



# Safety Data Sheet

## Silicon Tetrachloride

### Section 1: Product and Company Identification

**Middlesex Gases & Technologies**

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Product Code: Silicon Tetrachloride

### Section 2: Hazards Identification



**Warning**

**Hazard Classification:**

Gases Under Pressure

**Hazard Statements:**

Contains gas under pressure; may explode if heated

**Precautionary Statements**

**Storage:**

Protect from sunlight.  
Store in well-ventilated place.

### Section 3: Composition/Information on Ingredients

<b>CAS #</b>
10026-04-7

Chemical Substance	Chemical Family	Trade Names
Silicon Tetrachloride	silicon, hydrides	Silicon tetrachloride; Silicon chloride (SiCl <sub>4</sub> ); Tetrachlorosilane; Tetrachlorosilicon; SiCl <sub>4</sub> ; Silicon chloride

## Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.	Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	If a large amount is swallowed, get medical attention.	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.	For inhalation, consider oxygen.

## Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Non-flammable. Use material suitable for surrounding fire. Reacts with water to form HCl.	Decomposed by water or moist air with much heat generated and forms silicic acid and hydrochloric acid	<ul style="list-style-type: none"> <li>Respiratory protection may be needed for frequent or heavy exposure. Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.</li> <li>Respiratory protection may be needed for frequent or heavy exposure.</li> </ul>

## Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Do not touch spilled material.	Avoid heat, flames, sparks and other sources of ignition.	Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water inside container. Remove sources of ignition.

Methods for Cleanup	Other Information
Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal.	None

## Section 7: Handling and Storage

Handling	Storage
Store and handle in accordance with all current regulations and standards.	Keep separated from incompatible substances.

## Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
AIHA WEEL (United States, 5/2010). CEIL: 1 ppm

### Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	Wear appropriate chemical resistant clothing.	Respiratory protection may be needed for frequent or heavy exposure. Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

#### General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Liquid	Colorless	Colorless	N/A	Gas	Pungent odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
N/A	Not available	Not available	Not available	N/A	N/A

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
57°C (134.6°F)	-70°C (-94°F)	26 kPa (195 mm Hg) (at 20°C)	5.9 (Air = 1)	1.48 (Water = 1)	Reacts violently with water	N/A	Not available	Not available	Not available

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
169.9 g/mole	Cl4-Si	Not available	Not available	Not available	Not applicable	Soluble

## Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Normally stable. Avoid contact with incompatible materials.	Normally stable. Avoid contact with incompatible materials.	Moisture, combustible materials, metals, alkalis

Hazardous Decomposition Products	Possibility of Hazardous Reactions
HCl	Will not polymerize.

## Section 11: Toxicology Information

#### Acute Effects

Oral LD50	Dermal LD50	Inhalation
LC50, 4 hr, rat = 8000 ppm	Not available	Burns, difficulty breathing, headache, dizziness, bluish skin color, lung congestion

Eye Irritation	Skin Irritation	Sensitization
Irritation (possibly severe)	Burns	Respiratory tract burns, skin burns, eye burns, mucous membrane burns

#### Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Not available	Not available	Not available	No data

## Section 12: Ecological Information

#### Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
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Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available
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## Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations.

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
SILICON TETRACHLORIDE	UN1818	2.3	II	8	1L	30L	N/A

### Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
SILICON TETRACHLORIDE	UN1818	8	II

## Section 15: Regulatory Information

### U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
Not regulated.	Not regulated.	Not regulated.

### SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	Yes	Yes	Yes

### SARA 372.65

Not regulated.

### OSHA Process Safety

Not available

### State Regulations

#### CA Proposition 65

Not regulated.

### Canadian Regulations

#### WHMIS Classification

E

### National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDL)
Not listed.	Not listed.	Not determined.

## Section 16: Other Information

<b>NFPA Rating</b>
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HEALTH=3 FIRE=0 REACTIVITY=2
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0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard