

Helium, compressed

UN	1046
HAZCHEM	2.1
CLASS	2.2

T E C H S P E C S

CONTAINER	'G'	'E'	MAXI 4	MAXI 8	PACK 16
CONTENT m ³ (101.325 kPa @ 15° C)	7.4	3.7	50.0	100	118
GAUGE PRESSURE (kPa @ 15° C)	14,700	14,700	approx. 10,000*	approx. 10,000*	14,700
AVERAGE WEIGHT kg (full)	56.2	28.6	363	677	1,040
AVERAGE WEIGHT kg (empty)	55	28	355	660	1,020
OUTLET CONNECTION A.S. 2473 Type 10	VERTICAL	VERTICAL	HORIZ.	HORIZ.	HORIZ.

NOTE: The above data is typical of the most common containers.
* denotes the use of a pressure reducing valve.

SPECIFICATION

Helium	> 99.99%
Moisture	< 25 ppm
Oxygen	< 10 ppm

PHYSICAL DATA

Chemical Symbol	He
Boiling Point	-268.93°C
Relative Density (Air = 1)	0.138
Molecular Weight	4.0026
Critical Temperature	-267.95°C
Flashpoint	Non-flammable
Density of Gas (@101.3 kPa & 15°C)	0.167 kg/m ³
Solubility in Water (@101.3 kPa & 20°C)	0.0086
Specific Volume (@101.3 kPa & 15°C)	5.988 m ³ /kg

PROPERTIES

Helium is a colourless, odourless, and tasteless gas.
It is the lightest inert gas.

USES

Helium is used as a vector gas in chromatography. It is also used for leak detection. Due to its rapid diffusion, it is ideal for the detection of micro leaks.

Helium-argon mixtures are used as a shielding gas for welding, particularly thick sections of non ferrous metals eg. aluminium.

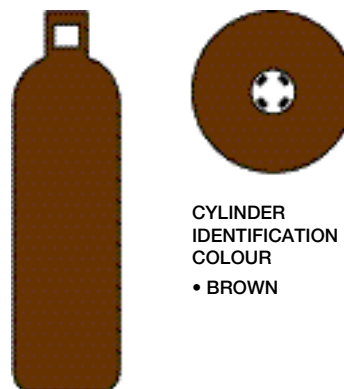
Because of its very high thermal conductivity helium is used as a coolant for:

- Cooling of uranium rods in nuclear reactors.
- Cooling of matrices in record manufacture.
- Vacuum breaking in heat treatment furnaces.

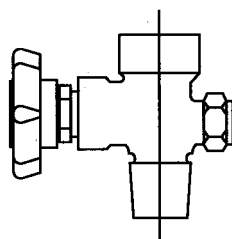
Helium is used as a breathing gas in mixtures with:

- Oxygen for shallow diving. (less than 100 metres)
- Low oxygen concentrations (approx. 4%) for deep diving below 100m.
- 20% oxygen by volume for patients with respiratory ailments.

It is safe gas to inflate toy balloons, advertising blimps, meteorological balloons, etc.



CYLINDER
IDENTIFICATION
COLOUR
• BROWN




OUTLET
CONNECTION
AS 2473 TYPE 10, TYPE 50
FEMALE R.H. THREAD



CLASS LABEL



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T E C H S P E C S

H A N D L I N G & S A F E T Y

HAZARDS

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

CYLINDER STORAGE AND HANDLING

Store cylinders upright in a cool, well ventilated area away from sources of heat and combustible materials. Protect cylinders, particularly the valve, against physical damage whether full or empty.

Do not artificially heat cylinder. Keep away from artificial heat.

Do not allow any part of the cylinder to be exposed to temperatures above 55°C.

Check that cylinders are clearly labelled.

Keep outlet seals in place on full cylinders.

Close valves on empty cylinders.

LEAKING CYLINDERS

Move to a well ventilated area.

Stop leak if possible to do so.

Evacuate area way from direction of movement of gas.

If leak cannot be stopped, move cylinder to a safe area and allow to empty.

MATERIALS COMPATIBILITY

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

PRECAUTIONS IN USE

Never allow oil or grease on cylinder or valve.

Close cylinder valve when not in use.

Always use regulator to connect to system.

Secure cylinders to prevent falling over.

Open cylinder valve slowly.

PERSONAL PROTECTION

Personnel regularly engaged in the use and movement of gas cylinders must be provided with:

- Safety footwear
- Leather or PVC gloves

Full cover overalls & safety glasses are recommended.

FIRE

Helium will not support combustion.

Remove cylinders not directly affected by fire.

Cool cylinders with water from a protected location.

If unable to keep cylinders cool, evacuate area.

FIRST AID

If victim is conscious:

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

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 of Air Liquide gases for their safe handling and use.

Material Safety Data Sheets (MSDS) for gases and gas mixtures supplied by Air Liquide are also available.

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

Further information and advice on any matter relating to the safe handling or use of these products may be obtained from the nearest Air Liquide office.