

**MATERIAL SAFETY
DATA SHEET**

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NAME USED ON LABEL: **TETRACHLOROSILANE**
CHEMICAL NAME: TETRACHLOROSILANE
SYNONYMS: SILICON TETRACHLORIDE
CHEMICAL FAMILY: CHLOROSILANE
FORMULA: Cl₄Si
HMIS CODES HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 2

INGREDIENTS

IDENTITY	CAS NO.	%	TLV
TETRACHLOROSILANE	10026-04-7	>97	not established

(OSHA PEL for hydrogen chloride, TWA: 5ppm)

PHYSICAL DATA

Boiling Point: 57.6°C	Freezing Point: -70°C
Specific Gravity: 1.48	Vapor Pressure at 20°C: 194mm
Vapor Density(Air = 1): >5	Solubility in water: reacts violently
% volatiles: 100%	Evaporation rate: not determined
Molecular Weight: 169.90	Viscosity: 0.4 cSt

Appearance & Color: Clear to straw liquid with acrid odor of hydrogen chloride

FIRE & EXPLOSION DATA

Tetrachlorosilane is not flammable. The following information is provided to assist if tetrachlorosilane is present in a fire situation.

Flash Point, COC : not flammable Autoignition Temp.: not ignitable

Flammability Limits- LEL: NA UEL: NA

Extinguishing Media: Alcohol resistant foam, carbon dioxide, dry chemical. Use of high expansion foam (100:1) is recommended to cover flames.

Special Fire Fighting Procedures: Use only dry media to extinguish flames. Water spray or fog should only be used to knock down hydrogen chloride vapors in areas downwind from the fire. Avoid eye and skin contact. Do not breathe fumes or inhale vapors.

Unusual Fire and Explosion Hazards: Irritating fumes of hydrogen chloride and silicon dioxide develop when material is exposed to water or open flame.

ENVIRONMENTAL INFORMATION

Spill response: May be hazardous to aquatic life if released to open waters. Cover spill with absorbent material. Transfer to a suitable container for disposal.

Recommended Disposal: Hydrolyze material by mixing with water in a hood.

Liquid layer contains hydrochloric acid which should be neutralized. Solids may be landfilled. Alternately, absorb onto clay or vermiculite and dispose of absorbent

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Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose, LC: Lethal Concentration; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; HMIS: Hazardous Material information System; CAS No.: Chemical Abstract Service Registration Number
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material as solid waste. Follow all chemical pollution control regulations.

HEALTH HAZARD DATA

Eye Contact: Will cause immediate or delayed severe chemical burns, including conjunctivitis and corneal damage.

Skin contact: Will produce irritation or contact dermatitis. Can cause severe chemical burns. Prompt and thorough washing with soap and water will reduce or eliminate potential dermal effects.

Inhalation: Inhalation of vapors will irritate the respiratory tract. Overexposure may produce severe tissue damage.

Inhalation Toxicity- rat, LC50: 8000ppm/ 4 hours

Oral Toxicity: Not determined.

Chronic Toxicity: There are no known chronic effects related to this compound.

SUGGESTED FIRST AID

EYES: In case of contact, immediately flush eyes with flowing water for at least 15 minutes. Get medical attention.

SKIN: Wipe off excess chemical gently and without delay. After the bulk of material is removed by wiping, flush with water, then wash with soap and water.

INHALATION: Move exposed individual to fresh air. Call a physician.

INGESTION: Never give fluids or induce vomiting if patient is unconscious or having convulsions. Get medical attention.

NOTE: Material may form a siloxane polymer on the skin, eyes or in the lungs.

REACTIVITY DATA

Stability: Stable in sealed corrosion resistant containers stored under a dry inert atmosphere.

Incompatibility (materials to avoid): Reacts with water and moisture in air, liberating hydrogen chloride. Avoid contact with alcohols, acids, oxidizers.

Hazardous decomposition products: Hydrogen chloride, silicon dioxide.

SPECIAL PROTECTION INFORMATION

Ventilation: Local exhaust is required. Mechanical is recommended.

Respiratory Protection: If exposure exceeds TLV air-supplied or combination organic vapor/acid gas respirator.

Eye and Face Protection: Chemical worker's goggles. Do not wear contact lenses.

Other Clothing and Equipment: Rubber, neoprene or nitrile gloves. An eyewash and emergency shower should be available. Launder clothing before reuse.

OTHER PRECAUTIONS

For research and industrial use only.

Storage and Handling: Store in sealed corrosion resistant containers.

TRANSPORTATION

DOT SHIPPING NAME: SILICON TETRACHLORIDE

DOT HAZARD CLASS: 8

DOT LABEL: Corrosive

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DOT ID No: UN1818 PG: II

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