



Method: Acidic oxidation of chromium(III) to chromium(VI) and subsequent determination with diphenylcarbazide

Range: 0.1–4.0 mg/L Cr
0.05–2.0 mg/L Cr

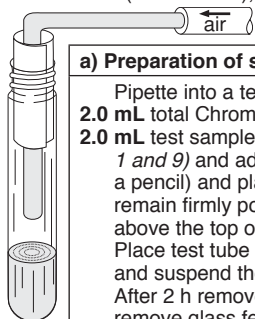
Method
0243
0244

NANOCOLOR® reagent sets: total Chromium (REF 918 253) and Chromate 5 (REF 985 024)
or
NanOx Metal (REF 918 978) and Chromate 5 (REF 985 024)

Wavelength: 540 nm

Interferences: The following ions will not interfere:
Ca, Mn(II), Ni, Zn, CN⁻; ≤ 100 mg/L Cu, Fe, Pb; ≤ 10 mg/L NO₂⁻
The method can also be applied for the analysis of sea water.

Procedure A: Requisite accessories:
with total Chromium (REF 918 253) piston pipette with tips, electric air pump with glass feed tube (REF 916 55), test tubes (REF 916 80), NANOCOLOR® heating block



a) Preparation of sample **2 h / 148 °C**

Pipette into a test tube
2.0 mL total Chromium R1, add
2.0 mL test sample solution (*the pH value of the sample must be between pH 1 and 9*) and add one glass spiral, mix. Roll a strip of paper (e. g. around a pencil) and place inside test tube (see sketch). The paper should remain firmly positioned against the side of the test tube and protrude just above the top of the test tube.
Place test tube in heating block and press „START“. Switch on air pump and suspend the glass feed tube in the test tube as shown in the figure.
After 2 h remove test tube with the residue (first switch off air pump and remove glass feed tube from test tube). Allow test tube to cool down.
Remove the strip of rolled paper from the test tube.

b) Oxidation **30 min / 100 °C**

Carefully add
4.0 mL total Chromium R2, mix. Add
1 level spoon total Chromium R3,
close tube with screw cap and mix.
Place test tube in heating block. Press „START“.

c) Determination of chromium

Open chromate test tube, add
4.0 mL of preoxidized test sample, close, mix (Chromate R2 is not required).
Clean outside of test tube and measure after 5 min.

Measurement: Insert test tube, select method **0243** and perform measurement.