



UN 1066
HAZCHEM 2RE
CLASS 2.2

PI 09/16/E

COMPRESSED NITROGEN

TECHNICAL SPECIFICATION

SPECIFICATION

Nitrogen > 99.9%

PHYSICAL DATA

Chemical Symbol N₂

Boiling Point -195.8°C

Relative Density (Air = 1) 0.967

Molecular Weight 28.013

Critical Temperature -147.1°C

Flashpoint Non-flammable

Density of Gas (@101.3 kPa & 15°C) 1.170 kg/m³

Density of Liquid (B.Pt.) 809 kg/m³

Specific Volume (@101.3 kPa & 15°C) 0.855 m³/kg

PROPERTIES

Nitrogen is colorless and odorless.

Nitrogen constitutes 78% of the composition of air.

Nitrogen does not support life, it is non-toxic.

It is non-flammable and will not support combustion.

USES

As an inert industrial gas, nitrogen is used as a blanketing agent to separate sensitive products and processes from air. It is also used as a purging agent in piping and equipment to prevent contamination.

The oil and natural gas industry utilizes nitrogen to increase reservoir reserves and fracture hydrocarbon-bearing formations to significantly increase the production of oil and gas, and to improve operating efficiency

Essential to the aerospace & aircraft industry, nitrogen is used in high Reynolds number wind tunnels, heat treating furnaces and autoclaves to help create incredibly strong but lightweight materials. Nitrogen is also used as an assist gas for laser cutting applications.

Used as a pressurizing gas, nitrogen can help propel liquids through pipelines. It is also used to shield oxygen-sensitive materials from the air and to remove volatile organic chemicals from process streams.

A carrier and purge gas in steel production, nitrogen is used to prevent oxidation and is a key component in the heat-treating process.

SUPPLY & STORAGE

In high pressure cylinders

HANDLING & SAFETY

HAZARDS

Should nitrogen replace oxygen in air there is a risk of asphyxia: air containing less than 16% oxygen is dangerous.

MATERIALS COMPATIBILITY

Nitrogen is non-corrosive and so any common metal is acceptable, provided equipment is designed to withstand process pressure.

PRECAUTIONS IN USE

Use only in well-ventilated area to prevent accumulation of high concentration of argon. Ensure that oxygen content of air is maintained above 18%.

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

PERSONAL PROTECTION

Safety eyewear complying with an approved standard & use a properly fitted, air-purifying or air-fed respirator complying with an approved standard when a risk assessment indicates this is necessary,

FIRST AID

If victim is conscious:

- Move to uncontaminated area to breathe fresh air.
- Keep warm and quiet.
- Call doctor.

FIRST AID contd

If victim is unconscious:

- Move to uncontaminated area and give assisted respiration.
 - When breathing is restored, treatment as above.
- Continued treatment should be symptomatic and supportive.

ADDITIONAL INFORMATION

The information, recommendations and data contained in this publication are intended to give basic guidance to users for their safe handling and use.

For Further information please refer Material Safety Data Sheets (MSDS)

It is essential for the safe use of gases that personnel are properly trained and are fully aware of the possible hazards.

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