

DESCRIPTION

Argon is considered a rare atmospheric gas which is colorless, odorless, tasteless and nontoxic. It is considered extremely inert and forms no known chemical compounds.

Argon is slightly soluble in water. The concentration of Argon in the atmosphere by volume is 0.93%. Argon is principally shipped and used in gaseous form for neon signs, lasers, incandescent and fluorescent lamps, electronic tubes, window insulation, welding, and semiconductor applications. Spectra Gases Material Safety Data Sheets (MSDS) are available for Argon gas and should be used as guidelines in regard to first aid, methods of storage, handling and general use of Argon.

PURITY SPECIFICATIONS (MAXIMUM IMPURITY LEVELS)*			
Contaminant	Spectra Grade 99.9999%	Research Grade 99.9995%	UHP Grade 99.999%
Carbon Dioxide (CO ₂)	0.01 ppm	0.5 ppm	1.0 ppm
Carbon Monoxide (CO)	0.01 ppm	0.5 ppm	1.0 ppm
Hydrogen (H ₂)	0.2 ppm	1.0 ppm	1.0 ppm
Nitrogen (N ₂)	0.4 ppm	4.0 ppm	5.0 ppm
Oxygen (O ₂)	0.01 ppm	0.5 ppm	1.0 ppm
Total Hydrocarbons (THC)	0.01 ppm	0.5 ppm	1.0 ppm
Water (H ₂ O)	0.2 ppm	0.5 ppm	2.0 ppm

* Higher purities are available upon request.

CYLINDER INFORMATION					
Purity	Cylinder Size*	Valve Outlet*	Volume Cu.Ft./Liters	Gross Weight Lbs/Kg	Pressure Psig/Bar
Spectra Grade	1	580	336 / 9500	175 / 79	2640 / 183
	2	580	290 / 8200	148 / 67	2490 / 173
	3	580	88 / 2500	57 / 26	2200 / 153
	LB	580/170	2 / 57	6 / 3	1800 / 125
Research Grade	1	580	336 / 9500	175 / 79	2640 / 183
	2	580	290 / 8200	148 / 67	2490 / 173
	3	580	88 / 2500	57 / 26	2200 / 153
	LB	580/170	2 / 57	6 / 3	1800 / 125
UHP Grade	1	580	336 / 9500	175 / 79	2640 / 183
	2	580	290 / 8200	148 / 67	2490 / 173
	3	580	88 / 2500	57 / 26	2200 / 153
Ultra Zero Grade	1	580	336 / 9500	175 / 79	2640 / 183
	2	580	290 / 8200	148 / 67	2490 / 173
	3	580	88 / 2500	57 / 26	2200 / 153

(Continued)



CYLINDER INFORMATION (CONTINUED)

Purity	Cylinder Size*	Valve Outlet*	Volume Cu.Ft./Liters	Gross Weight Lbs/Kg	Pressure Psig/Bar
Non-Refillable Cylinders	D1	580	— / 400	18 / 8	1475 / 103
	D2	580	— / 200	12 / 5	1175 / 82
	D2	580	— / 100	10 / 4	600 / 42
	D3	580	— / 50	7 / 3	700 / 49
	D3	580	— / 25	7 / 3	350 / 25
	D7	580	— / 20	3 / 1	240 / 18
	D7	580	— / 12	3 / 1	140 / 11

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

PHYSICAL CONSTANTS

Chemical name	Ar	
Molecular weight	39.95	
Density of the gas at 70°F (21,1°C), 1 atm	0.103 lb/ft ³ , 1.650 kg/m ³	
Specific gravity of the gas at 70°F (21,1°C), 1 atm	1.38	
Specific volume of the gas at 70°F (21,1°C), 1 atm	9.71 ft ³ /lb, 0.606 m ³ /kg	
Boiling point at 1 atm	-302.6°F, -185.9°C	
Melting point at 1 atm	-308.6°F, -189.2°C	
Critical temperature at 1 atm	-188.1°F, -122.3°C	
Critical pressure	711.5 psia, 49.05 bar	
Critical density	33.44 lb/ft ³ , 535.6 kg/m ³	
Latent heat of vaporization at normal boiling point	69.8 Btu/lb, 162.3 kJ/kg	
Latent heat of fusion at triple point	12.8 Btu/lb, 29.6 kJ/kg	
Specific heat of the gas at 70°F (21,1°C), 1 atm	Cp	0.125 Btu/(lb) (°F) 0.523 kJ/(kg) (°C)
	Cv	0.075 Btu/(lb) (°F) 0.314 kJ/(kg) (°C)

SHIPPING DATA

Synonyms	Ar
CAS Register Number	7440-37-1
DOT Classification	Nonflammable gas
DOT Label	Nonflammable gas
Transport Canada Classification	2.2
Substance Identification (SI)	1006
UN Number	UN 1006
Hazards	High Pressure and suffocation
Toxicity (TLV)	Asphyxiant
Flammability Range (in air)	Nonflammable gas
Odor	None