE      SYNONYMS: Tetrafluorosilane

### 2. COMPOSITION, INFORMATION ON INGREDIENTS

Exposure Limits (PPM)

Ingredient Name	Formula	CAS #	Concentration	ACGIH TLV	OSHA PEL	MAC	Other STEL
SILICON TETRAFLUORIDE	SIF4	7783-61-1	99+%	2.5	2.5	NE	NE

Note: NE = NONE ESTABLISHED      S/A = SIMPLE ASPHYXIANT

### 3. HAZARD IDENTIFICATION

**\*\*\* EMERGENCY OVERVIEW \*\*\***  
Poisonous, corrosive high pressure gas.  
Can cause eye, skin, and respiratory tract burns.  
May be fatal if inhaled.

#### POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation , Skin

ACUTE EFFECTS: Corrosive and irritating to the upper and lower respiratory tract. Symptoms include lacrimation, cough, labored breathing and excessive salivary and sputum formation. Can also cause pneumonitis and pulmonary edema. Can cause eye, skin, and respiratory tract burns.

CHRONIC EFFECTS: None known

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US ONLY):

NTP - No  
IARC MONOGRAPHS - No  
OSHA REGULATED - No

#### 4. FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

EYE CONTACT: Immediately flush with copious amounts of water for at least 15 minutes.

SKIN CONTACT: Immediately flush with copious amounts of water for at least 15 minutes while removing contaminated clothing.

INGESTION: None

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: None

#### 5. FIRE FIGHTING MEASURES

FLASH POINT: Nonflammable

AUTOIGNITION TEMPERATURE: N/Ap

FLAMMABLE LIMITS: Nonflammable

LOWER:

UPPER:

EXTINGUISHING MEDIA: Use what is appropriate for surrounding fire.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Keep fire exposed cylinders cool with water spray. If possible, stop the product flow.

HAZARDOUS COMBUSTION PRODUCTS: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: Cylinder rupture may occur under fire conditions. This material reacts with water and moisture.

#### 6. ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area.

SPECIALIZED EQUIPMENT: If leak is in the user's equipment, be certain to purge piping with inert gas prior to attempting repairs.

#### 7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable hand truck to

move cylinders.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas. Keep valve protection cap on cylinders when not in use.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation to maintain concentration below exposure limits.

EYE / FACE PROTECTION: Safety glasses

SKIN PROTECTION: Impervious gloves, coveralls, boots, and/or other resistant protective clothing.

RESPIRATORY PROTECTION: In case of leakage, use self-contained breathing apparatus.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Disagreeable odor.

PHYSICAL PRESSURE: Gas

VAPOR PRESSURE: N/Av

VAPOR DENSITY (AIR=1): 3.55

BOILING POINT (C): -95.1 sublime

SOLUBILITY IN WATER: Hydrolyzes.

SPECIFIC GRAVITY (H<sub>2</sub>O=1): N/Av

EVAPORATION RATE: Gas

ODOR THRESHOLD: N/Av

## 10. STABILITY AND REACTIVITY

STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Storage in poorly ventilated areas. Storage near a heat source.

MATERIALS TO AVOID: Alkali and alkaline earth metals. Reacts vigorously with water or moisture.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Hydrolysis liberates hydrogen fluoride and silicic acid.

### 11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC50): 450 ppm, Rat 1 hour.

LETHAL DOSE 50 (LD50): N/Ap

TERATOGENICITY: N/Ap

REPRODUCTIVE EFFECTS: N/Ap

MUTAGENICITY: N/Ap

### 12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

### 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.

### 14. TRANSPORT INFORMATION

CONCENTRATION: 99+%

DOT DESCRIPTION (US ONLY):

PROPER SHIPPING NAME: Silicon tetrafluoride, compressed  
HAZARD CLASS: 2.3 (poison), Hazard Zone B  
IDENTIFICATION NUMBER: UN1859  
REPORTABLE QUANTITIES: None  
LABELING: POISON GAS, CORROSIVE

ADR / RID (EU Only): Class 2, 1TC

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

### 15. REGULATORY INFORMATION

OSHA: Process Safety Management: Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for material is 10,000 lbs.

EU NUMBER: N/Av

NUMBER IN ANNEX 1 OF DIR 67/548: Not listed in annex 1.

EU CLASSIFICATION: N/Av

R: 35, 36/37

S: 7/9, 23, 26

## 16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS: N/Av - Not Available SA - Simple Asphyxiant NE - None Established

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