



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

Magnesium Peroxide



[General Notices](#)

(Ph. Eur. monograph 1540)

Ph Eur

DEFINITION

Mixture of magnesium peroxide and magnesium oxide.

Content

22.0 per cent to 28.0 per cent of MgO_2 (M_r 56.30).

CHARACTERS

Appearance

White or slightly yellow, amorphous, light powder.

Solubility

Practically insoluble in water and in ethanol (96 per cent). It dissolves in dilute mineral acids.

IDENTIFICATION

- A. Dissolve about 15 mg in 2 mL of [dilute nitric acid R](#) and neutralise with [dilute sodium hydroxide solution R](#). The solution gives the reaction of magnesium ([2.3.1](#)).
- B. Dissolve 50 mg in 2 mL of [dilute sulfuric acid R](#). Add 2 mL of a 5 g/L solution of [potassium permanganate R](#) and shake. The solution becomes colourless with evolution of gas.

TESTS

Solution S1

Dissolve cautiously 5.0 g in 40 mL of [hydrochloric acid R1](#). Cautiously evaporate the solution to 10 mL and dilute to 100 mL with a mixture of equal volumes of [acetic acid R](#) and [distilled water R](#). Filter, if necessary, through a previously ignited and tared porcelain or silica filter crucible of suitable porosity to give a clear filtrate. Keep the residue for the test for acid insoluble substances.

Solution S2

Dilute 5 mL of solution S1 to 25 mL with [distilled water R](#).

Appearance of solution

Solution S1 is not more intensely coloured than reference solution B₄ ([2.2.2, Method II](#)).

Acidity or alkalinity

To 2.0 g add 100 mL of [carbon dioxide-free water R](#) and heat to boiling for 5 min. Filter whilst hot through a sintered-glass filter (40) ([2.1.2](#)), allow to cool and dilute to 100 mL with [carbon dioxide-free water R](#). To 15 mL of the filtrate, add 0.1 mL of [phenolphthalein solution R](#). The solution is red. Not more than 0.2 mL of [0.1 M hydrochloric acid](#) is necessary to change the colour of the indicator. Keep the filtrate for the test for soluble substances.

Acid insoluble substances

Maximum 0.1 per cent.

Any residue obtained during the preparation of solution S1, washed, dried and ignited at 600 ± 50 °C, weighs a maximum of 5 mg.

Soluble substances

Maximum 1.5 per cent.

Take 50 mL of the filtrate obtained in the test for acidity or alkalinity, evaporate to dryness and dry at 100-105 °C. The residue weighs a maximum of 15 mg.

Chlorides ([2.4.4](#))

Maximum 0.1 per cent.

Dissolve 50 mg in 5 mL of [dilute nitric acid R](#) and dilute to 15 mL with [water R](#).

Sulfates ([2.4.13](#))

Maximum 0.5 per cent.

Dilute 3 mL of solution S2 to 15 mL with [distilled water R](#).

Calcium ([2.4.3](#))

Maximum 1.0 per cent.

Dilute 1 mL of solution S2 to 15 mL with [distilled water R](#).

Iron ([2.4.9](#))

Maximum 500 ppm.

Dilute 2 mL of solution S2 to 10 mL with [water R](#).

ASSAY

Dissolve 80.0 mg, shaking cautiously, in a mixture, previously cooled to 20 °C, of 10 mL of [sulfuric acid R](#) and 90 mL of [water 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 2.815 mg of MgO₂.

STORAGE

Protected from light.

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