Aluminum (Al)

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 is based upon that used by the South West Water Authority. It uses the hydroxylamine hydrochloride to reduce iron to the ferrous state and complexes it with 1,10-phenantroline. The aluminum is then complexed with the pyrocatechol violet.

Advantages of the method

The method is specific for the measurement of aluminum once any iron has been complexed by the addition of the 1,10-phenanthroline-hydroxyammonium chloride.

Interferences

Fluoride, Phosphate, Detergents, Chromium

Specifications

Range: From 0 to 200 ppb / 500 ppb. Adjustable higher concentrations with internal dilution.
Resolution: ±2%
Repeatability: ±2%
Analysis time: around 15 minutes
Calibration: two point
LED Wavelength: 588 nm

Applications

• Potable Water Treatment Plants (PWTP)
And more...

Reagents consumption

• Reagent 1: 0.5 ml / analysis — less than 0.5L / month
• Reagent 2: 2.5 ml / analysis — less than 2 L / month
Monthly consumption calculated assuming 1 analysis per hour.

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Aluminum (Al)

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