

Marking

CAS-Number	7440-37-1
Characterization acc. ADR	UN 1006, Argon, compressed, 2.2 Class 2, 1A

Cylinder Marking

shoulder:
dark green

Essential properties

colourless, odorless rare gas, compressed, heavier than air

Symbols of Risks

gas, compressed

Physical Properties

molecular weight:	39,948 kg/kmol
gas density at 0°C and 1,013 bar:	1,784 kg/m ³
density ratio to air:	1,3797

For additional safety information see Material-/safety data sheet No. *-AR-003A

Valves / Manifolds

Valve connection 200 bar: acc. to national standards
300 bar: ISO 5145 Nr. 1; W 30 x 2

Recommended Manifolds Spectrolab FM 51 / FM 52exact
Spectrochem FE 51 / FE 52exact

**Specifications / Forms of delivery**

		4.8 *	Spectro *	5.0	5.7 *	6.0	
Composition							
Ar	>	99,998	99,998	99,999	99,9997	99,9999	Vol.-%
Impurities							
H ₂ O	<	4	2	3	1	0,5	ppmv
O ₂	<	3	2	2	0,5	0,5	ppmv
N ₂	<	10	-	5	1	0,5	ppmv
THC (as CH ₄)	<	0,2	0,2	0,1	0,1	0,1	ppmv
CO + CO ₂	<	0,2	0,2	0,1	0,1	0,1	ppmv
Cylinders / Contents							
F 05 200 bar		-	-	1,0 *	-	-	m ³
F 10 200 bar		2,1	2,1 *	2,1	-	-	m ³
F 20 200 bar		4,3 *	-	4,3 *	4,3 *	-	m ³
F 20 300 bar		6,1 *	-	-	-	-	m ³
F 50 200 bar		10,7	10,7 *	10,7	10,7 *	10,7	m ³
F 50 300 bar		15,3	-	15,3	-	-	m ³
B 12 * F 50 200 bar		128,6	-	128,6	-	-	m ³
B 12 * F 50 300 bar		183,4	-	183,4	-	-	m ³

Remarks

Applications:
Shielding gas for special welding problems and sensitive materials (titanium, niob, tungsten, etc.)
Spark erosion spectrometry
Plasma processes
Filling gas for windows
Filling gas for lamps

*: not available in each country

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Description

Rare gas, colorless, odorless, heavier than air. In closed rooms the breathing air is displaced, no warning symptoms (danger of asphyxiation!).

Materials

Cylinders and Valves: any usual materials

Seals: PTFE, PCTFE, PVDF, PA, PP, IIR, NBR, CR, FKM, Q, EPDM

Physical Properties			
molecular weight	39,948 kg/kmol	vapour pressure at 20°C	
Critical Point		gas density at 0°C and 1,013 bar	1,784 kg/m ³
temperature	150,86 K	density ratio to air	1,3797
Pressure	48,98 bar	gas density at 15°C and 1 bar	1,669 kg/m ³
density	0,5357 kg/l	Conversion Factor	
Triple Point		liquid at Ts to m ³ gas (15°C, 1 bar)	0,8352
temperature	83,80 K	Virial Coefficient	
Pressure	0,6891 bar	Bn at 0°C	-0,96*10 ⁻³ bar ⁻¹
Boiling Point		B30 at 30°C	-0,61*10 ⁻³ bar ⁻¹
temperature	87,280 K; -186 °C	Gaseous State at 25°C and 1 bar	
liquid density	1,3940 kg/l	specific heat capacity cp	0,5216 kJ/kg K
evaporation heat	161,3 kJ/kg	thermal conductivity	178,2*10 ⁻⁴ W/m K
		dynam. viscosity	22,8*10 ⁻⁶ Ns/m ²