

ELECTRONIC GAS

HYDROGEN BROMIDE HBr

Hydrogen Bromide is a colorless, corrosive, irritating, non-flammable, toxic gas with a suffocating odor. It is used in plasma etching of polysilicon. It is shipped as a liquefied gas in steel cylinders under its own vapor pressure.

Container Information			
CYLINDER SIZE	CONTENTS		Pressure @ 21.1°C Valve Outlet DOT Shipping Description: DOT Shipping Labels DOT Guide No. CAS Registry No.
	LB	KG	
044	70	31.8	327 psig CGA-330 / DISS-634 Hydrogen Bromide, Anhydrous, 2.3, UN 1048 Poison-Inhalation Hazard Hazard Zone C
016	30	13.6	Poison Gas Corrosive
010	11	5.0	15 10035-10-6

Specifications		
COMPONENT HYDROGEN BROMIDE	ULSI 99.999% min	VLSI 99.995% min
Carbon Dioxide	< 1 ppm	< 10 ppm
Nitrogen	< 2 ppm	< 10 ppm
Oxygen	< 1 ppm	< 5 ppm
THC (as Methane)	< 0.5 ppm	< 5 ppm
Carbon Monoxide	< 1 ppm	< 5 ppm
Water	< 1 ppm	< 5 ppm

SHELF LIFE: 2 years

Physical Properties	
Molecular Weight	80.912
Flammability Limits in air	Non-flammable
Specific Gravity, Gas @ 70°F(21.1°C), 1 atm(Air=1)	2.81
Density, Gas @ 70°F(21.1°C), 1 atm	0.209lbs/ft ³ (3.35g/l)
Specific Volume, Gas @ 70°F(21.1°C), 1 atm	4.78ft ³ /lb (0.30l/g)
Melting Point @ 75.1 psia (518 kPa)	-124.4°F (-86.9°C)
Boiling Point @ 1 atm	-88.1°F (-66.7°C)
Critical Temperature	193.6°F (89.8°C)
Critical Pressure	1234.5 psia (85.1 bar)
Toxicity	
PEL/TLV	3 ppm
LC ₅₀ RAT	2880 ppm
IDLH	50 ppm

ULSI Metals Specifications			
ELEMENT	SYMBOL	GAS PHASE	LIQUID PHASE
Calcium	Ca	< 4	< 10
Chromium	Cr	< 1	< 10
Copper	Cu	< 5	< 10
Iron	Fe	< 3	< 50
Manganese	Mn	< 5	< 50
Nickel	Ni	< 1	< 10
Sodium	Na	< 1	< 10
Zinc	Zn	< 6	< 50

*all values in ppbw, lot analysis only