



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

## Calcium Hydroxide



### [General Notices](#)

(Ph. Eur. monograph 1078)

Ca(OH)<sub>2</sub> 74.1 1305-62-0

### Preparation

### [Calcium Hydroxide Solution](#)

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## DEFINITION

### Content

95.0 per cent to 100.5 per cent.

## CHARACTERS

### Appearance

White or almost white, fine powder.

### Solubility

Practically insoluble in water.

## IDENTIFICATION

- A. To 0.80 g in a mortar, add 10 mL of [water R](#) and 0.5 mL of [phenolphthalein solution R](#) and mix. The suspension turns red. On addition of 17.5 mL of a 103 g/L solution of [hydrochloric acid R](#), the suspension becomes colourless without effervescing. The red colour occurs again when the mixture is triturated for 1 min. On addition of a further 6 mL of a 103 g/L solution of [hydrochloric acid R](#) and triturating, the solution becomes colourless.
- B. Dissolve about 0.1 g in [dilute hydrochloric acid R](#) and dilute to 10 mL with [water R](#). 5 mL of the solution give reaction (b) of calcium ([2.3.1](#)).

## TESTS

### Matter insoluble in hydrochloric acid

Maximum 0.5 per cent.

Dissolve 2.0 g in 30 mL of [hydrochloric acid R](#). Boil the solution and filter. Wash the residue with hot [water R](#). The residue weighs a maximum of 10 mg.

### Carbonates

Maximum 5.0 per cent of  $\text{CaCO}_3$ .

Add 5.0 mL of [1 M hydrochloric acid](#) to the titrated solution obtained under Assay and titrate with [1 M sodium hydroxide](#) using 0.5 mL of [methyl orange solution R](#) as indicator.

1 mL of [1 M hydrochloric acid](#) is equivalent to 50.05 mg of  $\text{CaCO}_3$ .

### Chlorides (2.4.4)

Maximum 330 ppm.

Dissolve 0.30 g in a mixture of 2 mL of [nitric acid R](#) and 10 mL of [water R](#) and dilute to 30 mL with [water R](#).

### Sulfates (2.4.13)

Maximum 0.4 per cent.

Dissolve 0.15 g in a mixture of 5 mL of [dilute hydrochloric acid R](#) and 10 mL of [distilled water R](#) and dilute to 60 mL with [distilled water R](#).

### Elemental impurities

Any method that fulfils the requirements of general chapter [2.4.20. Determination of elemental impurities](#) may be used.

Element	Maximum content (ppm)
Cadmium	1
Lead	1

### Magnesium and alkali metals

Maximum 4.0 per cent, calculated as sulfates.

Dissolve 1.0 g in a mixture of 10 mL of [hydrochloric acid R](#) and 40 mL of [water R](#). Boil and add 50 mL of a 63 g/L solution of [oxalic acid R](#). Neutralise with [ammonia R](#) and dilute to 200 mL with [water R](#). Allow to stand for 1 h and filter through a suitable filter. To 100 mL of the filtrate, add 0.5 mL of [sulfuric acid R](#). Cautiously evaporate to dryness and ignite. The residue weighs a maximum of 20 mg.

## ASSAY

To 1.500 g in a mortar, add 20-30 mL of [water R](#) and 0.5 mL of [phenolphthalein solution R](#). Titrate with [1 M hydrochloric acid](#) by triturating the substance until the red colour disappears. The final solution is used in the tests for carbonates.

1 mL of [1 M hydrochloric acid](#) is equivalent to 37.05 mg of  $\text{Ca}(\text{OH})_2$ .

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