

ELECTRONIC GAS

BORON TRIFLUORIDE BF₃

Boron Trifluoride is a colorless, corrosive, non-flammable toxic gas with a pungent, suffocating odor. It forms dense fumes in humid air. It is irritating to the mucous membranes. It is soluble in water where it decomposes to form fluoroboric acids. It hydrolyses in moist air. It is used as an ion implantation gas and a boron source in CVD application. It is shipped as a high pressure compressed gas.

Container Information

CYLINDER SIZE	CONTENTS	Pressure @ 21.1°C	4X: 1200 psig 7X: 1300 psig
	GRAMS		
4X	800	Valve Outlet DOT Shipping Description:	CGA-330 / DISS-642 Boron Trifluoride, 2.3, UN 1008 Poison Inhalation Hazard Hazard Zone B
7X	200	DOT Shipping Labels DOT Guide No. CAS Registry No.	Poison Gas 15 7637-07-2

Specifications

COMPONENT BORON TRIFLUORIDE	ULSI 99.999% min	VLSI 99.995% min
Carbon Monoxide	< 0.5 ppm	< 0.5 ppm
Carbon Dioxide	< 0.5 ppm	< 10 ppm
Nitrogen	< 1 ppm	< 10 ppm
Oxygen	< 3 ppm	< 5 ppm
Silicon Tetrafluoride	< 2 ppm	< 10 ppm
Sulfur Dioxide	< 2 ppm	< 5 ppm
Sulfates	< 0.5 ppm	< 8 ppm
THC (as Methane)	< 0.5 ppm	< 0.5 ppm

SHELF LIFE: 2 years

Physical Properties

Molecular Weight	67.81
Flammability Limits in air	Non-flammable
Specific Gravity, Gas @ 70°F(21.1°C), 1 atm(Air=1)	2.38
Density, Gas @ 70°F(21.1°C), 1 atm	0.179lbs/ft ³ (2.86g/l)
Specific Volume, Gas @ 70°F(21.1°C), 1 atm	5.6ft ³ /lb (0.349l/g)
Boiling Point @ 1 atm	-147.8°F (-99.8°C)
Melting Point @ 1 atm	-198.4°F (-128.0°C)
Critical Temperature	9.95°F (-12.2°C)
Toxicity	
PEL/TLV	1 ppm
LC ₅₀	387 ppm
IDLH	100 ppm