

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 10 %. **Causes severe burns.** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection. For further information, please 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.