



Edition: BP 2025 (Ph. Eur. 11.6 update)

Oxygen



[General Notices](#)

(Ph. Eur. monograph 0417)

Oxygen should be kept in approved metal cylinders, the shoulders of which are painted white and the remainder black. The cylinder should carry a label stating 'Oxygen'. In addition, 'Oxygen' or the symbol 'O₂' should be stencilled in paint on the shoulder of the cylinder.

When Oxygen is intended for use in a room in which magnetic resonance imaging (MRI) is being performed, the cylinder and fittings should be made from suitable non-ferromagnetic materials and labelled accordingly.

O₂ 32.00 7782-44-7

Ph Eur

DEFINITION

Content

Minimum 99.5 per cent V/V of O₂.

This monograph applies to oxygen for medicinal use.

CHARACTERS

Appearance

Colourless gas.

Solubility

At 20 °C and at a pressure of 101 kPa, 1 volume dissolves in about 32 volumes of water.

PRODUCTION

Oxygen is produced by a purification process followed by cryodistillation of the ambient air.

[Carbon dioxide](#)

Maximum 300 ppm V/V, determined using an infrared analyser ([2.5.24](#)).

Gas to be examined Filter the substance to be examined to avoid stray light phenomena.

Reference gas (a) [Oxygen R](#).

Reference gas (b) Mixture containing 300 ppm V/V of [carbon dioxide R1](#) in [nitrogen R1](#).

Calibrate the apparatus and set the sensitivity using reference gases (a) and (b). Measure the content of carbon dioxide in the gas to be examined.

Carbon monoxide

Maximum 5 ppm V/V, determined using an infrared analyser ([2.5.25](#)).

Gas to be examined Filter the substance to be examined to avoid stray light phenomena.

Reference gas (a) [Oxygen R](#).

Reference gas (b) Mixture containing 5 ppm V/V of [carbon monoxide R](#) in [nitrogen R1](#).

Calibrate the apparatus and set the sensitivity using reference gases (a) and (b). Measure the content of carbon monoxide in the gas to be examined.

Water

Maximum 67 ppm V/V, determined using an electrolytic hygrometer ([2.5.28](#)).

Assay

Determine the concentration of oxygen using a paramagnetic analyser ([2.5.27](#)).

IDENTIFICATION

It complies with the limits of the assay.

TESTS

Carbon dioxide

Maximum 300 ppm V/V, determined using a carbon dioxide detector tube ([2.1.6](#)).

Carbon monoxide

Maximum 5 ppm V/V, determined using a carbon monoxide detector tube ([2.1.6](#)).

Water vapour

Maximum 67 ppm V/V, determined using a water vapour detector tube ([2.1.6](#)).

STORAGE

As a compressed gas or liquid in appropriate containers, complying with the legal regulations. Oils and grease are not to be used unless they are oxygen-compatible.

IMPURITIES

Specified impurities A, B, C.

<https://nhathuocngocanh.com/bp>

- A. CO_2 : carbon dioxide,
- B. CO : carbon monoxide,
- C. H_2O : water.

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