

Nitrogen



Guaranteed commercial specifications

| <i>Standard Specifications</i> | <i>Values</i> |
|---|---|
| Purity | 99,999% weight |
| Impurities (ppmv) | H ₂ O < 5 O ₂ < 5 C _n H _m < 0,5 H ₂ < 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

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 ⁻³ | 1.25* 10 ⁻³ |
| 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 ₂ = 1) | 0 |

* @ 1,013 bar and 21,1 °C