PURE GASES

HYDROGEN H_2

General Characteristics: A colorless, flammable and odorless gas.
Health Hazards: A simple asphyxiant.

GAS GRADE/PURITY SPEC.	CYLINDER SIZE	CONTENTS	EQUIPMENT RECOMMENDATIONS
ULTRA HIGH PURITY Min. Purity 99.999% H_2O < 3 ppm, O_2 < 5 ppm	049 044 016 010 LB	6.6 m^3 6.0 m^3 2.0 m^3 1.3 m^3 57 L	Double-stage high purity regulator, refer to page 134 High purity lecture bottle regulator, refer to page 146
HIGH PURITY Min. Purity 99.995% H_2O < 10 ppm, O_2 < 10 ppm	049 044 016 010	6.6 m^3 6.0 m^3 2.0 m^3 1.3 m^3	
INDUSTRIAL Min. Purity 99.8% H_2O < 20 ppm, O_2 < 0.2%	049 044 016 010	6.6 m^3 6.0 m^3 2.0 m^3 1.3 m^3	
EXTRA HIGH PRESSURE Min. Purity 99.999% H_2O < 3 ppm, O_2 < 5 ppm	6K (6000 psig)	14.5 m^3	Piston regulator, refer to page 145

TECHNICAL INFORMATION

Molecular Weight 2.02
Specific Volume 192CF/lb
Fire Potential ..... 4.0 - 75% in Air
TLV-TWA ..... None established
CGA Valve 350, 3HP-703, 2HP-695
LB 180

Dot Name ..... Hydrogen Compressed
UN No. UN1049
Dot Class 2.1
Dot Label ..... Flammable Gas
Cas Registry 1333-74-0

* For ULSI (6N) and VLSI (5N5) grades hydrogen, see Electronic Gas section page 91.

HYDROGEN BROMIDE HBr

General Characteristics: A colorless, non-flammable, liquefied and corrosive gas with a penetrating odor. Fumes in moist air. Highly corrosive in the presence of moisture.
Health Hazards: Toxic. Attacks the mucous membranes and the eyes. Can cause lung damage.

GAS GRADE/PURITY SPEC.	CYLINDER SIZE	CONTENTS	EQUIPMENT RECOMMENDATIONS
C.P. Min. Purity 99.8% (Liquid Phase)	044 016 010 LB	31.8 kg 13.6 kg 5.0 kg 454 g	Stainless-steel high purity single-stage regulator, refer to page 142 Stainless-steel lecture bottle regulator, refer to page 147

TECHNICAL INFORMATION

Molecular Weight 80.92
Specific Volume 4.8CF/lb
Fire Potential ..... Non-flammable
TLV-TWA ..... 3 ppm (ACGIH 1991-1992)
CGA Valve 330
LB 180

Dot Name ..... Hydrogen Bromide, Anhydrous
UN No. UN1048
Dot Class 2.3
Dot Label ..... Poison Gas, Corrosive
Cas Registry 10035-10-6
Cylinder Pressure @ 70°F ..... 320 psig

* For ULSI (5N) and VLSI (4N5) grades hydrogen bromide, see Electronic Gas section page 92.