

REF 985 024

en

Test 0-24 10.13

NANOCOLOR® Chromate 5

Method:

Photometric determination with diphenylcarbazide

Range:	test tube 0.1–4.0 mg/L CrO ₄ ²⁻	50 mm semi-micro cuvette 0.01–1.00 mg/L CrO ₄ ²⁻
Factor:	002.1	00.56
Range:	0.05–2.00 mg/L Cr(VI)	0.005–0.500 mg/L Cr(VI)
Factor:	00.94	0.251
Wavelength (HW = 5–12 nm):	540 nm	
Reaction time:	5 min (300 s)	
Reaction temperature:	20–25 °C	

Contents of reagent set:

20 test tubes Chromate 5

1 test tube with 5 mL Chromate 5 R2

The contents of the 20 test tubes Chromate 5 can be rose-colored. But there is no influence for the determination.

Hazard warning:

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

Interferences:

Chromium(III) ions are not determined. The amount of total chromium can be determined with NANOCOLOR® NanOx Metal (REF 918 978) or with NANOCOLOR® total Chromium (REF 918 253).

The following ions will not interfere: Al, Ba, Bi, Ca, Mn(II), Ni, Pb, Sn, Zn.

Copper > 0.2 mg/L and iron > 5 mg/L interfere and test results will be lower than actual concentrations. Furthermore, colorations, turbidities, higher amounts of organic substances, oxidizing and reducing agents interfere.

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

Procedure:

Requisite accessories: piston pipette with tips

Open test tube, add

4.0 mL test sample (*the pH value of the sample must be between pH 1 and 7*) and 200 µL (= 0.2 mL) R2, close and mix.

Clean outside of test tube and measure after 5 min.

Lower chromate concentrations (0.005–0.500 mg/L Cr(VI)) can be determined by using 50 mm semi-micro cuvettes (REF 919 50):

Sample	Blank value
Open test tube, add 4.0 mL test sample (<i>the pH value of the sample must be between pH 1 and 7</i>) and 200 µL (= 0.2 mL) R2, close and mix.	Open test tube, add 4.0 mL distilled water and 200 µL (= 0.2 mL) R2, close and mix.

Pour the contents of test tubes into 50 mm semi-micro cuvettes and measure after 5 min [method 1241/2].

Measurement:

For NANOCOLOR® photometers and PF-12 see manual, test 0-24.

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.

Analytical quality control:

NANOCONTROL Chromate (REF 925 24) or NANOCONTROL Multistandard Metals 1 (REF 925 015) for total chromium

Note:

For the determination of chromate in galvanic bathes or water-soluble chromium(VI) in cement contact MACHEREY-NAGEL for special working instructions.