

Marking

CAS-Number	7727-37-9
Characterization acc. ADR	UN 1066, Nitrogen, compressed, 2.2 Class 2, 1 A

Cylinder Marking



shoulder:
black

Essential properties

Colourless, odorless, asphyxiating gas, compressed, slightly lighter than air

Symbols of Risks



gas, compressed

Physical Properties

molecular weight:	28,0134 kg/kmol
gas density at 0°C and 1,013 bar:	1,250 kg/m ³
density ratio to air:	0,9671

For additional safety information see Material-/safety data sheet No. *-N2-089A

Valves / Manifolds

Valve connection	200 bar: acc. to national standards 300 bar: ISO 5145 No. 1: W 30 x 2
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Recommended Manifolds	Spectrolab FM 51 / FM 52exact Spectrocem FE 51 / FE 52exact 300 bar pressure regulator under same designation available
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Specifications / Forms of delivery

		5.0	5.5 *	ECD	6.0	
Composition						
N ₂	>	99,999 <small>(incl. rare gases)</small>	99,9995 <small>(incl. rare gases)</small>	99,9995 <small>(incl. rare gases)</small>	99,9999 <small>(incl. rare gases)</small>	Vol.-%
Impurities						
H ₂ O	<	3	2	2	0,5	ppmv
O ₂	<	2	0,5	0,5	0,3	ppmv
THC (as CH ₄)	<	0,1	0,1	0,1	0,1	ppmv
CO + CO ₂	<	-	0,5	0,1	0,3	ppmv
H ₂	<	-	0,5	-	0,1	ppmv
hal. HC	<	-	-	1	-	ppbv
Cylinders / Contents						
F 5 200 bar *		1,0	-	-	-	m ³
F 10 200 bar		1,9	1,9	-	1,9	m ³
F 20 200 bar *		3,8	-	-	-	m ³
F 20 300 bar *		5,2	-	-	-	m ³
F 50 200 bar		9,6	9,6	9,6	9,6	m ³
F 50 300 bar		13,1	-	-	-	m ³
B 12* F 50 200 bar		114,7	-	-	-	m ³
B 12* F 50 300 bar		157,0	-	-	-	m ³

Remarks

Applications:
Carrier gas in gas chromatography
Zero gas for analytical applications, especially in automotive industries
Component of gas mixtures for CO₂-lasers
Inert gas in chemical and pharmaceutical industries

* Not available in each country

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Description

Colourless, odorless, inert gas. In closed rooms the breathing air is displaced (danger of asphyxiation!); no warning symptoms!

Materials

Cylinders and valves: any usual materials

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

Physical Properties	
molecular weight	28,0134 kg/kmol
Critical Point	
temperature	126,260 K
Pressure	34,10 bar
density	0,3140 kg/l
Triple Point	
temperature	63,150 K
Pressure	0,1246 bar
Boiling Point	
temperature	77,36 K; -196 °C
liquid density	0,8085 kg/l
evaporation heat	198,6 kJ/kg
vapour pressure at 20°C	
gas density at 0°C and 1,013 bar	1,250 kg/m ³
density ratio to air	0,9671
gas density at 15°C and 1 bar	1,1694 kg/m ³
Conversion Factor	
liquid at Ts to m ³ gas (15°C, 1 bar)	0,691
Virial Coefficient	
Bn at 0°C	-0,47*10 ⁻³ bar ⁻¹
B30 at 30°C	-0,17*10 ⁻³ bar ⁻¹
Gaseous State at 25°C and 1 bar	
specific heat capacity cp	1,040 kJ/kg K
thermal conductivity	256,6*10 ⁻⁴ W/m K
dynam. viscosity	17,9*10 ⁻⁶ Ns/m ²