visocolor® HE Cyanide

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High sensitivity test kit for the determination in the range of 0.002 - 0.04 mg/l CN^-

Method:
Polymethine dye according to the barbituric acid-pyridine method

Contents of test kit (*refill pack):
sufficient for 50 tests

10 g CN-1*	1 orange measuring spoon 85 mm*
6 g CN-2*	1 plastic beaker for sampling
30 ml CN-3*	2 round glass tubes with screw caps
30 ml CN-4*	1 comparator block
1 black measuring spoon 85 mm*	1 colour comparison disc Cyanide

Hazard warning:
CN-1 contains chloramine T 6%. CN-4 contains pyridine 45%.
R11 Highly flammable. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R42 May cause sensitisation by inhalation. S7 Keep container tightly closed. S22 Do not breathe dust. S26/28 In case of contact with eyes or skin, rinse immediately with plenty of water and seek medical advice. S37/39 Wear suitable gloves and eye/face protection. For further information please ask for safety data sheets.

Procedure:
1. Place comparator block into the position provided in the box (see illustration).
2. Insert colour comparison disc.
3. Open both round glass tubes, rinse **left tube** several times with the water sample and fill up to the mark with the water sample.
4. Add **1 level black measuring spoon of CN-1** to the **left tube**, close and shake until contents are dissolved (about 30 s).
5. Add **1 level orange measuring spoon of CN-2** to the **right tube**.
6. Add **15 drops CN-3** to the **right tube**. Swing tube for about **1 min**. A turbid solution is formed which should not contain any larger reagent particles. If larger particles remain continue to shake the tube.
7. Add **15 drops CN-4** to the **right tube**.
8. Add contents of the **left tube** to the **right tube**, close tube and mix.
9. Fill **left tube** again with the water sample (do not add reagents!). Wait **3 min**.
10. Reading: Turn colour disc until both colours match by transmitted light from above. Read test results from the mark on the front side of the comparator. Intermediate values can be estimated.
11. After use clean both round glass tubes thoroughly and close.

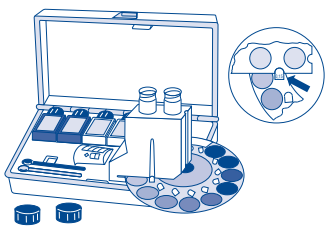
The method can be used for analysing sea water. Depending on the composition of the sea water the result may be too low as much as one value on the colour scale.

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:
1. Thiocyanate ions give the same reaction as cyanides. In this case a distillation must precede the determination of cyanide (see DEV D 13-2.2: Separation of cyanides which can easily be liberated).
2. Silver ions in excess of 2 mg/l cause turbidity and thus interfere with the determination of cyanide. For elimination of this interference see point 1.
3. Iron(III) ions in excess of 5 mg/l and iron(II) ions in excess of 2 mg/l interfere causing turbidities and discolourations. For elimination see point 1.
4. Chromium(VI) ions interfere in excess of 5 mg/l causing discolourations. For elimination see point 1.
5. Cyanide complexes of iron and cobalt are not determined with this test, nickel complexes are only detected partially (about 5%).
6. For the determination of *total* cyanide a distillation according to DEV D 13-2.1 has to precede the analysis.

Conversion table:

mg/l CN^-	mmol/m^3
0.002	0.08
0.004	0.15
0.007	0.27
0.010	0.38
0.015	0.58
0.020	0.77
0.025	0.96
0.030	1.2
0.040	1.5



Note:
For the determination of readily liberated cyanide and *total* cyanide, please contact MACHEREY-NAGEL for special working instructions.

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