

## ALKALINITY (ALKAPHOT)

**Photometer Method**

**AUTOMATIC  
WAVELENGTH  
SELECTION**

**TEST FOR TOTAL ALKALINITY IN**

**NATURAL AND TREATED WATERS**

**0 – 500 mg/l CaCO<sub>3</sub>**

Natural and treated waters may contain a variety of dissolved alkaline substances such as carbonates, bicarbonates, hydroxides and, to a lesser extent, borates, phosphates and silicates. In water at neutral pH the alkalinity derives mainly from the presence of bicarbonates.

Total alkalinity is an important test in determining the aggressiveness or scale forming tendency of the water. If the total alkalinity is low the water may be aggressive and cause corrosion to pipe work and structures; if the total alkalinity is high the water may more readily promote scale formation. Alkalinity control is therefore an important part of many water treatment programmes.

The Palintest Alkaphot test uses a colorimetric method and covers the total alkalinity range 0 - 500 mg/l CaCO<sub>3</sub>. The test is particularly suitable for checking natural and drinking waters, swimming pool water, boiler water, etc.

### **Method**

The Palintest Alkaphot test is based on a unique colorimetric method and uses a single tablet reagent. The test is simply carried out by adding a tablet to a sample of the water. Under the conditions of the test, a distinctive range of colours from yellow, through green, to blue is produced over the alkalinity range 0 - 500 mg/l CaCO<sub>3</sub>. The colour produced in the test is indicative of the alkalinity of the water and is measured using a Palintest Photometer.

### **Reagents and Equipment**

Palintest Alkaphot Tablets

Palintest Automatic Wavelength Selection Photometer

Round Test Tubes, 10 ml glass (PT 595)

## Test Procedure

- 1 Fill test tube with sample to the 10 ml mark.
- 2 Add one Alkaphot tablet, crush and mix until all of the particles have dissolved.
- 3 Stand for one minute then remix.
- 4 Select Phot 2 on Photometer.
- 5 Take Photometer reading in usual manner (see Photometer instructions).
- 6 The result is displayed as mg/l CaCO<sub>3</sub>.

**Note:** To convert Total Alkalinity as CaCO<sub>3</sub> to Total Alkalinity as HCO<sub>3</sub><sup>-</sup> multiply result by 1.22.

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