

# ELECTRONIC GAS

## ARGON Ar

Argon is a colorless, odorless, non-toxic, non-flammable gas that is heavier than air. It is used as a carrier gas for reactive molecules and as an inert gas to protect semiconductors against impurities. Under ionic state, argon is used for sputtering, ion implantation annealing and etching processes. It is shipped in steel cylinders under high pressure.

### Container Information

CYLINDER SIZE	CONTENTS		Pressure @ 21.1°C Valve Outlet	2000 psig CGA-580 / DISS-718
	Ft <sup>3</sup>	M <sup>3</sup>		
049	250	7.1	DOT Shipping Description:  DOT Shipping Labels DOT Guide No. CAS Registry No.	Argon, compressed, 2.2, UN 1006  Non-flammable Gas 12 7440-37-1
044	224	6.4		
016	81	2.3		

### Specifications

COMPONENT ARGON	ULSI 99.9999% min	VLSI 99.9995% min
Carbon Dioxide	< 100 ppb	< 300 ppb
Nitrogen	< 200 ppb	< 1000 ppb
Oxygen	< 150 ppb	< 300 ppb
THC (as Methane)	< 100 ppb	< 300 ppb
Water	< 250 ppb	< 1500 ppb

**SHELF LIFE: 2 years**

### Physical Properties

Molecular Weight	39.95
Flammability Limits in air	Non-flammable
Specific Gravity, Gas @ 70°F(21.1°C), 1 atm(Air=1)	1.38
Liquid Density @ Boiling Point	86.95lbs/ft <sup>3</sup> (1392.8g/l)
Density, Gas @ 70°F(21.1°C), 1 atm	0.1034ft <sup>3</sup> /lb (1.656l/g)
Specific Volume, Gas @ 70°F(21.1°C), 1 atm	9.7ft <sup>3</sup> /lb (0.604l/g)
Boiling Point @ 1 atm	-302.6°F (-185.9°C)
Melting Point @ 1 atm	-308.6°F (-189.2°C)
Critical Temperature	-188.5°F (-122.5°C)
Critical Pressure	705.6 psia (48.66 bar)
Toxicity	Non-Toxic, asphyxiant only