^{11}B in the form of Boron Trifluoride Gas

Description

Boron trifluoride gas is the ideal silicon wafer dopant for the production of highly integrated, high-density microchips. 11BF3 provides for greater efficiency and increased production throughput, and helps to make chips smaller and better.

The information contained herein has been prepared at your request by qualified experts within Stable Isotopes Institute of Georgia. While we believe that the information is accurate within the limits of the analytical methods employed and is complex to the extent of the specified analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Stable Isotopes Institute of Georgia arising out of the use of the information contained herein exceed the fee established for providing such information.

Customer	:
Gas	: ^{11}Boron Trifluoride, Enriched
Cylinder No.	: 25A050121
P/N	: 20260603-P01-4710
Valve	: CGA642
Fill Pressure at 70°F(21.1°C)	: 1388 PSIG nominal

Lot No.	: S1-260603-$^{11}BF_3$-01
Cylinder Size	: 47 L
Net weight	: 20,900 g
Filling Date	: 2026.06.03
Expiration Date	: 2028.06.02

ISOTOPIC ENRICHMENT

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Item	Symbol	Units	Spec.	Control Limit	Det. Limit	Actual Result	Analysis Method
Boron-11	^{11}B	At. %	>99.992	≥99.995	-	99.997	ICP-MS
Boron-11	^{11}B	Wt. %	>99.992	≥99.995	-	99.997	ICP-MS

CHEMICAL PURITY

Item	Formula	Units	Spec.	Control Limit	Det. Limit	Actual Result	Analysis Method
$^{11}BF_3$	$^{11}BF_3$	mol%	>99.999	>99.9995	-	99.9998	-
Oxygen+Argon	O_2+Ar	ppmv	1		0.004	0.008	GC/DID
Nitrogen	N_2	ppmv	2	-	0.0075	0.065	GC/DID
Carbon Dioxide	CO_2	ppmv	2		0.0028	0.076	GC/DID
Total Air (O_2+Ar+N_2+CO_2)		ppmv	5			0.149	
Methane	CH_4	ppmv	0.5		0.005	0.007	GC/DID
Carbon Monoxide	CO	ppmv	2		0.0081	ND	GC/DID
Sulfur Dioxide	SO_2	ppmv	1.5	-	0.0071	ND	GC/FPD
Silicon Tetrafluoride	SiF_4	ppmv	1		0.02	0.32	FTIR
Hydrogen Fluoride	HF	ppmv	2		0.02	1.66	FTIR

* 1.Quantification of isotopic enrichment and metallic ion contents was performed by ICP?MS with certified reference material calibration and instrumental mass bias correction for isotopic ratios, and calibrated with elemental standard solutions for trace metal analysis.

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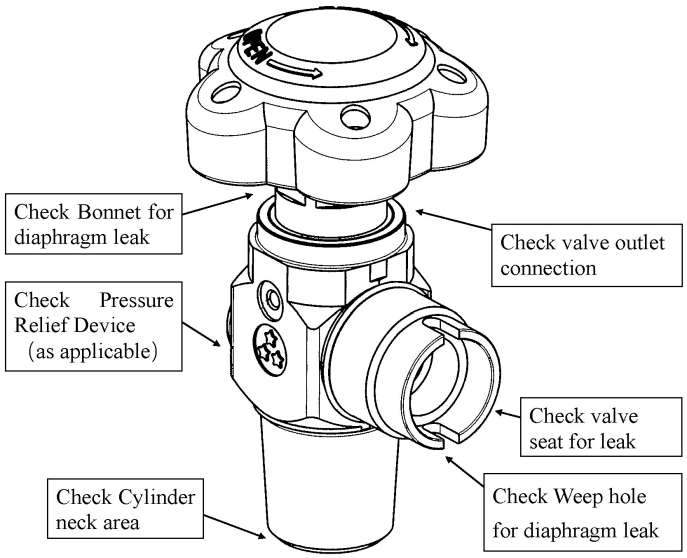

#	Area Checked	Detector	MDL	Result	Pass/Fail
1	Diaphragm (Bonnet)	DOD CLPX BF_3	98.5 ppb	98.5 ppb	PASS
2	Diaphragm (Weep Hole)	DOD CLPX BF_3	98.5 ppb	98.5 ppb	PASS
3	Valve Seat	DOD CLPX BF_3	98.5 ppb	98.5 ppb	PASS
4	Valve Outlet Connection	DOD CLPX BF_3	98.5 ppb	98.5 ppb	PASS
5	Shank At Valve Neck	DOD CLPX BF_3	98.5 ppb	98.5 ppb	PASS
6	Pressure Relief Device	N/A	N/A	N/A	N/A

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