

REF 985 009

en

Test 0-09 01.15

NANOCOLOR® Lead 5

Method:

Photometric determination with 4-(2-pyridylazo)-resorcinol (PAR)

Range:	0.10–5.00 mg/L Pb ²⁺
Factor:	04.65
Wavelength (HW = 5–12 nm):	520 nm
Reaction time:	3 min (180 s)
Reaction temperature:	20–25 °C

Contents of reagent set:

- 20 test tubes Lead 5
- 1 test tube with 5 mL Lead 5 R2
- 1 tube NANOFIX Lead 5 R3
- 1 test tube with blank value "NULL"

Hazard warning:

Test tubes contain potassium cyanide 1–7%, reagent R2 contains hydroxylammonium chloride 5–10%.
H301, H311, H317, H331, H351 Toxic if swallowed. Toxic in contact with skin. May cause an allergic skin reaction. Toxic if inhaled. Suspected of causing cancer.
P201, P202, P261, P272, P280, P301+310, P302+352, P304+340, P308+313, P311, P330, P333+313, P361+364, P405, P501 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor/... IF ON SKIN: Wash with plenty of water/... IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER/doctor/... Rinse mouth. If skin irritation or rash occurs: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse. Store locked up. Dispose of contents/container to regulated waste treatment. For further details ask for a safety data sheet.

Interferences:

The following ions will not interfere with procedure B:

- < 1000 mg/L acetate, phosphate
- < 100 mg/L cadmium, chloride, ammonium, copper, nickel, nitrite, thiocyanate, sulfate, zinc, peroxide
- < 50 mg/L aluminium, chromium(VI), nitrate
- < 1 mg/L iron(II), iron(III), chromium(III)
- < 0.1 mg/L EDTA

Only Pb²⁺ ions are determined. The total lead can be determined with cracking set (REF 918 08).

The method cannot be applied for the analysis of sea water.

Procedure:

Requisite accessories: piston pipette with tips

Procedure A: if other ions (e.g. calcium) do not interfere

Value A

Open test tube, add

0.2 mL R2, close and mix. Add

4.0 mL test sample (*the pH value of the sample must be between pH 3 and 6*), close and mix.

Clean outside of test tube and measure after 3 min.

Adjust photometer to zero by using blank value "NULL".

Note:

If range is exceeded in procedure A the sample must be diluted into the range.

Procedure B: by interferences of other ions (e.g. calcium)

Value B

Place test tube with Value A in photometer and adjust to zero.

Open test tube with Value A, add

1 NANOFIX R3, close and mix.

Clean outside of test tube and measure after 3 min.

Measurement:

For NANOCOLOR® photometers and PF-12 see manual, test 0-09.

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 Multistandard Metals 2 (REF 925 016)