

# Gas Mixtures: Diborane in N<sub>2</sub>, H<sub>2</sub>, He

## B<sub>2</sub>H<sub>6</sub> Mixes

Component	B <sub>2</sub> H <sub>6</sub> *	N <sub>2</sub>	H <sub>2</sub>	He
Grade	4N	5N	5N	5N
Purity, %	99.99	99.999	99.999	99.999
Oxygen	≤1 ppmv	≤3.0 ppmv	≤2.0 ppmv	≤2.0 ppmv
Nitrogen	≤10 ppmv		≤5.0 ppmv	≤3.0 ppmv
Carbon Dioxide	≤5 ppmv	≤1.0 ppmv	≤1.0 ppmv	≤1.0 ppmv
Carbon Monoxide		≤1.0 ppmv	≤1.0 ppmv	≤1.0 ppmv
Methane	≤5 ppmv	≤1.0 ppmv	≤0.5 ppmv	≤1.0 ppmv
Water		≤3.0 ppmv	≤3.0 ppmv	≤3.0 ppmv
Hydrogen	≤500 ppmv			
Boron Trifluoride	≤50 ppmv			
B <sub>5</sub> H <sub>9</sub>	≤10 ppmv			
B <sub>4</sub> H <sub>10</sub>	≤180 ppmv			
B <sub>5</sub> H <sub>11</sub>	≤10 ppmv			

\*H<sub>2</sub> and Higher Boranes excluded

SHIP TECHNICAL -	CAS No	19287-45-7	7727-37-9	1333-74-0	7440-59-7
	UN Number	UN 1911	UN 1066	UN 1049	UN 1046
	DOT Shipping Name	Diborane, compressed	Nitrogen, compressed	Hydrogen, compressed	Helium, compressed
	DOT Classification	2.3 Toxic, Flammable Gas	2.2 Non-Flammable Gas	2.1 Flammable Gas	2.2 Non-Flammable Gas
	DOT Label	INHALATION HAZARD FLAMMABLE GAS	NON-FLAMMABLE GAS	FLAMMABLE GAS	NON-FLAMMABLE GAS
	Specific Volume @STP	0.87 m <sup>3</sup> /Kg	0.86 m <sup>3</sup> /Kg	12.0 m <sup>3</sup> /Kg	6.04 m <sup>3</sup> /Kg
		5.0 ft <sup>3</sup> /lb	13.9 ft <sup>3</sup> /lb	191.3 ft <sup>3</sup> /lb	96.2 ft <sup>3</sup> /lb
	Molecular Weight	27.68 g/mol	28.01 g/mol	2.02 g/mol	4.0 g/mol
CGA/DISS/JIS	350/632/W22-14L				

- All mixes are manufactured to "Certified" grade – custom grades are available upon request
- Pneumatic valves, DIN and JIS connections are available upon request
- STP = 21°C or 70°F and 101.3 KPa or 1 atm
- Pure gas Technical and Ship data above are reported for reference only

CYLINDER	B <sub>2</sub> H <sub>6</sub>	43.8	7.3	← Cylinder internal volume, liters
	Concentration	<b>QB/QF</b>	<b>UB/UF</b>	← <b>Cylinder Size</b>
	Range (c)	N <sub>2</sub> , H <sub>2</sub> , He	N <sub>2</sub> , H <sub>2</sub> , He	← Balance Gas
	50 ppm ≤ c < 5%	208	35	← Content, cf (minimum, nominal)*
	5% ≤ c < 10%	117	20	
10% ≤ 15%	78	13		

**Note on cylinder sizes:** Unless otherwise specified, cylinders will be provided as follows:

**All mixes >1%: QF/UF**  
**All mixes <1%: QB/UB**

\*please inquire for exact cylinder content



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