

REF 985 046

en

Test 0-46 10.16

**NANOCOLOR® Formaldehyde 10****Method:**

Formaldehyde reacts with ammonium ions and acetylacetone to a yellow dye.

	Tube test	Semi-micro cuvette 50 mm
Range:	<b>0.20–10.00 mg/L HCHO</b>	<b>0.02–1.00 mg/L HCHO</b>
Wavelength (HW = 5–12 nm):	<b>412 nm</b> (special filter!)	
Reaction time:	<b>10 min</b> at 60 °C	

**Contents of reagent set:**

- 20 test tubes Formaldehyde 10
- 2 test tubes with 11 mL Formaldehyde 10 R2
- 1 test tube with blanc value "NULL"

**Hazard warning:**

This test does not contain any harmful substances which must be specially labelled as hazardous.

**Preliminary tests:**

If the order of magnitude of the concentration in a sample is not known, a preliminary test with QUANTOFIX® Formaldehyde (10–200 mg/L HCHO, REF 913 28) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly.

**Interferences:**

Strong oxidizing agents interfere.

The following ions will not interfere: < 1000 mg/L Al<sup>3+</sup>, Ca<sup>2+</sup>, Mg<sup>2+</sup>, Mn<sup>2+</sup>, Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, PO<sub>4</sub><sup>3-</sup>, SO<sub>4</sub><sup>2-</sup>, methanol, ethanol, acetone; < 500 mg/L Zn<sup>2+</sup>; < 200 mg/L Ni<sup>2+</sup>; < 100 mg/L acetaldehyde; < 20 mg/L Cu<sup>2+</sup>; < 5 mg/L Cr(VI); < 2 mg/L Cr(III); < 1 mg/L Fe<sup>3+</sup>.

The method can be applied also for the analysis of sea water.

**Note:**  
For the determination of formaldehyde in chip boards please contact MACHEREY-NAGEL for special working instructions.

**Procedure:**

Requisite accessories: *NANOCOLOR®* heating block, piston pipette with tips

Switch on heating block, adjust to 60 °C and start programme.

Open test tube, add

**2.0 mL** test sample (*the pH value of the sample must be between pH 3 and 10*) and

**1.0 mL** R2, close and mix.

Place test tube in the **preheated** heating block for **exactly 10 min**.

Afterwards remove test tube from heating block. After 60 min shake test tube two times, clean outside of test tube and measure.

Lower formaldehyde concentrations (0.02–1.00 mg/L HCHO) can be determined by using semi-micro cuvettes 50 mm (REF 919 50):

Test sample	Blank value
Switch on heating block, adjust to 60 °C and start programme. Open test tube, add <b>2.0 mL</b> test sample ( <i>the pH value of the sample must be between pH 3 and 10</i> ) and <b>1.0 mL</b> R2, close and mix. Place test tube in the <b>preheated</b> heating block for <b>exactly 10 min</b> . Afterwards remove test tube from heating block.	Switch on heating block, adjust to 60 °C and start programme. Open test tube, add <b>2.0 mL</b> distilled water and  <b>1.0 mL</b> R2, close and mix. Place test tube in the <b>preheated</b> heating block for <b>exactly 10 min</b> . Afterwards remove test tube from heating block.

After 60 min pour the contents of the test tubes into semi-micro cuvettes 50 mm and measure [method 1461].

**Measurement:**

For MACHEREY-NAGEL photometers see manual, test 0-46.

**Measurement when samples are colored or turbid:**

For all *NANOCOLOR®* photometers see manual, use key for correction value.

**Photometers of other manufacturers:**

For other photometers check whether measurement of round glass tubes is possible. Verify factor for each type of instrument by measuring standard solutions.