

Pure Gas: Xenon (Ion Propulsion)

DESCRIPTION

Xenon gas is odorless, colorless, tasteless, nontoxic, monatomic and chemically inert. The concentration of Xenon gas in the atmosphere, by volume percent, is 8.7×10^{-6} . Xenon gas is principally shipped and used in gaseous form for excimer lasers, light bulbs, window insulation, ion propulsion, medical applications and Research and Development laboratory research. Spectra Gases Material Safety Data Sheets (MSDS) are available for Xenon and should be used as guidelines in regard to first aid, methods of storage, handling and general use of Xenon gas.

PURITY SPECIFICATIONS (MAXIMUM IMPURITY LEVELS)*	
Contaminant	Ion Propulsion Grade 99.9995+%
Argon (Ar)	1.0 ppm
Carbon Dioxide (CO ₂)	1.0 ppm
Total Fluorocarbons (TFC)	0.1 ppm
Hydrogen (H ₂)	1.0 ppm
Krypton (Kr)	2.0 ppm
Nitrogen (N ₂)	1.0 ppm
Oxygen (O ₂)	0.1 ppm
Total Hydrocarbons (THC)	0.1 ppm
Water (H ₂ O)	0.1 ppm

* Higher purities are available upon request.

CYLINDER INFORMATION					
Purity	Cylinder Size*	Valve Outlet*	Volume Liters	Gross Weight Lbs/Kg	Pressure Psig/Bar
Research Grade	2	580	5000	175 / 79	900 / 63
	3	580	2000	71 / 32	900 / 63
	4	580	1000	34 / 15	900 / 63
	5	580	500	17 / 8	900 / 63
	LB	580/170	50	6 / 3	900 / 63
UHP Grade	2	580	5000	175 / 79	900 / 63
	3	580	2000	71 / 32	900 / 63
	4	580	1000	34 / 15	900 / 63
	5	580	500	17 / 8	900 / 63
	LB	580/170	50	6 / 3	900 / 63
Non-Refillable Cylinders	D1	580	400	18 / 8	825 / 58
	D2	580	200	12 / 6	750 / 53
	D2	580	100	10 / 5	480 / 34
	D3	580	50	7 / 3	525 / 37
	D3	580	25	7 / 3	300 / 22
	D7	580	20	3 / 1	240 / 18
	D7	580	12	3 / 1	140 / 11

* Additional cylinder sized and/or valve outlets are available upon request.

(Continued)



PHYSICAL CONSTANTS		
Chemical name	Xe	
Molecular weight	131.3	
Density of the gas at 70°F (21,1° C), 1 atm	0.3416 lb/ft3, 5.472 kg/m3	
Specific gravity of the gas at 70°F (21,1° C), 1 atm	4.560	
Specific volume of the gas at 70°F (21,1° C), 1 atm	2.927 ft3/lb, 0.183 m3/kg	
Boiling point at 1 atm	-162.6°F, -108.2°C	
Melting point at 1 atm	-168°F, -111°C	
Critical temperature at 1 atm	+61.9°F, +16.6°C	
Critical pressure	847.0 psia, 58.4 bar	
Critical density	68.67 lb/ft3, 1100 kg/m3	
Triple point	-169.2°F, -112.8°C	
Latent heat of vaporization at normal boiling point	41.4 Btu/lb, 96.3 kJ/kg	
Latent heat of fusion at triple point	7.57 Btu/lb, 17.6 kJ/kg	
Specific heat of the gas at 70°F (21,1° C), 1 atm	Cp	0.038 Btu/(lb) (°F) 0.269 kJ/(kg) (°C)
	Cv	0.023 Btu/(lb) (°F) 0.096 kJ/(kg) (°C)

SHIPPING DATA	
Synonyms	Xe
CAS Register Number	7440-63-3
DOT Classification	Nonflammable gas
DOT Label	Nonflammable gas
Transport Canada Classification	2.2
Substance Identification (SI)	2036
UN Number	UN 2036
Hazards	High Pressure and suffocation
Toxicity (TLV)	Asphyxiant
Flammability Range (in air)	Nonflammable gas
Odor	None