Hardness Low Range

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 calcium and magnesium form a complex with the cresolphthalein complexone, which on adding the buffer, which brings the pH to about 9.6, a characteristic purple complex is formed. If only the calcium is to be measured the magnesium may be complexed.

Advantages of the method

The reagents are exceedingly stable, especially the amine buffer. The method is also extremely sensitive permitting ppb ranges to be measured.

Specifications

Range: From 0 to / 500 ppb / 1000 ppb / 2 ppm. Adjustable higher concentrations with internal dilution.
Accuracy: ±2%
Repeatability: ±2%
Resolution: 0.1 ppb
Low Limit Detection: 2ppb
Analysis time: around 15 minutes
Calibration: two point
LED Wavelength: 570 nm

Applications

• Chlor-alkali industry
And more...

Reagents consumption

• Reagent 1: 2.0 ml / analysis — 1.5L / month
• Reagent 2: 0.4 ml / analysis — 0.5L / month
Monthly consumption calculated assuming 1 analysis per hour.

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www.instran.net

Instru office
c/ Penedés, 46
08820 El Prat de Llobregat
Barcelona • Tel.+34 934 787 161
instran@instran.net
c.salinas@instran.net

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