



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

Hydrogen Peroxide Solution (3 per cent)



[General Notices](#)

Dilute Hydrogen Peroxide Solution

(Ph. Eur. monograph 0395)

Action and use

Antiseptic; deodorant.

When hydrogen peroxide is prescribed or demanded, Hydrogen Peroxide Solution (6 per cent) shall be dispensed or supplied.

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DEFINITION

Content

2.5 per cent *m/m* to 3.5 per cent *m/m* of H₂O₂ (*M_r*, 34.01).

1 volume of hydrogen peroxide solution (3 per cent) corresponds to about 10 times its volume of oxygen. A suitable stabiliser may be added.

CHARACTERS

Appearance

Colourless, clear liquid.

IDENTIFICATION

- To 2 mL, add 0.2 mL of [dilute sulfuric acid R](#) and 0.2 mL of [0.02 M potassium permanganate](#). The solution becomes colourless or slightly pink within 2 min.
- To 1 mL, add 0.1 mL of [dilute hydrochloric acid R](#) and 0.1 mL of [potassium iodide solution R](#). A brown colour appears. Black particles may be formed.
- It complies with the requirement for the content of H₂O₂.

TESTS

Acidity

To 10 mL, add 20 mL of [water R](#) and 0.25 mL of [methyl red solution R](#). Not less than 0.05 mL and not more than 1.0 mL of [0.1 M sodium hydroxide](#) is required to change the colour of the indicator.

Organic stabilisers

Maximum 250 ppm.

Shake 20 mL with 10 mL of [chloroform R](#) and then with 2 quantities, each of 5 mL, of [chloroform R](#). Evaporate the combined chloroform layers under reduced pressure at a temperature not exceeding 25 °C and dry in a desiccator. The residue weighs a maximum of 5 mg.

Non-volatile residue

Maximum 2 g/L.

Allow 10 mL to stand in a platinum dish until all effervescence has ceased. Evaporate to dryness on a water-bath and dry at 100-105 °C. The residue weighs a maximum of 20 mg.

ASSAY

Dilute 10.0 g to 100.0 mL with [water R](#). To 10.0 mL of this solution add 20 mL of [dilute sulfuric acid R](#). Titrate with [0.02 M potassium permanganate](#) until a pink colour is obtained.

1 mL of [0.02 M potassium permanganate](#) is equivalent to 1.701 mg of H₂O₂ or 0.56 mL of oxygen.

STORAGE

Protected from light, and if the solution does not contain a stabiliser, at a temperature below 15 °C.

LABELLING

If the solution contains a stabiliser, the label states that the contents are stabilised. The competent authority may require that the name of the stabiliser be stated on the label.

CAUTION

It decomposes in contact with oxidisable organic matter and with certain metals and if allowed to become alkaline.

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