

DIBORANE - (B₂H₆)

4.0

DESCRIPTION : A colorless, poisonous, flammable, high-pressure gas mixture.	APPLICATIONS : P-type dopant, for epitaxial silicon, (usually ppm mixtures with hydrogen balance gas); for doping selected regions of a silicon wafer using deposition/diffusion techniques (usually high ppm mixtures with nitrogen); for doping polycrystalline silicon for interconnects or certain capacitors; and for forming borophosphosilicate glasses (usually percentage mixtures with silane).	ADR Item No. : 2, 2 TF
		ADR Label 2.3 Toxic gas Label 2.1 Flammable gas
		MSDS REFERENCE : 040
		CHEMICAL ABSTRACTS : 19287-45-7
		UN No. : 1911

PRODUCT		PRESSURE BARG	VALVE TYPE	VALVE OUTLET	VALVE MATERIALS OF CONSTRUCTION
CYLINDER	CONTENTS			DIN 477 No	
Diborane is not available in pure form because of chemical instability. It is available in mixtures with carrier gases of argon, helium, hydrogen and nitrogen.					

PRODUCT CHARACTERISTICS	PRAXAIR SPECIFICATIONS	METHOD OF ANALYSIS (SEE KEY)
MINIMUM PURITY	99.99 %	
Higher Boranes	≤ 350 ppm	L
Carbon Dioxide (CO ₂)	≤ 5 ppm	A
Hydrogen (H ₂)	≤ 500 ppm	A
Methane (CH ₄)	≤ 5 ppm	A
Nitrogen (N ₂)	≤ 10 ppm	A
Oxygen (O ₂)	≤ 1 ppm	A
Boron Trifluoride (BF ₃)	≤ 50 ppm	A

Notes :

- Assay is determined by the exclusion of hydrogen and higher boranes.

- ◆ Cylinder sizes, contents, valve types and valve connections other than those indicated above are available on request.
- ◆ All expressions for concentration are for gas phase, by volume unless otherwise noted.
- ◆ MSDS Ref.: More detailed Safety Information can be obtained from the Material Safety Data Sheet No. 040

Key to Analytical Techniques			
A	Gas Chromatograph with Thermal Conductivity Detector	D	Specific Oxygen Analyzer
B	Gas Chromatograph with Flame Ionization Detector	E	Specific Water Analyzer
C	Gas Chromatograph with Ultrasonic Detector	F	Total Hydrocarbon Analyzer
		G	Infrared
		H	Proprietary
		I	Gas Chromatograph with Helium Ionization Detector
		J	Flame Ionization with Methanizer
		K	Gas Chromatograph - Photo Ionization
		L	Gas Chromatograph - Flame Photometric
		M	Mass Spectrometry
		N	Wet Chemical
		O	Gas Chromatograph with Discharge Ionization Detector
		P	Gas Chromatograph with Methanizer Carbonizer
		Q	Gas Chromatograph with Electrolytic Conductivity
		R	Gas Chromatograph with Reduction Gas Analyzer
		S	Gaschromatograph with High Frequency Discharge Detector

IMPORTANT

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