



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

Zinc Chloride



[General Notices](#)

(Ph. Eur. monograph 0110)

ZnCl₂ 136.3 7646-85-7

Ph Eur

DEFINITION

Content

95.0 per cent to 100.5 per cent.

CHARACTERS

Appearance

White or almost white, crystalline powder or cast in white or almost white sticks, deliquescent.

Solubility

Very soluble in water, freely soluble in ethanol (96 per cent) and in glycerol.

IDENTIFICATION

- A. Dissolve 0.5 g in [dilute nitric acid R](#) and dilute to 10 mL with the same acid. The solution gives reaction (a) of chlorides ([2.3.1](#)).
- B. 5 mL of solution S (see Tests) gives the reaction of zinc ([2.3.1](#)).

TESTS

Solution S

To 2.0 g add 38 mL of [carbon dioxide-free water R](#) prepared from [distilled water R](#) and add [dilute hydrochloric acid R](#) dropwise until dissolution is complete. Dilute to 40 mL with [carbon dioxide-free water R](#) prepared from [distilled water R](#).

[pH](#) ([2.2.3](#))

4.6 to 5.5.

Dissolve 1.0 g in 9 mL of [carbon dioxide-free water R](#), ignoring any slight turbidity.

Oxychlorides

Dissolve 10.0 g in 10 mL of [carbon dioxide-free water R](#). The solution is not more opalescent than reference suspension II ([2.2.1](#)). To 1.5 mL of the solution add 7.5 mL of [ethanol \(96 per cent\) R](#). The solution may become cloudy within 10 min. Any cloudiness disappears on the addition of 0.2 mL of [dilute hydrochloric acid R](#).

Sulfates ([2.4.13](#))

Maximum 200 ppm.

Dilute 5 mL of solution S to 15 mL with [distilled water R](#). Prepare the standard using a mixture of 5 mL of [sulfate standard solution \(10 ppm SO₄\) R](#) and 10 mL of [distilled water R](#).

Aluminium, calcium, iron, magnesium

To 8 mL of solution S add 2 mL of [concentrated ammonia R](#) and shake. The solution is clear ([2.2.1](#)) and colourless ([2.2.2, Method II](#)). Add 1 mL of [disodium hydrogen phosphate solution R](#). The solution remains clear for at least 5 min. Add 0.2 mL of [sodium sulfide solution R](#). A white precipitate is formed and the supernatant remains colourless.

Ammonium ([2.4.1](#))

Maximum 400 ppm.

Dilute 0.5 mL of solution S to 15 mL with [water R](#).

ASSAY

Dissolve 0.250 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 13.63 mg of ZnCl₂.

STORAGE

In a non-metallic container.

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