

Overview

The test is suitable for the photometric determination of easily liberated cyanide.

The test is suitable for surface water, ground- and drinking water and production water.

- Measuring range: 0.01 – 0.40 mg/L CN⁻ (method 0251)
- Number of tests: 20
- Wavelengths for photometric determination: 585 / 605 nm
- Shelf life: 24 months
- Reaction time: 90 minutes
- Storage temperature: 15 – 25 °C
- Storage conditions: upright

Method

Detection with isonicotinic acid and 1,3-dimethylbarbituric acid after reacting to a blue polymethine dye in the presence of a chlorinating agent.

Interferences

The following contaminants do not interfere with the test up to the indicated concentrations. The cumulative effect of different interfering ions has not been tested.

Data in mg/L:

- S₂O₄²⁻: 500
- NO₂⁻, S²⁻, S₂O₃²⁻: 100
- S₂O₅²⁻: 25
- SO₃²⁻, SCN⁻: 5
- HCHO: 2
- Cu²⁺: 1

Please use the Expansion Set Cyanide 04 (REF 918925) to eliminate interference from sulphur compounds.

The method can be applied for analyzing seawater.

Reagents and accessories

Contents of reagents set:

- 20 decomposition cells
- 20 indicator tubes with reagent R2
- 1 NANOFIX R3
- 20 threaded couplings
- 20 venting needles
- 20 adhesive labels Ø 9 mm

Required devices:

- MACHEREY-NAGEL photometer
- MACHEREY-NAGEL heating block
- Digital piston pipette 1 – 5 mL (REF 916909) with pipette tips (REF 916916)
- Tweezers for sampling NANOFIX capsules (REF 916114)

Sampling and preparation

See DIN EN ISO 5667-3-A21.

Quality control

The measurement of a blank value and a standard is recommended before every measuring series as quality control measure.

LOT-specific certificates are available at www.mn-net.com.

Procedure

1. Open cuvette 2 and immediately close it with the threaded coupling
2. Open test tube 1. Pipette 5 mL of sample into test tube
3. Visual control. The solution must have pH 4 and thus turn yellow
4. Screw the indicator cuvette 2 with the digestion cuvette 1 using the threaded coupling
5. Pierce a venting needle through the rubber septum
6. Insert cuvette combination into the heating block (indicator solution on top). Heat for 1 h at 100 °C
7. Remove cuvette combination from the heating block and immediately pull out the venting needle
8. Seal the rubber septum with a round label
9. Allow the cuvette combination to cool down for exactly 5 min
10. Loosen the indicator cuvette 2 from the cuvette combination. Press 1 NANOFIX R3 into the thread of the cuvette with the opening facing downwards
11. Seal indicator cuvette 2
12. Shake
13. Wait 30 min
14. Clean outside of test tube. Measure

Disposal

Information regarding disposal can be found in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.

Notes

Test a sample of distilled water (REF 918932) to generate a blank value for the reagent.

When using other photometers, make sure measurements are possible in test tubes (16 mm OD) and calibrate the method.

Information regarding safety can be found on the box' label and in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.

04/2024

