



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

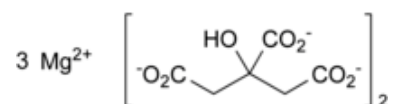
Magnesium Citrate



[General Notices](#)

Anhydrous Magnesium Citrate

(Ph. Eur. monograph 2339)



$\text{Mg}_3(\text{C}_6\text{H}_5\text{O}_7)_2$ 451.1 3344-18-1

Ph Eur

DEFINITION

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

Content

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

CHARACTERS

Appearance

White or almost white, fine, slightly hygroscopic powder.

Solubility

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. pH (see Tests).
- D. Loss on drying (see Tests).

TESTS

Solution S

Dissolve 5.0 g in [carbon dioxide-free water R](#), heating at 60 °C, cool and dilute to 100 mL with the same solvent.

Appearance of solution

Solution S is not more opalescent than reference suspension III ([2.2.1](#)) and not more intensely coloured than reference solutions Y₇ or BY₆ ([2.2.2, Method II](#)).

pH ([2.2.3](#))

6.0 to 8.5 for solution S.

Oxalates

Maximum 280 ppm.

Dissolve 0.50 g in 4 mL of [water R](#). Add 3 mL of [hydrochloric acid R](#) and 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 in 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 1.5 mL of solution S to 15 mL with [distilled water R](#).

Calcium ([2.4.3](#))

Maximum 0.2 per cent.

Dilute 1.0 mL of solution S to 15 mL with [distilled water R](#).

Iron ([2.4.9](#))

Maximum 100 ppm.

Dilute 2.0 mL of solution S to 10 mL with [distilled water R](#).

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

Maximum 3.5 per cent, determined on 1.000 g by drying in an oven at 180 ± 10 °C for 5 h.

ASSAY

Dissolve 0.150 g in 50 mL of [water 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.

STORAGE

In a non-metallic, airtight container.

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