



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

Zinc Oxide



[General Notices](#)

(Ph. Eur. monograph 0252)

ZnO 81.4 1314-13-2

Action and use

Mild astringent.

Preparations

[Zinc Cream](#)

[Coal Tar and Zinc Ointment](#)

[Zinc Ointment](#)

[Zinc and Castor Oil Ointment](#)

[Compound Zinc Paste](#)

[Zinc and Salicylic Acid Paste](#)

[Zinc and Coal Tar Paste](#)

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DEFINITION

Content

99.0 per cent to 100.5 per cent (ignited substance).

CHARACTERS

Appearance

Soft, white or faintly yellowish-white, amorphous powder, free from gritty particles.

Solubility

Practically insoluble in water and in ethanol (96 per cent). It dissolves in dilute mineral acids.

IDENTIFICATION

A. It becomes yellow when strongly heated; the yellow colour disappears on cooling.

B. Dissolve 0.1 g in 1.5 mL of [dilute hydrochloric acid R](#) and dilute to 5 mL with [water R](#). The solution gives the reaction of zinc ([2.3.1](#)).

TESTS

Alkalinity

Shake 1.0 g with 10 mL of boiling [water R](#). Add 0.1 mL of [phenolphthalein solution R](#) and filter. If the filtrate is red, not more than 0.3 mL of [0.1 M hydrochloric acid](#) is required to change the colour of the indicator.

Carbonates and substances insoluble in acids

Dissolve 1.0 g in 15 mL of [dilute hydrochloric acid R](#). It dissolves without effervescence and the solution is not more opalescent than reference suspension II ([2.2.1](#)) and is colourless ([2.2.2, Method II](#)).

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	5
Lead	10
Thallium	5

Iron ([2.4.9](#))

Maximum 200 ppm.

Dissolve 50 mg in 1 mL of [dilute hydrochloric acid R](#) and dilute to 10 mL with [water R](#). Use 0.5 mL of [thioglycollic acid R](#) in this test.

Loss on ignition

Maximum 1.0 per cent, determined on 1.00 g by ignition to constant mass at 500 ± 50 °C.

ASSAY

Dissolve 0.150 g in 10 mL of [dilute acetic acid R](#). Carry out the complexometric titration of zinc ([2.5.11](#)).

1 mL of [0.1 M sodium edetate](#) is equivalent to 8.14 mg of ZnO.

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