



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

Silver Nitrate



[General Notices](#)

(Ph. Eur. monograph 0009)

AgNO₃ 169.9 7761-88-8

Action and use

Antiseptic.

Preparations

[Silver Nitrate Eye Drops](#)

[Silver Nitrate Solution](#)

[Silver Nitrate Sterile Solution](#)

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DEFINITION

Content

99.0 per cent to 100.5 per cent.

CHARACTERS

Appearance

White or almost white, crystalline powder or transparent, colourless crystals.

Solubility

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

IDENTIFICATION

- A. 10 mg gives the reaction of nitrates ([2.3.1](#)).
- B. 10 mg gives the reaction of silver ([2.3.1](#)).

TESTS

Solution S

Dissolve 2.0 g in [water R](#) and dilute to 50 mL with the same solvent.

Appearance of solution

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

Acidity or alkalinity

To 2 mL of solution S add 0.1 mL of [bromocresol green solution R](#). The solution is blue. To 2 mL of solution S add 0.1 mL of [phenol red solution R](#). The solution is yellow.

Foreign salts

Maximum 0.3 per cent.

To 30 mL of solution S, add 7.5 mL of [dilute hydrochloric acid R](#), shake vigorously, heat for 5 min on a water-bath and filter. Evaporate 20 mL of the filtrate to dryness on a water-bath and dry at 100-105 °C. The residue weighs a maximum of 2 mg.

Aluminium, lead, copper and bismuth

Dissolve 1.0 g in a mixture of 4 mL of [concentrated ammonia R](#) and 6 mL of [water R](#). The solution is clear ([2.2.1](#)) and colourless ([2.2.2, Method II](#)).

ASSAY

Dissolve 0.300 g in 50 mL of [water R](#), add 2 mL of [dilute nitric acid R](#) and 2 mL of [ferric ammonium sulfate solution R2](#). Titrate with [0.1 M ammonium thiocyanate](#) until a reddish-yellow colour is obtained.

1 mL of [0.1 M ammonium thiocyanate](#) is equivalent to 16.99 mg of AgNO₃.

STORAGE

In a non-metallic container, protected from light.

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