



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

Potassium Bicarbonate



[General Notices](#)

(Potassium Hydrogen Carbonate, Ph. Eur. monograph 1141)

KHCO_3 100.1 298-14-6

Action and use

Excipient.

Ph Eur

DEFINITION

Content

99.0 per cent to 101.0 per cent.

CHARACTERS

Appearance

White or almost white, crystalline powder or colourless crystals.

Solubility

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

When heated in the dry state or in solution, it is gradually converted to potassium carbonate.

IDENTIFICATION

- To 5 mL of solution S (see Tests) add 0.1 mL of [phenolphthalein solution R](#). A pale pink colour is produced. Heat; gas is evolved and the colour becomes red.
- It gives the reaction of carbonates and bicarbonates ([2.3.1](#)).
- 1 mL of solution S gives reaction (b) of potassium ([2.3.1](#)).

TESTS

Solution S

Dissolve 5.0 g in 90 mL of [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](#)).

Carbonates

The pH ([2.2.3](#)) of freshly prepared solution S is not greater than 8.6.

Chlorides ([2.4.4](#))

Maximum 150 ppm.

Dilute 7 mL of solution S to 15 mL with [dilute nitric acid R](#).

Sulfates ([2.4.13](#))

Maximum 150 ppm.

Dilute 10 mL of solution S to 15 mL with [acetic acid R](#). Prepare the standard using a mixture of 7.5 mL of [sulfate standard solution \(10 ppm SO₄\) R](#) and 7.5 mL of [distilled water R](#).

Ammonium ([2.4.1](#))

Maximum 20 ppm.

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

Calcium ([2.4.3](#))

Maximum 100 ppm.

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

Iron ([2.4.9](#))

Maximum 20 ppm, determined on solution S.

Sodium

Maximum 0.5 per cent.

Atomic emission spectrometry ([2.2.22, Method II](#)).

Test solution Dissolve 1.00 g in [water R](#) and dilute to 100.0 mL with the same solvent.

Reference solutions Prepare the reference solutions using [sodium standard solution \(200 ppm Na\) R](#), diluted as necessary with [water R](#).

Wavelength 589 nm.

ASSAY

Dissolve 0.800 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.

<https://nhathuocngocanh.com/bp>

1 mL of [1 M hydrochloric acid](#) is equivalent to 0.1001 g of KHCO_3 .

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