

1.16124.0001

## Reflectoquant® Magnesium Test

Mg

### 1. Method

Magnesium ions react with phthalein purple to form a violet dye that is determined reflectometrically.

### 2. Measuring range and number of determinations

| Measuring range | Number of determinations |
|-----------------|--------------------------|
| 5 - 100 mg/l Mg | 50                       |

### 3. Applications

#### Sample material:

Groundwater and surface water

Drinking water

Mineral water

Boiler water

Food after appropriate sample pretreatment  
(applications see the website)

Soils after appropriate sample pretreatment

This test is **not suited** for seawater.

### 4. Influence of foreign substances

This was checked individually in solutions with 40 mg/l Mg. The determination is not yet interfered with up to the concentrations of foreign substances given in the table. Cumulative effects were not checked; such effects can, however, not be excluded.

| Concentrations of foreign substances in mg/l or % |      |                               |      |  |
|---|------|-------------------------------|------|--|
| Ag <sup>+</sup>                                   | 100  | Lactate                       | 1000 | EDTA 5                                 |
| Al <sup>3+</sup>                                  | 100  | Mn <sup>2+</sup>              | 100  | Anionic surfactants <sup>1)</sup> 1000 |
| Ascorbate   | 1000 | Ni <sup>2+</sup>              | 5    | Cationic surfactants <sup>2)</sup> 50  |
| Ca <sup>2+</sup>                                  | 200  | NO <sub>3</sub> <sup>-</sup>  | 1000 | Nonionic surfactants <sup>3)</sup> 500 |
| Citrate   | 100  | NO <sub>2</sub> <sup>-</sup>  | 1000 |  |
| Cr <sup>3+</sup>                                  | 100  | Oxalate                       | 500  |  |
| Cu <sup>2+</sup>                                  | 100  | PO <sub>4</sub> <sup>3-</sup> | 500  |  |
| Fe <sup>2+</sup>                                  | 50   | SO <sub>4</sub> <sup>2-</sup> | 500  | NaCl 0.1 %                             |
| Fe <sup>3+</sup>                                  | 100  | Tartrate                      | 1000 | Na <sub>2</sub> SO <sub>4</sub> 0.05 % |
| K <sup>+</sup>                                    | 500  |                               |      |  |

<sup>1)</sup> tested with Na-dodecyl sulfate

<sup>2)</sup> tested with N-cetylpyridinium chloride

<sup>3)</sup> tested with polyvinylpyrrolidone

### 5. Reagents and auxiliaries

**The test strips and the test reagent are stable up to the date stated on the pack when stored closed at +2 to +8 °C.**

#### Package contents:

Tube containing 50 test strips

1 bar-code strip

#### Other reagents:

MQuant® Universal indicator strips pH 0 - 14, Cat. No. 109535

Sodium hydroxide solution 1 mol/l Titripur®, Cat. No. 109137

Hydrochloric acid 1 mol/l Titripur®, Cat. No. 109057

Magnesium nitrate hexahydrate for analysis EMSURE®, Cat. No. 105853

### 6. Preparation

- Extract solid sample materials by an appropriate method (applications see the website).
- The pH must be within the range 5 - 8.**  
Adjust, if necessary, with sodium hydroxide solution or hydrochloric acid.

### 7. Procedure

Observe the manual for the reflectometer.

The following applies to the Magnesium Test:

#### Measurement procedure A

Stored reaction time: 15 sec

Press the START button of the reflectometer and - **this is imperative - at the same time** immerse **both reaction zones** of the test strip in the pre-treated sample (15 - 30 °C) for 2 sec.

**Carefully** allow excess liquid to run off via the long edge of the strip onto an absorbent paper towel.

**Immediately** insert the strip all the way into the strip adapter with the reaction zones facing the display.

After the end of the reaction time, read off the result from the display in mg/l Mg. The result is automatically stored.

#### Notes on the measurement:

- If the measurement value exceeds the measuring range (HI is shown on the display), repeat the measurement using **fresh**, diluted samples until a value of less than 100 mg/l Mg is obtained.

Concerning the result of the analysis, the dilution must be taken into account:

Result of analysis = measurement value x dilution factor

- If the test strip is inserted into the adapter after the reaction time has expired, renewed depression of the START button may produce a false result.

### 8. Method control

To check test strips, measurement device, and handling (recommended before each measurement series):

Dissolve 10.55 g of magnesium nitrate hexahydrate in distilled water, make up to 1000 ml with distilled water, and mix. Mg content: 1000 mg/l.

Dilute this standard solution to 50 mg/l Mg and analyze as described in section 7.

Additional notes see under [www.qa-test-kits.com](http://www.qa-test-kits.com).

### 9. Notes

- Reclose the tube containing the test strips immediately after use.**
- At the end of each workday, cleanse the strip adapter thoroughly with distilled water or ethanol.

