

## Marking

<b>CAS-Number</b>	7727-37-9
<b>Characterization acc. ADR</b>	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 <sup>3</sup>
density ratio to air:	0,9671

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

## Valves / Manifolds

<b>Valve connection</b>	200 bar: acc. to national standards 300 bar: ISO 5145 No. 1: W 30 x 2
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<b>Recommended Manifolds</b>	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	
<b>Composition</b>						
N <sub>2</sub>	>	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.-%
<b>Impurities</b>						
H <sub>2</sub> O	<	3	2	2	0,5	ppmv
O <sub>2</sub>	<	2	0,5	0,5	0,3	ppmv
THC (as CH <sub>4</sub> )	<	0,1	0,1	0,1	0,1	ppmv
CO + CO <sub>2</sub>	<	-	0,5	0,1	0,3	ppmv
H <sub>2</sub>	<	-	0,5	-	0,1	ppmv
hal. HC	<	-	-	1	-	ppbv
<b>Cylinders / Contents</b>						
F 5 200 bar *		1,0	-	-	-	m <sup>3</sup>
F 10 200 bar		1,9	1,9	-	1,9	m <sup>3</sup>
F 20 200 bar *		3,8	-	-	-	m <sup>3</sup>
F 20 300 bar *		5,2	-	-	-	m <sup>3</sup>
F 50 200 bar		9,6	9,6	9,6	9,6	m <sup>3</sup>
F 50 300 bar		13,1	-	-	-	m <sup>3</sup>
B 12* F 50 200 bar		114,7	-	-	-	m <sup>3</sup>
B 12* F 50 300 bar		157,0	-	-	-	m <sup>3</sup>

## Remarks

Applications:  
Carrier gas in gas chromatography  
Zero gas for analytical applications, especially in automotive industries  
Component of gas mixtures for CO<sub>2</sub>-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	
<b>molecular weight</b>	28,0134 kg/kmol
<b>Critical Point</b>	
temperature	126,260 K
Pressure	34,10 bar
density	0,3140 kg/l
<b>Triple Point</b>	
temperature	63,150 K
Pressure	0,1246 bar
<b>Boiling Point</b>	
temperature	77,36 K; -196 °C
liquid density	0,8085 kg/l
evaporation heat	198,6 kJ/kg
<b>vapour pressure at 20°C</b>	
<b>gas density at 0°C and 1,013 bar</b>	1,250 kg/m <sup>3</sup>
<b>density ratio to air</b>	0,9671
<b>gas density at 15°C and 1 bar</b>	1,1694 kg/m <sup>3</sup>
<b>Conversion Factor</b>	
liquid at Ts to m <sup>3</sup> gas (15°C, 1 bar)	0,691
<b>Virial Coefficient</b>	
Bn at 0°C	-0,47*10 <sup>-3</sup> bar <sup>-1</sup>
B30 at 30°C	-0,17*10 <sup>-3</sup> bar <sup>-1</sup>
<b>Gaseous State at 25°C and 1 bar</b>	
specific heat capacity cp	1,040 kJ/kg K
thermal conductivity	256,6*10 <sup>-4</sup> W/m K
dynam. viscosity	17,9*10 <sup>-6</sup> Ns/m <sup>2</sup>