

REF 918 20

# Test 1-20 10.14

## NANOCOLOR® Chloride

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**Method:**

Photometric determination with mercury(II) thiocyanate and iron(III) nitrate

Cuvette rectangular:	50 mm	20 mm	10 mm
Range (mg/L Cl <sup>-</sup> ):	0.2–20.0	1–125	1–125
Factor:	not linear		
Wavelength (HW = 5–12 nm):	470 nm		
Reaction time:	1 min (60 s)		
Reaction temperature:	20–25 °C		

**Contents of reagent set:**

2 x 100 mL Chloride R1  
2 x 100 mL Chloride R2

**Hazard warning:**

Reagent R1 contains nitric acid 5–20%, reagent R2 contains mercury(II) thiocyanate 0.32–0.64% in methanol 50–100%.

H301, H311, H314, H331, H370 Toxic if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Toxic if inhaled. Causes damage to organs.

P260, P264, P270, P280, P301+310, P301+330+331, P302+352, P303+361+353, P304+340, P305+351+338, P308+311, P361+364, P405, P501 Do not breathe vapors. Wash with water thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor/... 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 exposed or concerned: Call a POISON CENTER/doctor/... Take off immediately all contaminated clothing and wash it before reuse. Store locked up. 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® Chloride (500–3000 mg/L Cl<sup>-</sup>, REF 913 21) or with VISOCOLOR® HE Chloride CL 500 (REF 915 004) rapidly gives this information. From the order of magnitude the required dilution can be calculated and prepared directly.

**Interferences:**

Thiocyanate, sulfide, thiosulfate, bromide and iodide all interfere since they react in the same way as chloride. A fluoride concentration in excess of 20 mg/L interferes in the chloride determination, and the concentrations read off are lower than those actually present in the test sample.

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

**Procedure:**

Requisite accessories: volumetric flasks 25 mL, piston pipette with tips

Pour into two separate volumetric flasks 25 mL:

Test sample	Blank value
20 mL test sample (the pH value of the sample must be between pH 4 and 13)	20 mL distilled water
2 mL R1, mix	2 mL R1, mix
2 mL R2, mix	2 mL R2, mix

Fill up test sample and the blank value to 25 mL mark with distilled water and mix again. After 1 min pour into cuvettes and measure.

**Measurement:**

For NANOCOLOR® photometers see manual, test 1-20.

**Measurement when samples are colored or turbid:**

For all NANOCOLOR® photometers see manual, use key for correction value.

**Photometers of other manufacturers:**

Verify calibration curve for each type of instrument by measuring standard solutions.

**Analytical quality control:**

NANOCONTROL Multistandard Drinking Water (REF 925 018)

**Decreasing volume of analytical preparation:**

In order to increase the number of determinations, you can work with volumetric flasks of 10 mL: 8 mL test sample + 0.8 mL R1 + 0.8 mL R2, semi-micro cuvette (REF 919 50).

**Disposal:**

Collect the contents of the cuvettes and the flasks as mercury containing waste disposal. Please observe local regulations concerning of waste.