

ELECTRONIC GASES

BORON TRICHLORIDE BCl_3

Boron Trichloride is a colorless, corrosive, nonflammable toxic gas with an irritating, acrid odor. It forms dense fumes in humid air. Boron Trichloride is irritating to the mucous membranes. It hydrolyses in moist air to form hydrogen chloride. It is shipped as a liquefied gas under its own vapor pressure.

Container Information

CYLINDER SIZE	CONTENTS		Pressure@21.1°C Valve Outlet	4.4 psig CGA-660
	LB	KG		
044	80	36.3	DOT Shipping Description:	Boron Trichloride, 2.3, UN 17 Poison Inhalation Hazard Hazard Zone C
016	22	10	DOT Shipping Labels DOT Guide No. CAS Registry No.	Poison Gas 15 10294-35-3

Specifications

COMPONENT	VLSI	ELECTRONIC
BORON TRICHLORIDE	99.999%min	99.99%min
Vapor Phase		
Argon + Oxygen	< 2 ppm	
Carbon Monoxide	< 0.2 ppm	
Carbon Dioxide	< 0.5 ppm	
Nitrogen	< 4 ppm	
THC (as Methane)	< 0.5 ppm	
Liquid Phase		
Phosgene	< 100 ppm	< 100 ppm
Silicon (as Si)	< 10 ppm	< 10 ppm
Chlorine (free)	< 5 ppm	< 5 ppm

SHELF LIFE: 2 years

Physical Properties

Molecular Weight	117.17
Flammability Limits in air	Nonflammable
Specific Gravity,	
Gas @ 70°F(21.1°C), 1 atm(Air=1)	4.04
Density, Gas @ 70°F(21.1°C), 1 atm	0.303lbs/ft³ (4.85g/ml)
Density, Liquid @ 0°C,	85.8lbs/ft³ (1.373g/ml)
Specific Volume, Gas @ 70°F(21.1°C), 1 atm	3.3ft³/lb (206ml/g)
Boiling Point @ 1 atm	54.5°F (12.5°C)
Melting Point @ 1 atm	-161.1°F (-107.3°C)
Critical Temperature	353.8°F (178.8°C)
Toxicity	
TLV-TWA	5 ppm
LC ₅₀	2541 ppm

HSG

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