

visocolor® ECO

Cyanide

**Test kit for performing colorimetric tests
on cyanide ions in surface water and sewage**

Method:

Cyanide ions react with chloramine T to form cyanogen chloride. Combined with isonicotinic acid and 1,3-dimethylbarbituric acid, this forms a blue polymethine dye. The method identifies free cyanide and cyanide complexes that are decomposed by chlorine.

Measurement range:

0.01–0.20 mg/L CN⁻

Contents of test kit (*refill pack):

sufficient for 100 tests

- 19 mL CN-1*
- 4 g CN-2*
- 28 mL CN-3*
- 1 measuring spoon 70 mm*
- 2 screw-plug measuring glasses
- 1 slide comparator
- 1 color chart
- 1 plastic syringe 5 mL
- 1 instructions for use*

Hazard warning:

Reagent CN-2 contains chloramine T 5–10 %, reagent CN-3 contains sodium hydroxide solution 0.5–2 %.

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

P260, P261, P280, P301+330+331, P303+361+353, P304+340, P305+351+338, P342+311 Do not breathe vapors. Avoid breathing dust. 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. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. For further information ask for a safety data sheet.

Instructions for use:

also refer to the pictogram on the back of the color chart

1. Pour a 5 mL water sample into each of the measuring glasses using the plastic syringe.
Place a measuring glass on position A in the comparator.

Only add the reagent to measuring glass B.

2. Add **5 drops of CN-1**, seal the glass and mix.
3. Add **1 level measuring spoonful of CN-2**, seal the glass and dissolve by swirling.
4. Add **5 drops of CN-3**, seal the glass and mix.
5. Open the glass after **15 min** and place it on position B in the comparator.
6. Slide the comparator until the colors match in the inspection hole on top. Check the measurement reading in the recess on the comparator reed. Mid-values can be estimated.
7. After use, rinse out both measuring glasses thoroughly and seal them.

The reagents can be used for the **photometric evaluation** with photometer PF-11/PF-12.

The method can be applied also for the analysis of sea water after dilution (1+3).

Disposing of the samples:

The used analysis specimens can be flushed down the drain with tap water and channelled off to the local sewage treatment works.

Interferences:

Complexed cyanide is not or not completely detected. Reducing agents interfere since they react with the chlorinating agent. Thiocyanate, sulfide, bromide and iodide interfere even in low concentrations (> 0.1 mg/L).

The following ions will not interfere:

< 1000 mg/L Ca²⁺, Mg²⁺, Zn²⁺, Cl⁻, F⁻, PO₄³⁻, SO₄²⁻; < 200 mg/L Cd²⁺;
< 50 mg/L NO₂⁻; < 20 mg/L Cr(III), Fe³⁺; < 10 mg/L Al³⁺, Mn²⁺;
< 5 mg/L Cr(VI), Cu²⁺; < 1 mg/L Ni²⁺

To circumvent interferences readily liberated cyanide is separated by distillation before determination (see „Note“).

Note:

For the determination of readily liberated cyanide and total cyanide as well as for the determination of cyanide in stone-fruit spirits, please contact MACHEREY-NAGEL for special working instructions.

Storage:

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

Product data and ordering information

REF	931 022 (931 222)
Type	colorimetric test kit (refill pack)
Range	0 · 0.01 · 0.02 · 0.03 · 0.05 · 0.07 · 0.10 · 0.15 · 0.20 mg/l (ppm) CN⁻
Sufficient for	100 determinations
Shelf life	at least 1 years
Sea water suitability	yes, after dilution (1+3)
Detectable with PF-12	yes

CTL SCIENTIFIC SUPPLY CORP. 1016-3 Grand Boulevard Deer Park, NY 11729
Tel: 631-242-4249

web: www.ctlscientific.com

Manufacturer: **Macherey-Nagel GmbH & CO. KG**