

TESTS

Solution S. Dissolve 2.5 g in *carbon dioxide-free water R* prepared from *distilled water R* and dilute to 50 ml with the same solvent.

Appearance of solution. Solution S is not more opalescent than reference suspension III (2.2.1).

Acidity. Dissolve 1.0 g in 100 ml of *carbon dioxide-free water R*. Add 0.1 ml of *phenolphthalein solution R*. Not more than 1.5 ml of 0.1 M *sodium hydroxide* is required to change the colour of the indicator.

Glycerol and ethanol (96 per cent)-soluble substances: maximum 1.5 per cent.

Shake 1.0 g with 25 ml of *ethanol (96 per cent) R* for 2 min. Filter and wash the residue with 5 ml of *ethanol (96 per cent) R*. Combine the filtrate and the washings, evaporate to dryness on a water-bath and dry the residue at 70 °C for 1 h. The residue weighs a maximum of 15 mg.

Chlorides (2.4.4): maximum 0.15 per cent.

Dissolve 1.0 g in *water R* and dilute to 100 ml with the same solvent. Dilute 3.5 ml of this solution to 15 ml with *water R*.

Phosphates (2.4.11): maximum 0.5 per cent.

Dilute 4 ml of solution S to 100 ml with *water R*. Dilute 1 ml of this solution to 100 ml with *water R*.

Sulphates (2.4.13): maximum 0.1 per cent.

Dilute 3 ml of solution S to 15 ml with *distilled water R*.

Iron (2.4.9): maximum 150 ppm.

Dissolve 67 mg in *water R* and dilute to 10 ml with the same solvent.

Heavy metals (2.4.8): maximum 20 ppm.

To 20 ml of solution S add 15 ml of *hydrochloric acid R* and shake with 25 ml of *methyl isobutyl ketone R* for 2 min. Allow to stand, then separate and evaporate the aqueous layer to dryness. Dissolve the residue in 2.5 ml of *acetic acid R* and dilute to 20 ml with *water R*. 12 ml of the solution complies with test A. Prepare the reference solution using *lead standard solution (1 ppm Pb) R*.

Loss on drying (2.2.32): maximum 12.0 per cent, determined on 1.000 g by drying in an oven at 150 °C for 4 h.

ASSAY

Dissolve 0.200 g in 40 ml of *water R*. Carry out the complexometric titration of magnesium (2.5.11).

1 ml of 0.1 M *sodium edetate* is equivalent to 2.431 mg of Mg.

STORAGE

In an airtight container.

01/2008:0039
corrected 6.0

MAGNESIUM HYDROXIDE

Magnesii hydroxidum

Mg(OH)₂
[1309-42-8]

M_r 58.32

DEFINITION

Content: 95.0 per cent to 100.5 per cent of Mg(OH)₂.

CHARACTERS

Appearance: white or almost white, fine, amorphous powder.

Solubility: practically insoluble in water. It dissolves in dilute acids.

IDENTIFICATION

A. Dissolve about 15 mg in 2 ml of *dilute nitric acid R* and neutralise with *dilute sodium hydroxide solution R*. The solution gives the reaction of magnesium (2.3.1).

B. It complies with the test for loss on ignition (see Tests).

TESTS

Solution S. Dissolve 5.0 g in a mixture of 50 ml of *acetic acid R* and 50 ml of *distilled water R*. Not more than slight effervescence is produced. Boil for 2 min, cool and dilute to 100 ml with *dilute acetic acid R*. Filter, if necessary, through a previously ignited and tared porcelain or silica filter crucible of suitable porosity to give a clear filtrate.

Appearance of solution. Solution S is not more intensely coloured than reference solution B₃ (2.2.2, *Method II*).

Soluble substances: maximum 2.0 per cent.

Mix 2.00 g with 100 ml of *water R* and boil for 5 min. Filter whilst hot through a sintered-glass filter (40) (2.1.2), allow to cool and dilute to 100 ml with *water R*. Evaporate 50 ml of the filtrate to dryness and dry at 100-105 °C. The residue weighs not more than 20 mg.

Substances insoluble in acetic acid: maximum 0.1 per cent.

Any residue obtained during the preparation of solution S, washed, dried, and ignited at 600 ± 50 °C, weighs not more than 5 mg.

Chlorides (2.4.4): maximum 0.1 per cent.

1 ml of solution S diluted to 15 ml with *water R* complies with the limit test for chlorides.

Sulphates (2.4.13): maximum 0.5 per cent.

0.6 ml of solution S diluted to 15 ml with *distilled water R* complies with the limit test for sulphates.

Arsenic (2.4.2): maximum 4 ppm.

5 ml of solution S complies with limit test A.

Calcium (2.4.3): maximum 1.5 per cent.

Dilute 1.3 ml of solution S to 150 ml with *distilled water R*. 15 ml of the solution complies with the limit test for calcium.

Iron (2.4.9): maximum 0.07 per cent.

Dissolve 0.15 g in 5 ml of *dilute hydrochloric acid R* and dilute to 10 ml with *water R*. 1 ml of this solution diluted to 10 ml with *water R* complies with the limit test for iron.

Heavy metals (2.4.8): maximum 30 ppm.

Dissolve 2.0 g in 20 ml of *hydrochloric acid R1* and shake with 25 ml of *methyl isobutyl ketone R* for 2 min. Allow to stand, separate the aqueous layer and evaporate to dryness. Dissolve the residue in 30 ml of *water R*. 12 ml of the solution complies with limit test A. Prepare the standard using *lead standard solution (2 ppm Pb) R*.

Loss on ignition: 29.0 per cent to 32.5 per cent.

Heat 0.5 g gradually to 900 ± 50 °C and ignite to constant mass.

ASSAY

Dissolve 0.100 g in a mixture of 20 ml of *water R* and 2 ml of *dilute hydrochloric acid R* and carry out the complexometric titration of magnesium (2.5.11).

1 ml of 0.1 M *sodium edetate* is equivalent to 5.832 mg of Mg(OH)₂.