



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

## Magnesium Sulfate Mixture

### [General Notices](#)

Magnesium Sulphate Mixture  
Magnesium Sulfate Oral Suspension

### DEFINITION

Magnesium Sulfate Mixture is an *oral suspension* containing 40% w/v of Magnesium Sulfate Heptahydrate and 5% w/v of Light Magnesium Carbonate in a suitable vehicle with a peppermint flavour.

*The mixture complies with the requirements stated under Oral Liquids and with the following requirements.*

#### Content of magnesium sulfate heptahydrate, $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$

36.0 to 44.0% w/v.

#### Content of magnesium carbonate, calculated as Mg

1.14 to 1.49% w/v.

### IDENTIFICATION

- Filter 10 mL of the mixture and reserve the residue. The filtrate yields reaction A characteristic of [magnesium salts](#), [Appendix VI](#). Wash the residue with 10 mL of [water](#), dissolve 25 mg in 1 mL of 1M [hydrochloric acid](#) and adjust the pH to 6 to 7 with 1M [sodium hydroxide](#). The resulting solution yields reaction A characteristic of [magnesium salts](#), [Appendix VI](#).
- The residue obtained in test A yields reaction A characteristic of [carbonates](#), [Appendix VI](#).
- The filtrate obtained in test A yields reaction A characteristic of [sulfates](#), [Appendix VI](#).

### ASSAY

#### **For magnesium sulfate heptahydrate**

Boil 0.7 g with 50 mL of a mixture of equal volumes of [ethanol \(96%\)](#) and [water](#), cool, filter and wash the residue with successive small quantities of the diluted ethanol until the washings are free from sulfate. Reserve the residue for the Assay for magnesium carbonate. To the combined filtrate and washings add 10 mL of [ammonia buffer pH 10.9](#) and titrate with 0.05M [disodium edetate VS](#) using [mordant black 11 solution](#) as indicator. Each mL of 0.05M [disodium edetate VS](#) is equivalent to 12.32 mg of  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ . Determine the [weight per mL](#) of the mixture, [Appendix V G](#), and calculate the percentage of  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ , weight in volume.

#### **For magnesium carbonate**

Dissolve the residue obtained in the Assay for magnesium sulfate in 10 mL of 1M [hydrochloric acid](#) and wash the filter with successive small quantities of [water](#) until the washings are free from chloride. To the combined filtrate and washings add

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10 mL of [ammonia buffer pH 10.9](#) and titrate with 0.05M [disodium edetate VS](#) using [mordant black 11 solution](#) as indicator. Each mL of 0.05M [disodium edetate VS](#) is equivalent to 1.215 mg of Mg. Using the [weight per mL](#), calculate the percentage of Mg, weight in volume.