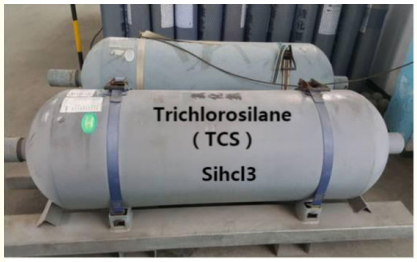
Trichlorosilane A Key Material in The Semiconductor Industry Application Usage Sihcl3

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: CMC
- Certification: COA
- Model Number: Sihcl3
- Minimum Order Quantity: 1kg
- Price: US $500/kg
- Packaging Details: Cylinder/Tank
- Delivery Time: 30 days
- Payment Terms: L/C, T/T
- Supply Ability: 2000 Tons/Year



Product Specification

- Product Name: Trichlorosilane
- Purity: 99.99%
- Grade: Electron Grade
- Transport: By Sea
- Model No: Sihcl3
- Transport Package: Tanker
- Specification: Y-Cylinder
- Trademark: CMC
- Origin: China
- HS Code: 2812190091
- Supply Ability: 500ton/Month
- CAS No.: 10025-78-2
- Formula: Sihcl3
- EINECS: 7783-82-6
- Constituent: Industrial Pure Air

Product Description

Product Description

Trichlorosilane (SiHCl3) is a chemical compound composed of one silicon atom bonded to three chlorine atoms and one hydrogen atom. It is a colorless, volatile liquid at room temperature. Here are some key points about trichlorosilane:

Chemical Composition: Trichlorosilane consists of one silicon (Si) atom bonded to three chlorine (Cl) atoms and one hydrogen (H) atom. Its chemical formula is SiHCl3.

Properties: Trichlorosilane is a volatile liquid that boils at around 31.8 degrees Celsius (89.2 degrees Fahrenheit) and has a melting point of -122 degrees Celsius (-187.6 degrees Fahrenheit). It is highly reactive and flammable. Trichlorosilane readily decomposes in the presence of moisture or water, releasing hydrogen gas and forming silicic acid.

Production: Trichlorosilane is primarily produced through the reaction of metallurgical-grade silicon (usually in the form of chunks or powder) with hydrogen chloride (HCl) gas at high temperatures:

Si + 3HCl → SiHCl3 + H2

This reaction typically occurs in the presence of a catalyst and is conducted in a closed system.

Uses: Trichlorosilane has various industrial applications:

Silicon Production: It is a key intermediate in the production of high-purity silicon. Trichlorosilane is used as a precursor in the Siemens process or the modified Siemens process, which involves the production of polycrystalline silicon for use in semiconductors and solar cells.

Chemical Synthesis: Trichlorosilane is used as a source of silicon in the synthesis of various silicon compounds, including silicones, silanes, and silicon carbide.

Hydrogen Production: Trichlorosilane can be used as a source of hydrogen gas through its reaction with water vapor or steam:

SiHCl3 + 3H2O → SiO2 + 3H2 + 3HCl

This reaction generates hydrogen gas for various industrial applications.

Metal Surface Treatment: Trichlorosilane is used as a surface treatment agent for metals to improve adhesion or provide a protective coating.

Safety Considerations: Trichlorosilane is a flammable liquid and should be handled with caution. It reacts vigorously with water, releasing hydrogen gas and forming corrosive silicic acid. Trichlorosilane vapors are also toxic and can cause respiratory irritation. Proper safety precautions, such as appropriate ventilation, protective equipment, and safe handling procedures, should be followed when working with trichlorosilane.

It's important to handle trichlorosilane safely and follow proper protocols to minimize risks associated with its reactivity, flammability, and potential health hazards.

Basic Info.

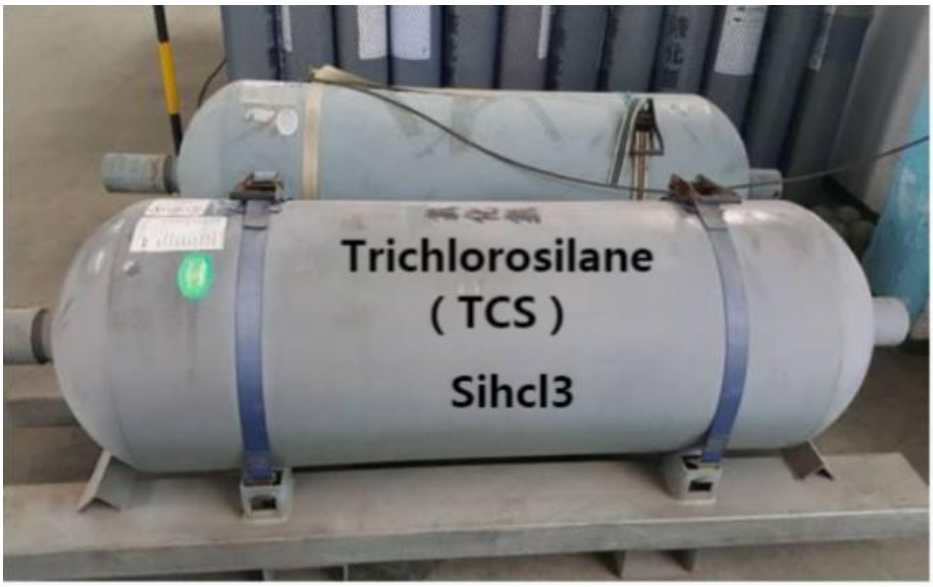
Model No:	SiHCl3	Quality	Electron Grade
Transport Package	Y-Cylinder, T-Drum, Tt, Tanker	Specification	20L, 40L, 280L and customizable
Trademark	CMC	Origin	Suzhou, China
HS Code	2812190091	Production Capacity	500ton/Month

Specification:

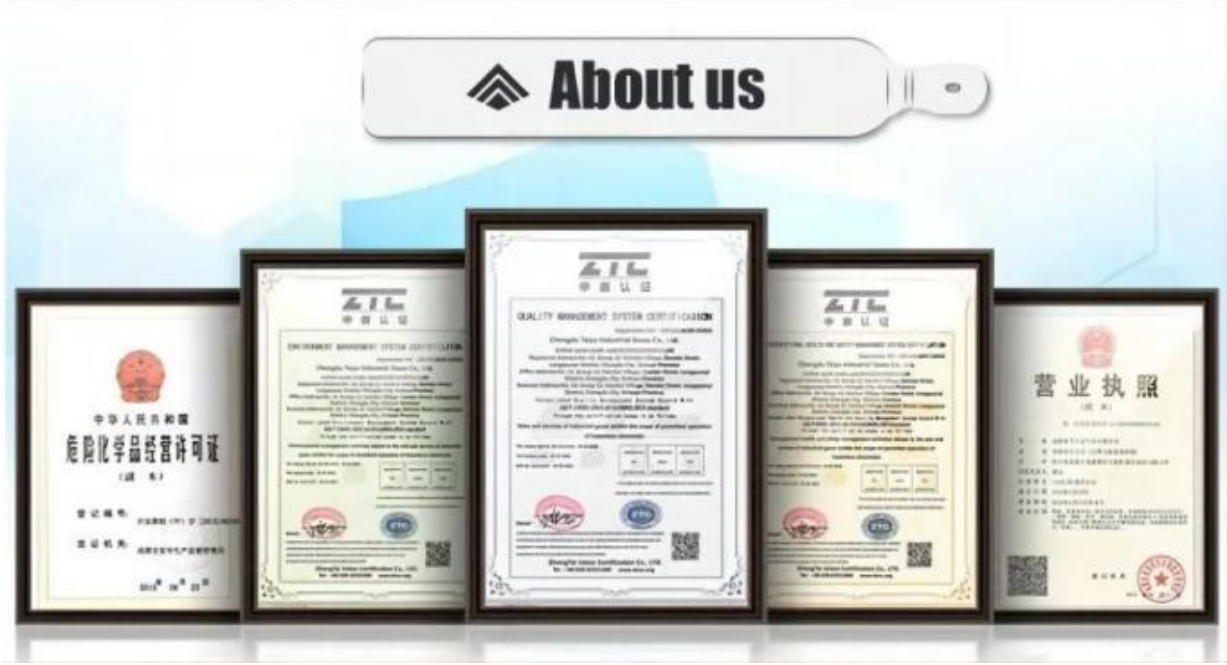
Trichlorosilane is a silicon precursor for epitaxial silicon-containing thin films, especially for the preparation of starting wafers.

Purity %:	≥99.85
Resistivity:	≥ 300 ohm-cm
Boron:	≤ 0.1 ppba silicon
Total Carbon:	≤ 5 ppma
Iron:	≤ 5 ppba
Other Chlorosilane :	≤ 500 ppm
Cylinder State @ 21.1°C :	Liquid
Flammable Limits In Air :	7-83%
Auto Ignition Temperature (°C):	182
Molecular Weight (g/mol):	135.45
Specific gravity (air =1):	4.67
Critical Temperature (°C):	242.5

Detailed Photo



Company Profile



Shanghai Kemike Chemical Co., Ltd is staffed by trained personnel, combine many years experience in Gas industry .We supply cylinder gas, electronic gas, etc ., and the gas holder, panel, valves and fittings and other equipment, parts and engineering services to our customers in China and worldwide; The products are involved in various industrial fields, such as semiconductor chip, solar cell, LED, TFT-LCD, optical fiber, glass, laser, medicine , etc., Our mission is to partner with our global customers to provide support, solutions and quality products that are innovative,reliable, and safe.

Our products mainly include: H2, O2, N2, Ar, CO2, propane, acetylene, helium, laser mixed gas, SiH4, Sih2cl2, SiHCL3, SiCL4, NH3, CF4, NF3, SF6, HCL, N2O, doping mixed gas (TMB, PH3, B2H6) and other electronic gases.

SiCl4	NH3	NH3	CH3F	SiH4	Kr	H2S	WF6	F6+Cl2
4MS	C3F8	C3F8	TEOS	CH4	PH3	SF6	C2	HCl+Ne
CF4	C4F8	SiH2						TMB+H2
SiF4	C3H8	Cl2						He +As
BBr3	C3H6	DCE						Ge+Se
POCl3	N2	SO2						D+B
BCl3	D2	CO2						CO+NO
SiHCl3	CH2F2	HF	AsH3	C2H4	C2H2	HBr	COS	Ar+O2
TMAl	DMZn	DEZn	GeH4	C2H6	B2H6	H2Se	GeCl4	Xe+NO

Shanghai Kemike Chemical Co.,Ltd

+86 18762990415 williamchen@cmc-chemical.com gascylindertank.com