The Semiconductor Industry Application Usage Cylinder Gas Sihcl3 Trichlorosilane (TCS)

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
- Orign: China
- Transport: By Sea
- Purity: 99.99%
- Transport Package: Cylinder
- Specification: 40L, 200L
- Trademark: CMC
- Origin: China
- HS Code: 2812190091
- Supply Ability: 1000t/Year
- CAS No.: 7783-82-6
- Formula: Sihcl3
- EINECS: 7783-82-6
- Constituent: Industrial Mixture
- Grade Standard: Electronic Grade

More Images

Product Description

Trichlorosilane (HSiCl3) is a chemical compound composed of one silicon atom bonded to three chlorine atoms and one hydrogen atom. It is a colorless, volatile liquid with a pungent odor. 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 HSiCl3.

Production: Trichlorosilane is primarily produced through the reaction of metallurgical-grade silicon with hydrogen chloride (HCl) gas:

Si + 3HCl → HSiCl3 + H2

This reaction typically occurs at high temperatures in the presence of a catalyst, such as copper.

Properties: Trichlorosilane is a volatile liquid with a boiling point of -31.8 degrees Celsius (-25.2 degrees Fahrenheit) and a melting point of -132 degrees Celsius (-205.6 degrees Fahrenheit). It has a strong, pungent odor and is highly reactive. Trichlorosilane readily reacts with water or moisture in the air, releasing hydrogen chloride gas and forming silanols (silicon compounds with hydroxyl groups).

Uses: Trichlorosilane has several industrial applications, especially in the production of silicon-based materials:

Silicon Production: Trichlorosilane is a key precursor in the production of polysilicon, which is used to manufacture solar panels, semiconductors, and electronic devices. It is typically used as a feedstock for the chemical vapor deposition (CVD) process, where it is decomposed to deposit silicon layers.

Chemical Synthesis: Trichlorosilane is also used as a starting material or intermediate in the synthesis of various silicon compounds, including silanes and silicones.

Protective Coatings: Trichlorosilane can be used as a protective coating for various surfaces, including metals, glass, and ceramics.

Safety Considerations: Trichlorosilane is toxic and flammable. It is corrosive to the skin, eyes, and respiratory system. It reacts vigorously with water, releasing hydrogen chloride gas, which is highly corrosive and toxic. Proper safety precautions, such as the use of protective equipment and appropriate handling procedures, should be followed when working with trichlorosilane.

Basic Info.

Model NO.	SiHCl3	Grade Standard	Electron Grade
Transport Package	Canister, Cylinder	Specification	40L, 200L
Trademark	CMC	Origin	Suzhou
HS Code	2812190091	Production Capacity	1000t/Year

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

Specifications:

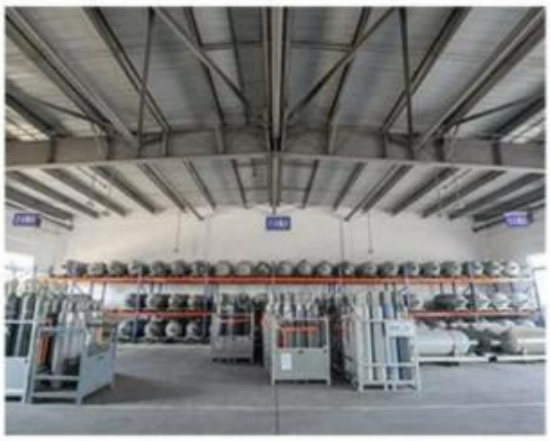
Test items		Unit	Test Result
Components	Purity	%	99.990
	Other CHLOROSILANE	%	0.010
	Co	ppb	0.01
Impurities			
	Cr	ppb	0.01
	Cu	ppb	0.01
	Fe	ppb	0.06
	Mn	ppb	0.01
	Ni	ppb	0.01
	V	ppb	0.01
	B	ppb	0.01
	Al	ppb	0.01
	P	ppb	0.01
	As	ppb	0.01
	Mo	ppb	0.01
	Total metal impurities	ppb	<1.00
P+As		ppb	0.02
C		ppm	<0.01
Gas Density		/	4.7

Detailed

Photos

Company Profile

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



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