

# 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			≤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.
- Pneumatic valves, JIS connections available upon request.

CYLINDER	Internal Volume	Liters	454	43.8	17.1	2.3	
	<b>Cylinder Sizes &gt;&gt;</b>		<b>XP</b>	<b>QF</b>	<b>GF</b>	<b>JF</b>	
	Content	kg	500	50	18.2	2.3	
		lbs	1100	110	40	5	
Change Point*	lbs	6.6	0.66	0.25	0.03		

\* @21° C

\*\*Recommended Cylinder Change Point @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	Temp, °C	0.0	15.5	21.0	32.2	43.3
	Specific Volume @NTP	0.21 m³/kg 3.3 ft³/lb		Press, psig	-5.6	1.7	4.4	13.9	25.1
	CAS No	10294-34-5		Temp, °F	32	60	70	90	110
	CGA/DISS/JIS	660/634/W22-14R	RFO Data	Size, mm	0.254	0.3556	0.508	0.762	1.016
	Molecular Weight	117.17 g/mol		Size, inches	0.010	0.014	0.020	0.030	0.040
	TLV	1 ppm		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
XP	ULTRA-LINE®	74x130/149/167	29.5x52/59.5/67	CS	SS
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

⚠ WARNING: This product can expose you to chemicals including Carbon Monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

[www.mathesongas.com](http://www.mathesongas.com)



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