

Calcium

Test kit for performing titrimetric tests on calcium in surface water and sewage

Method:

Complexometric titration in strongly alkaline solution (pH > 12)

Contents:

sufficient for 100 tests at an average calcium content of 50 mg/L Ca²⁺

- 15 mL Ca-1
- 30 mL Ca-2
- 1 specimen jar with ringed markings
- 1 plastic syringe 5 mL
- 1 instructions for use

Hazard warning:

Ca-1 contains sodium hydroxide solution 5–20 %, Ca-2 contains 2-propanol 15–20 %.

H314 Causes severe skin burns and eye damage.

P260, P280, P301+330+331, P303+361+353, P304+340, P305+351+338 Do not breathe vapors. Wear protective gloves/eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. For further information ask for a safety data sheet.

Instructions for use:

1. Pour a **5 mL water sample** into the specimen jar using the plastic syringe.
2. Add **2 drops of Ca-1** and shake the jar to mix the contents. The water sample can get turbid.
3. Hold the dropping bottle **Ca-2** absolutely vertical and add the reagent drop by drop while smoothly shaking the specimen jar until the colour turns from **red to blue**. Count the number of drops.
1 drop corresponds to 5 mg/L calcium.
4. After use, rinse out the specimen jar thoroughly with distilled water.
5. Seal the dropping bottles immediately after use. Do not touch the dropping pipettes.

The method can be applied also for the analysis of sea water after dilution (1+4) and using 6 drops of Ca-1 (pH > 12).

Disposing of the samples:

The used analysis specimens can be flushed down the drain with tap water and channelled off to the local sewage treatment works.

Note:

The test kits *VISOCOLOR® ECO* Calcium and *VISOCOLOR® ECO* Total Hardness (REF 931 029) can be used also for the determination of magnesium:

[total hardness in mmol/L – calcium hardness in mmol/L] x 24,3 = mg/L Mg²⁺

Conversion table:

drops	mg/L Ca	mg/L CaCO ₃	°d	°f	mmol/L Ca
1	5	13	0.7	1.3	0.13
2	10	25	1.4	2.5	0.25
3	15	38	2.1	3.8	0.38
4	20	50	2.8	5.0	0.50
5	25	62	3.5	6.2	0.62
6	30	75	4.2	7.5	0.75
7	35	87	4.9	8.7	0.87
8	40	100	5.6	10.0	1.00
9	45	112	6.3	11.2	1.12
10	50	125	7.0	12.5	1.25

Storage:

Store the test kit in a cool (< 25 °C) and dry place.