

**RAKIRO BIOTECH SYSTEMS PVT LTD**

R-466, TTC Industrial Area, MIDC

Rabale, Navi Mumbai - 400701

Tel No. +91-022-47804040

Email :- sales@rakiro.net

Doc No : PDAE212**Date :** 01-02-2024**Type :** AQUASOL**Product Code:** AE212**PRODUCT DATA SHEET****1 INFORMATION**

CODE: AE212

PARAMETER: CALCIUM HARDNESS

RANGE: 25 - 500 mg/l as CaCO₃**2 METHOD**

When EDTA is added to water containing both calcium and magnesium, it combines first with the calcium. Calcium can be determined directly, with EDTA, when the pH is made sufficiently high that the magnesium is largely precipitated as the hydroxide and an indicator is used that combines with calcium.

3 APPLICATION

Drinking Water, Mineral Water, Well Water, Swimming Pool Water, Surface and Ground Water, Aquaculture, Boiler Water, Process Water, Industrial Wastewater, Effluent Water, Cooling System Water, Chiller Water etc

4 INTERFERENCE

Under conditions of this test, the following concentrations of ions cause no interference with the calcium determination: Cu²⁺ -2 mg/l; Fe²⁺ - 20 mg/l; Fe³⁺ - 20 mg/l; Mn²⁺ -10 mg/l; Zn²⁺ -5 mg/l; Pb²⁺ -5 mg/l; Al³⁺ - 5 mg/l and Sn⁴⁺ - 5 mg/l. Orthophosphate precipitates calcium at the pH of the test. Strontium and barium give a positive interference and alkalinity in excess of 300 mg/l may cause an indistinct end point in hard waters.

5 METHOD CONTROL

To Check test reagents,

Prepare 1000 ppm standard solution- Weigh 1 gm anhydrous calcium carbonate powder into volumetric flask, then add small quantity of 1:1 HCL until all CaCO₃ has dissolved. Add 200ml distilled water and boil for a few minutes to expel CO₂. Cool, add few drops of methyl red indicator, and adjust to the orange colour by adding dilute NH₄OH or 1:1 HCL as required. Then dilute it to 1 liter with distilled water. Dilute this standard solution with distilled water to 500 mg/l CaCO₃ and analyse as described in procedure card.

6 REAGENTS AND ACCESSORIES

Reagents: CH1(1Nos), CH2(1Nos), TH5(2Nos)

Accessories: 25ML Plastic Test Jar(1Nos), Plastic Spoon(1Nos), Procedure Label(1Nos)

7 STORAGE

The test reagents are stable up to the date stated on the pack when stored closed at ambient temperature

8 REFERENCE

APHA Standard Methods, 22nd ed., Method 2340-C – Standard Methods for Chemical Analysis of Water and Waste water. Diehl, H., C.A. Goetz & C.C. HACH. 1950.

9 DIRECTION FOR USE

1. Take 10 ml of water sample to be tested in the test jar.
2. Add one spoonful (provided herewith) of CH₂.
3. Mix well to dissolve.
4. Then add 10 drops of CH₁.
5. Now drop wise* add TH₅ counting the number of drops while mixing until the colour changes from red to violet.

Calculations:

Calcium Hardness as ppm CaCO₃ = 25 X (No. of drops of TH₅)