Phosphate High Range (PO_4^{3}-)

Method - Colorimetric

After adding the sample into the measurement cell, some reagents are added in order to adjust the solution to the desired conditions (pH, valence's elements, etc.). Then, a blank is done to correct any temperature or turbidity disturbance. Subsequently, a last reagent is added, and it reacts with solution developing a color, which is measured using a correct wavelength. Thanks to the photometer used, the result achieves a great accuracy.

Principle of measurement

The method relies upon the direct reaction of phosphate ion to react with the Vanadomolybdate reagent to form a yellow colored complex.

Advantages of the method

The method appears to be specific for phosphate and is especially useful when measuring the higher concentrations of phosphate. Although the complex is yellow in color the autoblanking before the addition of the single reagent compensates for any background yellow color present in the sample. The other obvious advantage is that only a single reagent is used and the quantity of reagent added is very small (1 ml).

Specifications

Range: From 0 to 2ppm / 5ppm / 10ppm / 20ppm / 60ppm. Adjustable higher concentrations with internal dilution.
Accuracy: ±2%
Repeatability: ±2%
Resolution: 0,01 ppm
Analysis time: around 10 minutes
Calibration: two point
LED Wavelength: 435 nm

Reagents consumption

• Reagent 1: 0.6 ml / analysis — 0.5 L / month
Monthly consumption calculated assuming 1 analysis per hour.

Applications

• Waste Water Treatment Plants (WWTP)
• Fish farming
• Food and Beverage
And more...

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