



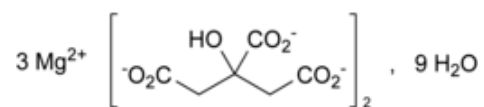
Edition: BP 2025 (Ph. Eur. 11.6 update)

## Magnesium Citrate Nonahydrate



### [General Notices](#)

(Ph. Eur. monograph 2402)



$\text{Mg}_3(\text{C}_6\text{H}_5\text{O}_7)_2 \cdot 9\text{H}_2\text{O}$  613 153531-96-5

Ph Eur

## DEFINITION

Trimagnesium bis(2-hydroxypropane-1,2,3-tricarboxylate) nonahydrate.

### Content

15.0 per cent to 16.5 per cent of Mg (dried substance).

## CHARACTERS

### Appearance

White or almost white, fine powder.

### Solubility

Sparingly soluble in water, practically insoluble in ethanol (96 per cent). It dissolves in dilute hydrochloric acid.

## IDENTIFICATION

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

C. Loss on drying (see Tests).

## TESTS

### Solution S

Dissolve 2.5 g in 15 mL of [dilute hydrochloric acid R](#) with heating. Cool and dilute to 100 mL with [distilled water R](#).

### Appearance of solution

Solution S is clear ([2.2.1](#)) and not more intensely coloured than reference solution BY<sub>6</sub> ([2.2.2, Method II](#)).

### pH ([2.2.3](#))

6.0 to 8.5.

Disperse 5.0 g in [carbon dioxide-free water R](#) and dilute to 100 mL with the same solvent. Centrifuge and measure the pH of the clear supernatant.

### Oxalates

Maximum 280 ppm.

Dissolve 0.50 g in a mixture of 3 mL of [hydrochloric acid R](#) and 4 mL of [water R](#) and add 1 g of [activated zinc R](#). Allow to stand for 5 min. Transfer the liquid to a tube containing 0.25 mL of a 10 g/L solution of [phenylhydrazine hydrochloride R](#). Heat to boiling. Cool rapidly, transfer to a graduated cylinder and add an equal volume of [hydrochloric acid R](#) and 0.25 mL of [potassium ferricyanide solution R](#). Shake and allow to stand for 30 min. Any pink colour in the solution is not more intense than that of a standard prepared at the same time and in the same manner using 4 mL of a 50 mg/L solution of [oxalic acid R](#).

### Sulfates ([2.4.13](#))

Maximum 0.2 per cent.

Dilute 3.0 mL of solution S to 15 mL with [distilled water R](#).

### Calcium ([2.4.3](#))

Maximum 0.2 per cent.

To a mixture of 2 mL of solution S and 8 mL of [distilled water R](#), add about 0.2 mL of [ammonia R](#) and dilute to 15 mL with [distilled water R](#).

### Iron ([2.4.9](#))

Maximum 100 ppm.

Dilute 4.0 mL of solution S to 10 mL with [distilled water R](#).

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

24.0 to 28.0 per cent, determined on 1.000 g by drying in an oven at  $180 \pm 10$  °C for 5 h.

## ASSAY

Dissolve 0.200 g in 5 mL of [dilute hydrochloric acid R](#) with heating. Cool and add 50 mL of [water R](#). Adjust to pH 7.0 with [ammonia R](#). Carry out the complexometric titration of magnesium ([2.5.11](#)).

1 mL of [0.1 M sodium edetate](#) is equivalent to 2.431 mg of Mg.

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