



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

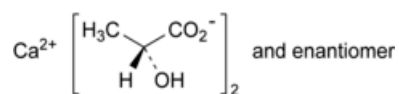
Calcium Lactate



[General Notices](#)

Anhydrous Calcium Lactate

(*Ph. Eur. monograph 2118*)



$\text{C}_6\text{H}_{10}\text{CaO}_6$ 218.2

Action and use

Used in treatment of calcium deficiency.

Ph Eur

DEFINITION

Calcium bis(2-hydroxypropanoate) or mixture of calcium (2*R*)-, (2*S*)- and (2*RS*)-2-hydroxypropanoates.

Content

98.0 per cent to 102.0 per cent (dried substance).

CHARACTERS

Appearance

White or almost white, crystalline or granular powder.

Solubility

Soluble in water, freely soluble in boiling water, very slightly soluble in ethanol (96 per cent).

IDENTIFICATION

- A. Loss on drying (see Tests).
- B. It gives the reaction of lactates ([2.3.1](#)).
- C. It gives reaction (b) of calcium ([2.3.1](#)).

TESTS

Solution S

Dissolve 5.0 g with heating in [carbon dioxide-free water R](#) prepared from [distilled water R](#), allow to cool and dilute to 100 mL with the same solvent.

Appearance of solution

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

Acidity or alkalinity

To 10 mL of solution S add 0.1 mL of [phenolphthalein solution R](#) and 0.5 mL of [0.01 M hydrochloric acid](#). The solution is colourless. Not more than 2.0 mL of [0.01 M sodium hydroxide](#) is required to change the colour of the indicator to pink.

Chlorides ([2.4.4](#))

Maximum 200 ppm.

Dilute 5 mL of solution S to 15 mL with [water R](#).

Sulfates ([2.4.13](#))

Maximum 400 ppm.

Dilute 7.5 mL of solution S to 15 mL with [distilled water R](#).

Barium

To 10 mL of solution S add 1 mL of [calcium sulfate solution R](#). Allow to stand for 15 min. Any opalescence in the solution is not more intense than that in a mixture of 1 mL of [distilled water R](#) and 10 mL of solution S.

Iron ([2.4.9](#))

Maximum 50 ppm.

Dilute 4 mL of solution S to 10 mL with [water R](#).

Magnesium and alkali salts

Maximum 1 per cent.

To 20 mL of solution S add 20 mL of [water R](#), 2 g of [ammonium chloride R](#) and 2 mL of [dilute ammonia R1](#). Heat to boiling and rapidly add 40 mL of hot [ammonium oxalate solution R](#). Allow to stand for 4 h, dilute to 100.0 mL with [water R](#) and filter. To 50.0 mL of the filtrate add 0.5 mL of [sulfuric acid R](#). Evaporate to dryness and ignite the residue to constant mass at 600 ± 50 °C. The residue weighs a maximum of 5 mg.

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

Maximum 3.0 per cent, determined on 0.500 g by drying in an oven at 125 °C.

ASSAY

Dissolve 0.200 g in [water R](#) and dilute to 300 mL with the same solvent. Carry out the complexometric titration of calcium ([2.5.11](#)).

1 mL of [0.1 M sodium edetate](#) is equivalent to 21.82 mg of $\text{C}_6\text{H}_{10}\text{CaO}_6$.

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