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

Dilute Hydrochloric Acid

General Notices

(Ph. Eur. monograph 0003)

Ph Eur

DEFINITION

Content

9.5 per cent *m/m* to 10.5 per cent *m/m* of HCl (M_r 36.46).

PREPARATION

To 726 g of *water R* add 274 g of concentrated hydrochloric acid and mix.

IDENTIFICATION

A. It is strongly acid (2.2.4).
B. It gives reaction (a) of chlorides (2.3.1).
C. It complies with the limits of the assay.

TESTS

Appearance

It is clear (2.2.1) and colourless (2.2.2, Method II).

Free chlorine

Maximum 1 ppm.

To 60 mL add 50 mL of *carbon dioxide-free water R*, 1 mL of a 100 g/L solution of *potassium iodide R* and 0.5 mL of *iodide-free starch solution R*. Allow to stand in the dark for 2 min. Any blue colour disappears on the addition of 0.2 mL of *0.01 M sodium thiosulfate*.

Sulfates (2.4.13)

Maximum 5 ppm.

To 26 mL add 10 mg of *sodium hydrogen carbonate R* and evaporate to dryness on a water-bath. Dissolve the residue in 15 mL of *distilled water R*.

Residue on evaporation

Maximum 0.01 per cent.

Evaporate 100.0 g to dryness on a water-bath or using a rotary evaporator and dry the residue at 100-105 °C. The residue weighs a maximum of 10 mg.

ASSAY

To 6.00 g add 30 mL of *water R*. Titrate with *1 M sodium hydroxide*, determining the end-point potentiometrically (*2.2.20*).

1 mL of *1 M sodium hydroxide* is equivalent to 36.46 mg of HCl.

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