visocolor® ECO

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Chlorine 6

Reagent set for the photometric determination of free and total chlorine in drinking water, swimming pools and water reservoirs

Method:
Photometric determination of free and total chlorine with photometers PF-12 / PF-3

At a pH value of 5 to 6, free chlorine reacts with *N,N*-diethyl-1,4-phenylene diamine (DPD) and forms a red-violet dye. In the presence of iodide ions, the content of total chlorine (free and combined chlorine together) can be determined.

Measurement range:
0.05–6.00 mg/L Cl_2

Contents:

REF 931 217 (free and total)
sufficient for 200 tests
28 g Cl_2-1
30 mL Cl_2-2
1 measuring spoon 85 mm
1 plastic syringe 5 mL
1 instructions for use

REF 931 219 (free)
sufficient for 400 tests
2 x 28 g Cl_2-1
1 measuring spoon 85 mm
1 plastic syringe 5 mL
1 instructions for use

Hazard warning:
This test does not contain any harmful substances which must be specially labelled as hazardous.

Procedure:
Requisite accessories: test tubes 16 mm OD (REF 916 80)

a) Free chlorine
1. Rinse test tube 16 mm OD several times with the sample *(the pH value of the sample must be between pH 4 and 8)* and fill with **5 mL sample**.
2. Place test tube in photometer as blank value and adjust for zero.
3. Add **1 level measuring spoon of Cl_2-1**, close and **shake well for 20 s**.
4. Clean outside of test tube and measure after **1 min**.

b) Total chlorine (only 931 217)
5. Open test tube again, add **3 drops of Cl_2-2**, close and mix.
6. Clean outside of test tube and measure after **2 min**.

c) Combined chlorine
The content of combined chlorine can be calculated as difference of total and free chlorine.

Measurement:
see manual for photometer PF-12 / PF-3
After use, rinse out test tubes thoroughly and seal them.

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

Interferences:
The temperature of the water sample should be between 10 and 50 °C.
The determination of free chlorine measures bromine, bromamine, chloramine, iodine and, in part, chlorine dioxide as well. Higher manganese compounds simulate free chlorine.
Chlorine concentrations above 10 mg/L can bleach the red reaction color (low results).
Rinse test tubes several times thoroughly. Residues of Cl_2-2 can cause higher values for free chlorine.

Conversion:
1.0 mg/L Cl_2 ≙ 1.9 mg/L ClO_2 ≙ 1.5 mg/L OCl^- ≙ 2.1 mg/L NaOCl ≙ 2.3 mg/L Br_2 ≙ 3.6 mg/L I_2

Disposing of the samples:
The used analysis specimens can be flushed down the drain with tap water and channeled off to the local sewage treatment works.

Storage:
Store the test kit in a cool (< 25 °C) and dry place.

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