NANOCOLOR® Formaldehyde 10 REF: 985046

Overview

The test is suitable for the photometric determination of Formaldehyde.

The test is suitable for surface water, groundwater, drinking water, and engineered wood.

- Measuring range:

0.20–10.0 mg/L HCHO (method 0461)

0.20–10.0 ppm HCHO (method 0462 / 0463)

50-mm semi-micro cuvette: 0.02–1.00 mg/L HCHO (method 1461)

- Number of tests: 20
- Wavelength for photometric determination: 412 / 436 nm
- Shelf life: 24 months
- Reaction time: 10 minutes
- Storage temperature: 15–25 °C
- Storage conditions: upright

Method

Formaldehyde reacts in aqueous solution with ammonium and acetylacetone to form a yellow dye. Analogous to DIN EN ISO 12460-5 for the determination of formaldehyde in chipboard.

Interferences

The foreign materials shown here do not interfere with the test up to the indicated concentrations (in mg/L). The cumulative effect of different interfering ions has not been tested.

Data in mg/L:

- Pb^{2+}, Fe^{2+}, Fe^{3+}, NO_3^-, S^{2-}: 10
- Zn^{2+}: 500
- Ni^{2+}: 200
- Acetaldehyde: 100
- Cu^{2+}: 20
- Cr(VI): 5
- Cr^{3+}: 2
- Fe^{3+}: 1

The method can be applied for analyzing seawater.

Turbidities cause higher measurement values.

Reagents and accessories

Contents of reagents set:

- 20 test tubes R0
- 2 reagent R1

Required devices:

- MACHEREY-NAGEL photometer
- MACHEREY-NAGEL heating block
- Digital piston pipette 1–5 mL (REF 916909) with pipette tips (REF 916916)
- Digital piston pipette 200–1000 µL (REF 91671) with pipette tips (REF 91667)
- Additionally needed: Special filter 412 nm

Sampling and preparation

See DIN EN ISO 5667-3-A 21.

Adjust to pH 3–10 prior to analysis.

Quality control

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

Quality data:

The following data were determined during production according to ISO 8466-1 and DIN 38402-A51:

- Number of LOTs: 8
- Standard deviation of the method: ± 0.04 mg/L HCHO
- Coefficient of variation of the process: ± 0.98 %
- Confidence interval: ± 0.1 mg/L HCHO
- Specified data for procedure:
- Sensitivity (absorbance of 0.010 A corresponds to): ± 0.03 mg/L HCHO
- Accuracy of a measurement value: ± 0.3 mg/L HCHO

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

Procedure

1. Open test tube
2. Pipette 2 mL of sample into test tube
3. Add 1 mL R2
4. Seal test tube and shake vigorously
5. Heat for 10 min at 60°C
6. Take the tube from the heating block
7. Cool to room temperature
8. Wait 60 min
9. Swirl
10. Clean outside of test tube
11. Measure

Implementation in a 50-mm semi-micro cuvette

Measurement against zero value (distilled water instead of sample) necessary

1. Open test tube
2. Wait 5 min
3. Add 1 mL R2
4. Seal test tube and shake vigorously
5. Heat for 10 min at 60°C
6. Take the tube from the heating block
7. Cool to room temperature
8. Wait 60 min
9. Swirl
10. Transfer the contents of the test tube into a 50-mm semi-micro cuvette
11. Clean outside of test tube
12. Measure [method 1461]

Notes

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

Use the correction value when measuring cloudy or colored samples (see photometer handbook).

For the determination of formaldehyde in chipboard, please request special instructions.

To increase the accuracy, it is recommended to perform the measurement of a reagent blank value.

Smaller concentrations can be determined by using semi-micro cuvettes 50 mm (REF 91950).

10/2020

CTL SCIENTIFIC SUPPLY CORP. 1016-3 Grand Boulevard, Deer Park, NY 11729
Tel: **631-242-4249**
Web: **www.ctlscientific.com**

Manufacturer: **Macherey-Nagel GMbH & CO. KG** Rev: 2025-03