

# 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
		13.99 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

⚠ 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).

