



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

Ammonium Bicarbonate

[General Notices](#)

(Ammonium Hydrogen Carbonate, Ph. Eur. monograph 1390)

NH₄HCO₃ 79.1 1066-33-7

Action and use

Expectorant.

Preparations

[Aromatic Ammonia Solution](#)

[Strong Ammonium Acetate Solution](#)

[Aromatic Ammonia Spirit](#)

Ph Eur

DEFINITION

Content

98.0 per cent to 101.0 per cent.

CHARACTERS

Appearance

Fine, white or almost white, crystalline powder or white or almost white crystals, slightly hygroscopic.

Solubility

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

It volatilises rapidly at 60 °C. The volatilisation takes place slowly at ambient temperatures if the substance is slightly moist. It is in a state of equilibrium with ammonium carbamate.

IDENTIFICATION

- A. It gives the reaction of carbonates and bicarbonates ([2.3.1](#)).
- B. Dissolve 50 mg in 2 mL of [water R](#). The solution gives the reaction of ammonium salts ([2.3.1](#)).

TESTS

Solution S

Dissolve 14.0 g in 100 mL of [distilled water R](#). Boil to remove the ammonia, allow to cool and dilute to 100.0 mL with [distilled water R](#).

Chlorides ([2.4.4](#))

Maximum 70 ppm.

Dilute 5 mL of solution S to 15 mL with [water R](#).

Sulfates ([2.4.13](#))

Maximum 70 ppm, determined on solution S.

Iron ([2.4.9](#))

Maximum 40 ppm.

Dilute 1.8 mL of solution S to 10 mL with [water R](#).

ASSAY

Dissolve cautiously 0.500 g in 50 mL of [carbon dioxide-free water R](#). Titrate with [1 M hydrochloric acid](#), determining the end-point potentiometrically ([2.2.20](#)). Read the volume added at the 2nd point of inflection, or at the point of inflection if only 1 point is detected.

1 mL of [1 M hydrochloric acid](#) is equivalent to 79.1 mg of NH_4HCO_3 .

STORAGE

In an airtight container.

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