

Supelco®

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Spectroquant® Calcium Test

Ca

1. Method

In alkaline solution calcium ions react with a phthalein derivative to form a violet dye that is determined photometrically. The 8-hydroxyquinoline contained in reagent Ca-1 prevents interferences by magnesium and iron.

2. Measuring range and number of determinations

Cell	Measuring range	Number of determinations
10 mm	0.20 - 4.00 mg/l Ca	100

3. Applications

Sample material:

Groundwater and surface water
Drinking water and mineral water
Boiler water and cooling water
Beer after appropriate sample pretreatment
This test is **not suited** for seawater.

4. Influence of foreign substances

This was checked individually in solutions containing 2.00 and 0 mg/l Ca. 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 %					
Al ³⁺	1	F ⁻	10	Ni ²⁺	1
Cr ³⁺	1	Fe ³⁺	1	PO ₄ ³⁻	100
Cr ₂ O ₇ ²⁻	50	Mg ²⁺	1	NaCl	0.5 %
Cu ²⁺	1	Mn ²⁺	10	NaNO ₃	0.5 %
				Na ₂ SO ₄	0.5 %

5. Reagents and auxiliaries

Please note the warnings on the packaging materials!

The test reagents are stable up to the date stated on the pack when stored closed at +15 to +25 °C.

Package contents:

1 bottle of reagent Ca-1
1 bottle of reagent Ca-2

Other reagents and accessories:

MQuant® Universal indicator strips pH 0 - 14, Cat. No. 109535
Sodium hydroxide solution 1 mol/l Titripur®, Cat. No. 109137
Sulfuric acid 0.5 mol/l Titripur®, Cat. No. 109072
Calcium standard solution Certipur®, 1000 mg/l Ca, Cat. No. 119778

Pipettes for pipetting volumes of 0.50 and 5.0 ml
Rectangular cells 10 mm (2 pcs), Cat. No. 114946

6. Preparation

- Analyze immediately after sampling.
- The pH must be within the range 3 - 9.**
Adjust, if necessary, with sodium hydroxide solution or sulfuric acid.
- Filter turbid samples.

7. Procedure

Pretreated sample (20 - 25 °C)	5.0 ml	Pipette into a test tube.
Reagent Ca-1	0.50 ml	Add with pipette and mix.
Reagent Ca-2	0.50 ml	Add with pipette and mix.
Leave to stand for 5 min (reaction time) , then fill the measurement sample into a 10-mm cell and measure in the photometer at 565 nm.		

Notes on the measurement:

- Certain photometers may require a blank** (preparation as per measurement sample, but with distilled water instead of sample).
- A separate calibration must be made for each batch.** It is recommended to perform a calibration with 5 - 10 measurement points over the entire measuring range. The calibration should be checked regularly using standard solutions.
- For photometric measurement the cells must be clean. Wipe, if necessary, with a clean dry cloth.
- Measurement of turbid solutions yields false-high readings.
- The color of the measurement solution remains stable for at least 60 min after the end of the reaction time stated above.

8. Analytical quality assurance

recommended before each measurement series
To check the photometric measurement system (test reagents, measurement device, handling) and the mode of working, a dilute calcium standard solution containing 2.00 mg/l Ca can be used.

Sample-dependent interferences (matrix effects) can be determined by means of standard addition.

Additional notes see under www.qa-test-kits.com.

For quality and batch certificates for Spectroquant® test kits see the website, where you will find all data in production control, that are determined in accordance with ISO 8466-1 and DIN 38402 A51.

9. Notes

- Reclose the reagent bottles immediately after use.
- Information on disposal can be obtained at www.disposal-test-kits.com.**

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