

ELECTRONIC GAS

HALOCARBON-116 (Hexafluoroethane) C₂F₆

Hexafluoroethane is a colorless, non-toxic, non-flammable liquefied gas. Its critical temperature is at normal room temperature. It is an excellent dielectric. However, toxic decomposition products may be formed upon thermal or electrical breakdown. It is used for selectively etching of metal silicides and oxides versus their metal substrates. It is also used for selective etching of silicon dioxide over silicon. It is shipped as liquefied gas under its own vapor pressure.

Container Information

CYLINDER SIZE	CONTENTS		Pressure @ 21.1°C Valve Outlet	430 psig CGA-660 / DISS-716
	LB	KG		
044	66	30	DOT Shipping Description:	Hexafluoroethane, 2.2, UN 2193
016	20	9.1	DOT Shipping Labels DOT Guide No.	Non-flammable Gas 12
010	11	5.0	CAS Registry No.	76-16-4

Specifications

COMPONENT HEXAFLUOROETHANE	ULSI 99.999% min	VLSI 99.997% min
Carbon Dioxide	< 1 ppm	< 1 ppm
Carbon Monoxide	< 1 ppm	< 1 ppm
Nitrogen	< 5 ppm	< 20 ppm
Oxygen	< 2 ppm	< 5 ppm
THC (as Methane)	< 1 ppm	< 2 ppm

SHELF LIFE: 2 years

Physical Properties

Molecular Weight	138.01
Flammability Limits in air	Non-flammable
Specific Gravity, Gas @ 70°F(21.1°C), 1 atm(Air=1)	4.823
Density, Gas @ 70°F(21.1°C), 1 atm	0.358lbs/ft ³ (5.73g/l)
Specific Volume, Gas @ 70°F(21.1°C), 1 atm	2.79ft ³ /lb (0.175l/g)
Melting Point @ 1 atm	-149.1°F (-100.6°C)
Boiling Point @ 1 atm	-108.8°F (-78.2°C)
Critical Temperature	67.5°F (19.7°C)
Critical Pressure	432.1 psia (29.8 bar)
Toxicity	Non-Toxic, asphyxiant only