Nitrate (NO_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 nitrate is reduced to nitrite in a basic medium. After that, nitrite is measured thanks to the diazatization reaction, forming a brightly colored diazo dye. The nitrite color development is proportional to the amount of nitrate. Due to this process, nitrite must be absent to use this method.

Advantages of the method

The reaction is extremely sensitive and a fairly high absorbance is obtained.

Interferences

Low concentrations of nitrite are already a high interference in the method.

Specifications

Range: From 0 to 2ppm / 5ppm / 10ppm / 20ppm. Adjustable higher concentrations with internal dilution.
Resolution: 2%
Repeatability: 2%
Analysis time: around 20 minutes
Calibration: two point
LED Wavelength: 540 nm

Reagents consumption

- Reagent 1: 1.8 ml / analysis — 1.5L / month
- Reagent 2: 8.1 ml / analysis — 6.0L / month
- Reagent 3: 2.7 ml / analysis — 2.0L / 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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Nitrate (NO_3-)

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