

REF 985 097

en

Test 0-97 09.16  
**NANOCOLOR® Tin 3**

**Method:**

Photometric determination of dissolved tin(II) and tin(IV) with 9-phenyl-3-fluorone

Range:	<b>0.10–3.00 mg/L Sn</b>
Wavelength (HW = 5–12 nm):	<b>520 nm</b>
Reaction time:	<b>20 min (1200 s)</b>
Reaction temperature:	<b>20–25 °C</b>

**Contents of reagent set:**

- 18 test tubes Tin 3
- 1 bottle with 1 g Tin 3 R2
- 1 test tube with 10 mL Tin 3 R3
- 2 test tubes with 10 mL Tin 3 R4
- 1 test tube with blanc value "NULL"
- 1 measuring spoon 70 mm

**Hazard warning:**

Test tubes contain sulfuric acid 30–51 %, reagent R2 contains sodium peroxodisulfate 20–100 %, reagent R3 contains acetic acid 25–50 %, reagent R4 contains ethanol 90–98 %.

H314, H317, H334 Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P260, P261, P272, P280, P301+330+331, P302+352, P303+361+353, P304+340, P305+351+338, P333+313, P342+311, P363, P501 Do not breathe vapors. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/eye protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water/... IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a POISON CENTER/doctor/... Wash contaminated clothing before reuse. Dispose of contents/container to regulated waste treatment. For further information ask for a safety data sheet.

**Preliminary tests:**

If the order of magnitude of the concentration in a sample is not known, a preliminary test with QUANTOFIX® Tin (10–500 mg/L Sn, REF 913 09) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly.

**Interferences:**

Basic and buffered solutions have to be adjusted to pH < 5 with sulfuric acid.

The following ions will not interfere:

- ≤ 1000 mg/L NH<sub>4</sub><sup>+</sup>, SO<sub>4</sub><sup>2-</sup>
- ≤ 250 mg/L Cl<sup>-</sup>
- ≤ 100 mg/L Al<sup>3+</sup>, NO<sub>3</sub><sup>-</sup>
- ≤ 50 mg/L Cr<sup>3+</sup>, Ni<sup>2+</sup>, Mn<sup>2+</sup>, PO<sub>4</sub><sup>3-</sup>
- ≤ 20 mg/L NO<sub>2</sub><sup>-</sup>
- ≤ 10 mg/L Ca<sup>2+</sup>, Mg<sup>2+</sup>, Zn<sup>2+</sup>, As<sup>3+</sup>
- ≤ 5 mg/L Pb<sup>2+</sup>, Fe<sup>3+</sup>, Co<sup>2+</sup>, Cu<sup>2+</sup>, Cd<sup>2+</sup>
- ≤ 1 mg/L Cr(VI), Mo(VI)

The method can be applied also for the analysis of sea water after dilution (1+9).

**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*),  
**1 level measuring spoonful** of R2 and  
**500 µL** (= 0.5 mL) R3, close and shake well. Add  
**1.0 mL** R4, close and mix.  
 Clean outside of test tube and measure after 20 min.

**Measurement:**

For NANOCOLOR® photometers see manual, test 0-97.

**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.