Boron High Range (B)

Method - Colorimetric

After adding the reagents to establish the desirable conditions to the sample, the volume of titrant is charged. Thanks to the module syringe driver minimum dose (0.015 ml), the accuracy achieved is really high, with 3 drops differences as much between 2 consecutives analysis of the same standard. Moreover, the software has been improved to speed up the initial dose, whereas when the inflection point is close, the titrant is added slowly, to achieve precision.

Principle of measurement

Boric acid is a very weak acid and direct titration with NaOH is not possible. However, addition of Mannitol-D makes a significant end point determination, based on the change of pH on the sample.

Advantages of the method

The method is specific for the measurement of boron. The 6000 steps motor that controls the syringe movement allows to dose really small drops, getting accuracy and repeatable results. Moreover, the reagents are simple to be prepared and cheap. Changing the concentrations of reagents, the range of measurement is easily modifiable.

Specifications

Range: From 0 to 50 ppm / 100 ppm / 250 ppm / 500 ppm. Adjustable higher concentrations adjusting reagents concentrations.
Accuracy: ±2% Full Scale
Repeatability: ±2%
Resolution: 0,01 ppm or 0,1 ppm
Analysis time: around 15 minutes
Calibration: one point
ISE: pH electrode

Reagents consumption

- Reagent 1: 4 ml / analysis — 3.0L / month
- Reagent 2: 4.5 ml / analysis — 3.5L / month

Monthly consumption calculated assuming 1 analysis per hour.

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