

# Boron Trichloride



Grade	Semicon 4N5	ULSI 5N	Gigabit 5N5				
Purity, %	99.995	99.999	99.9995	Metals, ppbw			
Oxygen	≤9 ppmv	≤1.0 ppmv	≤0.5 ppmv	Al	≤20	Ni	≤10
Nitrogen	≤30 ppmv	≤4.0 ppmv	≤0.5 ppmv	Cr	≤10	Na	≤20
Carbon Dioxide	≤5 ppmv	≤2.0 ppmv	≤0.5 ppmv	Ca	≤10	K	≤20
Carbon Monoxide	≤3 ppmv	≤0.5 ppmv	≤0.3 ppmv	Cu	≤10	Cd	≤0.5
Methane	≤1 ppmv	≤0.5 ppmv	≤0.5 ppmv	Fe	≤30	Ba	≤10
Chlorine	≤1 ppmv	≤1 ppmv	≤0.1 ppmv	Li	≤10	Sb	≤10
Phosgene			≤0.1 ppmv	As	≤20	Pb	≤10
Hydrogen Chloride			≤1.0 ppmv	Mg	≤10	Mn	≤10
Silicon Tetrachloride			≤2.0 ppmv	Si	≤10	Zn	≤10

- A lot analysis is provided for each order – Individual analysis is also available upon request.
- Pneumatic valves, JIS connections available upon request.

CYLINDER	Internal Volume	Liters	43.8				2.3
	<b>Cylinder Sizes &gt;&gt;</b>		<b>QF</b>				<b>JF</b>
	Content	kg	50	45	31.8	18.2	2.3
		lbs	110	100	70	40	5
Change Point*	lbs	0.66				0.03	

\*Recommended Cylinder Change Point at NTP, based on Phase Break, or the amount of product left in the cylinder when the liquid phase has completely evaporated and only gaseous product is left (estimate based on ideal gas behavior).

SHIP	DOT Shipping Name	Boron Trichloride	UN Number	UN 1741	Shipped as
	DOT Classification	2.3 Poison Gas, Hazard Zone C	ECCN #	EAR99	Liquefied Gas
	DOT Label	POISON GAS / INHALATION HAZARD, CORROSIVE GAS	Harmonized #	2812.10.5050	

TECHNICAL DATA	Cylinder Pressure @NTP	4.4 psig 1.34 atm	Vapor Pressure					
	Specific Volume @NTP	0.21 m <sup>3</sup> /kg 3.3 ft <sup>3</sup> /lb	Temp, °C	0.0	15.5	21.0	32.2	43.3
	CAS No	10294-34-5	Press, psig	-5.6	1.7	4.4	13.9	25.1
	CGA/DISS/JIS	660/634/W22-14R	Temp, °F	32	60	70	90	110
	Molecular Weight	117.17 g/mol	RFO Data					
	TLV	1 ppm	Size, mm	0.254	0.3556	0.508	0.762	1.016
			Size, inches	0.010	0.014	0.020	0.030	0.040
		Flow, sccm	412	787	1623	3621	6243	
		Flow, scf/h	0.9	1.7	3.4	7.7	13	

NTP = 21°C or 70°F and 101.3 kPa or 1 atm

Cylinder	Treatment	Nominal Diameter (OD)xHeight*		Material of Construction	
		cm	Inches	Cylinder	Valve
QF	ULTRA-LINE®	23x130/134/143	9x51/52.5/56	CS	SS
JF	ULTRA-LINE®	10x33/37/46	4x13/14.5/18	CS	SS

\*Height is reported as the distance from the bottom of the cylinder to the cylinder neck/ center of the valve outlet/ top of the handwheel  
CS: Carbon Steel SS: Stainless Steel

