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**Doc No :** PDAE204**Date :** 01-02-2024**Type :** AQUASOL**Product Code:** AE204**PRODUCT DATA SHEET****1 INFORMATION**

CODE: AE204

PARAMETER: ALKALINITY

RANGE: 10-200, 100-2000 mg/l as CaCO<sub>3</sub>**2 METHOD**

Total or "M" alkalinity is determined using a acid titrant and a bromocresol green/methyl red indicator. The end point of the titration occurs at pH 4.5. Results are expressed in ppm (mg/L) calcium carbonate (CaCO<sub>3</sub>).

**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**

The determination is interfered with when the water sample contains - in addition to carbonic acid and its salts - compounds that exert a buffering effect at pH 8.2 or 4.3 (e.g. humic acid salts, phosphates, polyphosphates, citrates, tartrates), or else when the water sample exhibits an intrinsic coloration or turbidity that makes it difficult to clearly discern any change in color.

**5 METHOD CONTROL**

To Check test reagents,

Prepare 1000 mg/l Alkalinity standard- Dissolve 1.4 gm NaHCO<sub>3</sub>(dried at 110°C) in distilled water & dilute to 1000 ml.

Dilute this standard solution with distilled water to 50 mg/l CaCO<sub>3</sub>, and 250 mg/l CaCO<sub>3</sub> and analyse as described in procedure card.

**6 REAGENTS AND ACCESSORIES**

Reagents: AK1(1Nos), AK2(1Nos), AK3(1Nos), AK4(1Nos)

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 2320-B– Standard Methods for Chemical Analysis of Water and Waste water. LARSON, T.E. & L.M. HENLEY 1955. Determination of low alkalinity or acidity in water. Anal Chem. 27:851.

**9 DIRECTION FOR USE**

1. Take 10 ml of water sample to be tested in the test jar.
2. Add 2 drops of AK 1. Mix well to dissolve.
3. If a pink colour appears it indicates presence of P Alkalinity.
4. Then drop wise\* add AK 2 # counting the number of drops while mixing, until the Pink colour disappears (N drops).
5. To this solution add one spoonful (provided herewith) of AK 4. The sample will turn green.
6. Now drop wise \* add AK 2 counting the number of drops while mixing until the colour changes from green to reddish violet. (N 1 drops)

# If the expected Alkalinity is more than 200 ppm, then use AK 3 instead of AK 2.

Calculations:

P Alkalinity ppm as CaCO<sub>3</sub> = 10 X (Number of Drops of AK 2)

= 100 X (Number of Drops of AK 3)

Total Alkanity ppm as CaCO<sub>3</sub> = 10 x (N+N 1 drops of AK2)

= 100 x (N + N 1 drops of AK 3)