Manganese (Mn)

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, wich is measured using a correct wavelength. Thanks to the photometer used, the result archieves a great accuracy.

Principle of measurement

The method is teh Standard method for the measurement manganese in water ans is based upon ISO standard. The method involves the formation of the formaldoxime reagent, wich reacts with manganese to form an orange-red compelx. The manganese- formaldoxime complex is stable over the pH range of 3.5 to 10.5

Advantages of the method

The method is specific for the measurement os manganese as the potential interference from the presence of iron, wich forms a violet complex with fomaldoxime, is removed by the addition of EDTA and hydroxylamine hydrochloride, wich reduces the ferric iron to the ferrous state. The method actually is capable of measuring up to about 5 ppm of manganese.

Interferences

Iron (II), Cobalt (<1ppm), PO4 (>6ppm), Total hardness (<300ppm)

Specifications

Range: From 0 to 200 ppb /500ppb/1000ppb/ 5ppm.
Adjustable higher concentration with internal dilution
Accuracy: ±2%
Repeatability: ±2%
Analysis time: around 15 minutes
Calibration: two points
LED Wavelength: 450 nm

Reagents consumption

- Reagent 1: 0.5 ml / analysis — 0.5 L / month
- Reagent 2: 0.5 ml / analysis — 0.5 L / month
- Reagent 3 (Interference eliminator): 0.5 ml / analysis — 0.5 L / month

Monthly consumption calculated assuming 1 analysis per hour.

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Manganese (Mn)

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