



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

Zinc Acetate

General Notices

(Zinc Acetate Dihydrate, Ph. Eur. monograph 1482)

C₄H₆O₄Zn.2H₂O 219.5 5970-45-6

Action and use

Astringent.

Preparation

[Erythromycin and Zinc Acetate Lotion](#)

Ph Eur

DEFINITION

Content

99.0 per cent to 101.0 per cent of C₄H₆O₄Zn.2H₂O.

CHARACTERS

Appearance

White or almost white crystalline powder or flakes.

Solubility

Freely soluble in water, soluble in ethanol (96 per cent).

IDENTIFICATION

- A. It gives reaction (b) of acetates ([2.3.1](#)).
- B. It gives the reaction of zinc ([2.3.1](#)).

TESTS

Solution S

Dissolve 10.0 g in [carbon dioxide-free water R](#) prepared from [distilled water R](#) and dilute to 100 mL with the same solvent.

Appearance of solution

Solution S is clear ([2.2.1](#)) and colourless ([2.2.2, Method II](#)).

pH ([2.2.3](#))

5.8 to 7.0.

Dilute 10 mL of solution S to 20 mL with [carbon dioxide-free water R](#).

Reducing substances

Boil for 5 min a mixture of 10 mL of solution S, 90 mL of [water R](#), 5 mL of [dilute sulfuric acid R](#) and 1.5 mL of a 0.3 g/L solution of [potassium permanganate R](#). The pink colour of the solution remains.

Chlorides ([2.4.4](#))

Maximum 50 ppm.

Dilute 10 mL of solution S to 15 mL with [water R](#).

Sulfates ([2.4.13](#))

Maximum 100 ppm, determined on solution S.

Aluminium

Maximum 5 ppm.

Atomic absorption spectrometry ([2.2.23, Method I](#)).

Test solution Dissolve 2.50 g in 20 mL of a 200 g/L solution of [cadmium- and lead-free nitric acid R](#) and dilute to 25.0 mL with the same acid solution.

Reference solutions Prepare the reference solutions using [aluminium standard solution \(200 ppm Al\) R](#), diluting with a 200 g/L solution of [cadmium- and lead-free nitric acid R](#).

Source Aluminium hollow-cathode lamp.

Wavelength 309.3 nm.

Atomisation device Air-acetylene or acetylene-nitrous oxide flame.

Cadmium

Maximum 1 ppm.

Atomic absorption spectrometry ([2.2.23, Method I](#)).

Test solution Use the solution described in the test for aluminium.

Reference solutions Prepare the reference solutions using [cadmium standard solution \(0.1 per cent Cd\) R](#), diluting with a 200 g/L solution of [cadmium- and lead-free nitric acid R](#).

Source Cadmium hollow-cathode lamp.

Wavelength 228.8 nm.

Atomisation device Air-acetylene flame.

Iron

Maximum 50 ppm.

Atomic absorption spectrometry ([2.2.23, Method I](#)).

Test solution Dissolve 1.25 g in 20 mL of a 200 g/L solution of [cadmium- and lead-free nitric acid R](#) and dilute to 25.0 mL with the same acid solution.

Reference solutions Prepare the reference solutions using [iron standard solution \(20 ppm Fe\) R](#), diluting with a 200 g/L solution of [cadmium- and lead-free nitric acid R](#).

Source Iron hollow-cathode lamp.

Wavelength 248.3 nm.

Atomisation device Air-acetylene flame.

Lead

Maximum 1 ppm.

Atomic absorption spectrometry ([2.2.23, Method I](#)).

Test solution Dissolve 5.00 g in 20 mL of a 200 g/L solution of [cadmium- and lead-free nitric acid R](#) and dilute to 25.0 mL with the same acid solution.

Reference solutions Prepare the reference solutions using [lead standard solution \(0.1 per cent Pb\) R](#), diluting with a 200 g/L solution of [cadmium- and lead-free nitric acid R](#).

Source Lead hollow-cathode lamp.

Wavelength 283.3 nm.

Atomisation device Air-acetylene flame.

ASSAY

Dissolve 0.200 g in 5 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 21.95 mg of $C_4H_6O_4Zn \cdot 2H_2O$.

STORAGE

In a non-metallic container.

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