

REF 985 089

en

Test 0-89

09.16

**NANOCOLOR® Sulfite 10****Method:**

Photometric determination with a derivative of thiodibenzoic acid

<b>Tube test</b>			
Range (mg/L SO <sub>3</sub> <sup>2-</sup> ):	<b>0.2–10.0</b>	<b>0.2–10.0</b>	<b>0.2–10.0</b>
<b>50 mm semi-micro cuvette</b>			
Range (mg/L SO <sub>3</sub> <sup>2-</sup> ):	<b>0.05–2.40</b>	<b>0.05–2.40</b>	<b>0.05–2.40</b>
Wavelength (HW = 5–12 nm):	<b>445 nm</b>	<b>436 nm</b>	<b>412 nm</b>
Reaction time:	<b>5 min (300 s)</b>		
Reaction temperature:	<b>20–25 °C</b>		

**Contents of reagent set:**

20 test tubes Sulfite 10

1 test tube with 5 mL Sulfite 10 R2

**Hazard warning:**

Reagent R2 contains ethylene glycol 80–100 %.

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® Sulfite (10–1000 mg/L SO<sub>3</sub><sup>2-</sup>, REF 913 06) or with VISOCOLOR® HE Sulfite SU 100 (REF 915 008) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly.

**Interferences:**Sulfide interferes (same reaction): 1.0 mg/L S<sup>2-</sup> ≙ 4 mg/L SO<sub>3</sub><sup>2-</sup>.

Formaldehyde interferes even in lowest concentration.

The following quantities of ions will not interfere: ≤ 1000 mg/L ascorbic acid, hydrazine, hydroxylamine, EDTA; ≤ 1 mg/L Fe<sup>2+/3+</sup>.

This method can be applied also for the analysis of sea water after dilution (1+19).

**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 4 and 9*) and **200 µL** (= 0.2 mL) R2, close and mix.

Clean outside of test tube and measure after 5 min.

<b>Test sample</b> (< 1.0 mg/L SO <sub>3</sub> <sup>2-</sup> )	<b>Blank value</b>
Open test tube, add	Open test tube, add
<b>4.0 mL</b> test sample ( <i>the pH value of the sample must be between pH 4 and 9</i> ) and <b>200 µL</b> (= 0.2 mL) R2, close and mix.	<b>4.0 mL</b> distilled water and
Clean outside of the tube and measure after 5 min.	<b>200 µL</b> (= 0.2 mL) R2, close and mix.
	Clean outside of the tube and measure after 5 min.

Lower sulfite concentrations (0.05–2.40 mg/L SO<sub>3</sub><sup>2-</sup>) can be determined by using 50 mm semi-micro cuvettes (REF 919 50). Pour the contents of test tubes into 50 mm semi-micro cuvettes and measure after 5 min [method 1891].

**Measurement:**

For NANOCOLOR® photometers and PF-12 see manual, test 0-89.

**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:**

Standard solutions are not stable. Fresh dissolved sodium sulfite can be stabilized with EDTA for 2 days.