

# Nitrogen

N<sub>2</sub>

## Guaranteed commercial specifications

Standard Specifications	Values
Purity	99,999% weight
Impurities (ppmv)	H <sub>2</sub> O < 5 O <sub>2</sub> < 5 C <sub>n</sub> H <sub>m</sub> < 0,5 H <sub>2</sub> < 0,5
Hydraulic pressure (PH)	Negative
Working pressure (PW)	≤ 1 ppm weight
International standard cylinder and valve	EN 11118
Valve thread	M10x1
Compliance with European Directive	T-PED (Directive 2010/35/UE)

## Main applications

Nitrogen is a common normally colourless, odourless and tasteless; it is suitable for a wide range of uses in many different industries. Nitrogen usually comes in liquid or gaseous form; liquid Nitrogen (LIN) is used in innovative cooling and freezing technologies. LIN is an effective and convenient refrigerant due to its availability, low cost, and inert properties. It is also a practical cryogen for most low-temperature applications because of its extremely low boiling temperature (-195.8°C) and high refrigeration capacity at atmospheric pressure. Even at elevated pressures, the thermal properties of LIN make it an effective refrigeration medium to rapidly cool processes to low temperatures.

## Precautions of use

Refer to the Safety Data Sheet\*.

## Regulation

REACH Regulation n. 1907/2006: Nitrogen is included in the exemptions from the obligation to register in accordance with Article 2, paragraph 7, letter a

\*The Safety Data Sheet (MSDS) could be requested, after P.O., at [laboratorio@mariel.it](mailto:laboratorio@mariel.it)



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## Nitrogen CHEMICAL-PHYSICAL PROPERTIES

Physical state		Gas, compressed
Colour		Colourless
Molecular mass	g/mol	28
Melting point	°C	- 210
Boiling point @ 1,013 bar	°C	- 196
Critical temperature	°C	- 147
Critical pressure	Bar	34
Relative density, gas (*)		0,97 (air=1)
Absolute density (*)	g/l	1,16
Electronegativity according to Pauling		3.0
Density @ 20 °C	g/cm <sup>-3</sup>	1.25* 10 <sup>-3</sup>
Vanderwaals radius	nm	0.092
Ionic radius		0.171 nm (-3) ; 0.011 (+5) ; 0.016 (+3)
Isotopes		4
Ozone Depleting Potential	(R-11 = 1)	0
GWP	(CO <sub>2</sub> = 1)	0

\* @ 1,013 bar and 21,1 °C

The information included in this technical data sheet summarizes the results of studies and tests. However, accuracy, suitability, or completeness are not guaranteed, and no warranty, liability, guarantee, or representation, expressed or implied, is made by Mariel Srl. In particular, in case of violation of third party rights



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