

ELECTRONIC GASES

SILANE SiH_4

Silane is a noncorrosive, colorless, toxic gas that is normally pyrophoric (data has shown that Silane will not spontaneously ignite under all conditions). Silane is shipped as a compressed gas in high pressure steel cylinders.

Container Information

CYLINDER SIZE	CONTENTS		Pressure@21.1°C	1260 psing
	LB	KG		
049	30.8	14	Valve Outlet	CGA-350 (opt) DISS-632
044	22.0	10	DOT Shipping Description:	Silane, 2.1, UN 2203
			DOT Shipping Labels	Flammable Gas
			DOT Guide No.	22
			CAS Registry No.	1590-87-0

Specifications

COMPONENT	ULSI	VLSI
SILANE	99.9995% min	99.999% min
Typical Resistivity	>5000 ohm-cm	>2500 ohm-cm
Carbon Dioxide	< 0.5 ppm	< 1 ppm
Carbon Monoxide	< 0.5 ppm	< 100 ppb
Chlorosilane	< 1 ppm	< 1 ppm
Nitrogen	< 1 ppm	< 4 ppm
Oxygen + Argon	< 1 ppm	< 2 ppm
THC (as Methane)	< 0.5 ppm	< 2 ppm
Water	< 1 ppm	< 2 ppm

SHELF LIFE: 2 years

Physical Properties

Molecular Weight	32.12
Flammability Limits in air	Pyrophoric
Specific Gravity, Gas @ 70°F(21.1°C), 1 atm(Air=1)	1.2
Density, Gas @ 70°F(21.1°C), 1 atm	0.0824lb/ft³ (1.32g/l)
Specific Volume, Gas @ 70°F(21.1°C), 1 atm	12.14ft³/lb (0.758l/g)
Melting Point @ 75.1 psia (518 kPa)	-303.5°F (-186.4°C)
Boiling Point @ 1 atm	-168.5°F (-111.4°C)
Critical Temperature	25.8°F (-3.4°C)
Critical Pressure	702.5 psia (48.4 bar)
Toxicity	
PEL/TLV	5 ppm
LC ₅₀	19000 ppm