

01/2008:0042
corrected 6.0**MAGNESIUM CARBONATE, LIGHT****Magnesii subcarbonas levis**

[546-93-0]

DEFINITION

Hydrated basic magnesium carbonate.

Content: 40.0 per cent to 45.0 per cent, calculated as MgO (M_r 40.30).**CHARACTERS***Appearance:* white or almost white powder.*Solubility:* practically insoluble in water. It dissolves in dilute acids with effervescence.**IDENTIFICATION**

- A. 15 g has an apparent volume (2.9.15) before settling of at least 100 ml.
- B. It gives the reaction of carbonates (2.3.1).
- C. 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).

TESTS

Solution S. Dissolve 5.0 g in 100 ml of *dilute acetic acid R*. When the effervescence has ceased, boil for 2 min, allow to 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 B₄ (2.2.2, *Method II*).

Soluble substances: maximum 1.0 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 a maximum of 10 mg.

Substances insoluble in acetic acid: maximum 0.05 per cent.

Any residue obtained during the preparation of solution S, washed, dried and ignited at 600 ± 50 °C, weighs a maximum of 2.5 mg.

Chlorides (2.4.4): maximum 700 ppm.

Dilute 1.5 ml of solution S to 15 ml with *water R*.

Sulphates (2.4.13): maximum 0.3 per cent.

Dilute 1 ml of solution S to 15 ml with *distilled water R*.

Arsenic (2.4.2, *Method A*): maximum 2 ppm, determined on 10 ml of solution S.

Calcium (2.4.3): maximum 0.75 per cent.

Dilute 2.6 ml of solution S to 150 ml with *distilled water R*. 15 ml of the solution complies with the test.

Iron (2.4.9): maximum 400 ppm.

Dissolve 0.1 g in 3 ml of *dilute hydrochloric acid R* and dilute to 10 ml with *water R*. Dilute 2.5 ml of the solution to 10 ml with *water R*.

Heavy metals (2.4.8): maximum 20 ppm.

To 20 ml of solution S add 15 ml of *hydrochloric acid R1* and shake with 25 ml of *methyle isobutyl ketone R* for

2 min. Allow to stand, separate the aqueous lower layer and evaporate to dryness. Dissolve the residue in 1 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*.

ASSAY

Dissolve 0.150 g in a mixture of 2 ml of *dilute hydrochloric acid R* and 20 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 4.030 mg of MgO.

01/2008:0402
corrected 6.0**MAGNESIUM CHLORIDE
HEXAHYDRATE****Magnesii chloridum hexahydricum**MgCl₂·6H₂O
[7791-18-6] M_r 203.3**DEFINITION***Content:* 98.0 per cent to 101.0 per cent of MgCl₂·6H₂O.**CHARACTERS***Appearance:* colourless crystals, hygroscopic.*Solubility:* very soluble in water, freely soluble in ethanol (96 per cent).**IDENTIFICATION**

- A. Water (see Tests).
- B. It gives reaction (a) of chlorides (2.3.1).
- C. It gives the reaction of magnesium (2.3.1).

TESTS

Solution S. Dissolve 10.0 g in *carbon dioxide-free water R* prepared from *distilled water R* and dilute to 100.0 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 5 ml of solution S add 0.05 ml of *phenol red solution R*. Not more than 0.3 ml of 0.01 M *hydrochloric acid* or 0.01 M *sodium hydroxide* is required to change the colour of the indicator.

Bromides: maximum 500 ppm.

Dilute 2.0 ml of solution S to 10.0 ml with *water R*. To 1.0 ml of this solution add 4.0 ml of *water R*, 2.0 ml of *phenol red solution R3* and 1.0 ml of *chloramine solution R2* and mix immediately. After exactly 2 min, add 0.30 ml of 0.1 M *sodium thiosulphate*, mix and dilute to 10.0 ml with *water R*. The absorbance (2.2.25) of the solution measured at 590 nm, using *water R* as the compensation liquid, is not greater than that of a standard prepared at the same time and in the same manner using 5.0 ml of a 3 mg/l solution of *potassium bromide R*.

Sulphates (2.4.13): maximum 100 ppm, determined on solution S.

Aluminium (2.4.17): maximum 1 ppm, if intended for use in the manufacture of peritoneal dialysis solutions, haemodialysis solutions, or haemofiltration solutions.

Prescribed solution. Dissolve 4 g in 100 ml of *water R* and add 10 ml of *acetate buffer solution pH 6.0 R*.