REF 985082

Test 0-82 03.23

NANOCOLOR® Oxygen 12

en

Method:
Determination of dissolved oxygen according to Winkler with photometric measurement of the color of iodine

Range:	**0.5 – 12.0 mg/L O_2**	**0.5 – 12.0 mg/L O_2**
Wavelength (HW = 5 – 12 nm):	**436 nm**	**445 nm**
Reaction time:	0	
Reaction temperature:	10 – 25 °C	

Contents of reagent set:
Box A: 20 test tubes Oxygen 12 (empty)
Box B: 2 test tubes Oxygen 12 (empty)
3 mL Oxygen 12 R1
3 mL Oxygen 12 R2
6 mL Oxygen 12 R3

Hazard warning:
Reagent R1 contains manganese(II) chloride 25 – 83 %, reagent R2 contains sodium hydroxide solution 20 – 55 % and potassium iodide 10 – 25 %, reagent R3 contains sulfuric acid 51 – 80 %.
H314 Causes severe skin burns and eye damage.
P260, P280, P301+330+331, P303+361+353, P304+340, P305+351+338 Do not breathe vapors. Wear protective gloves / eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. For further information ask for a safety data sheet.

Interferences:
Oxidizing and reducing substances interfere, e.g. active chlorine, sulfite, sulfide and higher manganese compounds. Organic compounds interfere, if the potassium permanganate level is in excess of 60 mg/L. Iodine binding and / or iodine destroying suspended substances interfere (circumvention by adding aluminium hydroxide to form a residue, see DIN EN 25813 appendix A).

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

Procedure:
Introductory Remark: *For the sake of accuracy when carrying out this analytical determination, it is necessary to add the reagents until the test tube overflows. The overflow will increase when adding the reagents. It is therefore recommended that the working surface be covered with a polyethylene-coated filter paper.*

Open test tube, fill test tube by carefully dipping the test tube into the sample *(the pH value of the sample must be between pH 7 and 10)* until the solution flows over (without air bubbles), close.
Place test tube in photometer as blank value, adjust to **zero**.
Open test tube again, add
2 drops Oxygen R1 and
2 drops Oxygen R2, close without air bubbles and shake. Wait **2 min**.
Open test tube again, add
5 drops Oxygen R3, close without air bubbles, shake to dissolve the flakes.
Clean outside of test tube and measure.

Measurement:
For *NANOCOLOR*® photometers and PF-11 / PF-12 / PF-12*Plus* see manual, test 0-82.

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.

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