

# PURE GASES

## HYDROGEN CHLORIDE HCl

**General Characteristics:** A colorless, non-flammable and liquefied gas with a penetrating odor. Fumes in moist air. Corrosive in the presence of moisture.  
**Health Hazards:** Toxic. Attacks the mucous membranes and the eyes. Causes lung damage. Has a penetrating odor warning.

GAS GRADE/PURITY SPEC.	CYLINDER SIZE	CONTENTS	EQUIPMENT RECOMMENDATIONS
<b>TECHNICAL GRADE</b> Min. Purity 99.0% (Liquid Phase)	044	27.2 kg	Stainless-steel high purity single-stage regulator, refer to page 142
	016	9.1 kg	
	010	5.0 kg	Stainless-steel lecture bottle regulator, refer to page 147
	LB	227 g	

### TECHNICAL INFORMATION

Molecular Weight.....	36.46	UN No.....	UN1050
Specific Volume.....	10.6CF/lb	Dot Class.....	2.3
Fire Potential.....	Non-flammable	Dot Label.....	Poison Gas, Corrosive
TLV-TWA.....	5 ppm (ACGIH 1991-1992)	Cas Registry.....	7647-02-0
CGA Valve.....	330	Recommended Shelf Life.....	6 months
LB.....	180	Cylinder Pressure @ 70°F.....	613 psig
Dot Name.....	Hydrogen Chloride, Anhydrous		

For VLSI (5N) and Electronic (4N5) grades, see Electronic Gas section page 93.

## HYDROGEN FLUORIDE HF

**General Characteristics:** A colorless, non-flammable and liquefied gas with a penetrating odor.  
**Health Hazards:** Toxic. Attacks the eyes and mucous membranes.

GAS GRADE/PURITY SPEC.	CYLINDER SIZE	CONTENTS	EQUIPMENT RECOMMENDATIONS
<b>HIGH PURITY</b> Min. Purity 99.9% (Liquid Phase)	044	20 kg	Stainless-steel high purity single-stage regulator, refer to page 142
	016	9 kg	

### TECHNICAL INFORMATION

Molecular Weight.....	20.0	Dot Name.....	Hydrogen Fluoride, Anhydrous
Specific Volume.....	19.2CF/lb	UN No.....	UN1052
Fire Potential.....	Non-flammable	Dot Class.....	8
TLV-TWA.....	3 ppm (ACGIH 1991-1992)	Dot Label.....	Corrosive, Poison
CGA Valve.....	679	Cas Registry.....	7783-06-4
LB.....	110	Cylinder Pressure @ 70°F.....	0.9 psig

<sup>1</sup>Size 003 = 4”(o.d) x 16” (h)

## HYDROGEN IODIDE HI

**General Characteristics:** A colorless, non-flammable and liquefied gas with a penetrating odor, corrosive.  
**Health Hazards:** Toxic. Attacks the eyes and mucous membranes, can cause lung damage.

GAS GRADE/PURITY SPEC.	CYLINDER SIZE	CONTENTS	EQUIPMENT RECOMMENDATIONS
<b>C. P.</b> Min. Purity 98.0% (Liquid Phase)	LB	340 g	Stainless-steel lecture bottle regulator, refer to page 147

### TECHNICAL INFORMATION

Molecular Weight.....	127.91	Dot Name.....	Hydrogen Iodide, Anhydrous
Specific Volume.....	3.0CF/lb	UN No.....	UN2197
Fire Potential.....	Non-flammable	Dot Class.....	2.2
TLV-TWA.....	None established	Dot Label.....	Non-flammable Gas
LB.....	180	Cas Registry.....	10034-85-2
		Cylinder Pressure @ 70°F.....	95 psig