



UN 1046
HAZCHEM 2RE
CLASS 2.2

PI 08/16/E

COMPRESSED HELIUM

TECHNICAL SPECIFICATION

SPECIFICATION

Helium > 99.99%

PHYSICAL DATA

Chemical Symbol : He

Boiling Point -269°C

Relative Density (Air = 1) 0.14

Molecular Weight 4g/mol

Critical Temperature -268°C

Flashpoint : Non-flammable

Density of Gas (@101.3 kPa & 15°C) 0.12 kg/m³

Density of Liquid (B.Pt.) 125 kg/m³

PROPERTIES

Helium is colorless and odorless.

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

It is non-flammable and will not support combustion.

USES

• Medical: Used in treating ailments like asthma, emphysema and other conditions that affect breathing diseases that affect the lungs. Helium is used to achieve cryogenic temperatures of -232°C required for superconducting magnets in MRIs and NMRs, allowing the capture of high-resolution images of internal organs and tissues.

Electronics: Helium plays a significant role in the manufacturing of semiconductors, LCD panels, and fiber optic wire

• Diving: Divers use oxygen and helium during diving. This combination provides them the atmosphere necessary to survive in deep diving.

• Magnet Production: Used to cool down super conducting magnets.

Others: Used in helium-neon lasers are used for barcode reading, protective gas in welding, for protection during germanium crystal and silicon production.

Helium is used as a source of lift in weather and other surveillance balloons.

SUPPLY & STORAGE

In high pressure cylinders

HANDLING & SAFETY

HAZARDS

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

MATERIALS COMPATIBILITY

Helium 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.