



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

Magnesium Sulfate Heptahydrate



[General Notices](#)

Epsom Salts

Magnesium Sulphate Heptahydrate

(*Ph. Eur. monograph 0044*)

MgSO₄·7H₂O 246.5 10034-99-8

Action and use

Osmotic laxative; used in treatment of electrolyte deficiency.

Preparations

[Magnesium Sulfate Injection](#)

[Magnesium Sulfate Mixture](#)

[Magnesium Sulfate, Potassium Chloride and Sodium Chloride Infusion](#)

Ph Eur

DEFINITION

Content

99.0 per cent to 100.5 per cent (dried substance).

CHARACTERS

Appearance

White or almost white, crystalline powder or brilliant, colourless crystals.

Solubility

Freely soluble in water, very soluble in boiling water, practically insoluble in ethanol (96 per cent).

IDENTIFICATION

- A. It gives the reactions of sulfates ([2.3.1](#)).
- B. It gives the reaction of magnesium ([2.3.1](#)).

TESTS

Solution S

Dissolve 5.0 g in [water R](#) and dilute to 50 mL with the same solvent.

Appearance of solution

Solution S is clear ([2.2.1](#)) and colourless ([2.2.2, Method II](#)).

Acidity or alkalinity

To 10 mL of solution S add 0.05 mL of [phenol red solution R](#). Not more than 0.2 mL of [0.01 M hydrochloric acid](#) or [0.01 M sodium hydroxide](#) is required to change the colour of the indicator.

Chlorides ([2.4.4](#))

Maximum 300 ppm.

Dilute 1.7 mL of solution S to 15 mL with [water R](#).

Iron ([2.4.9](#))

Maximum 20 ppm.

Dilute 5 mL of solution S to 10 mL with [water R](#).

[Loss on drying \(2.2.32\)](#)

48.0 per cent to 52.0 per cent, determined on 0.500 g by drying in an oven at 110-120 °C for 1 h and then at 400 °C to constant mass.

ASSAY

Dissolve 0.450 g in 100 mL of [water R](#) and carry out the complexometric titration of magnesium ([2.5.11](#)).

1 mL of [0.1 M sodium edetate](#) is equivalent to 12.04 mg of MgSO_4 .

