

Chloride

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

Method:

Chloride ions react with mercuric thiocyanate to produce undissociated mercuric chloride and to liberate thiocyanate ions. In the presence of ferric salts these thiocyanate ions produce a characteristic orange colour.

Measurement range:

1 - 60 mg/l Cl⁻

Contents of test kit (*refill pack):

sufficient for 90 tests

2 x 20 ml Cl-1*

24 ml Cl-2*

2 screw-plug measuring glasses

1 slide comparator

1 colour chart

1 plastic syringe 5 ml

1 instructions for use*

Hazard warning:

Cl-1 contains nitric acid 19%. **Causes burns.** Cl-2 contains mercury(II) thiocyanate < 0.25% Hg and ethanol which are not labelled with <Xn> and <F> (certificate of exemption for small quantities), see safety data sheet. **Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Danger of cumulative effects.** Keep container tightly closed. Keep away from food, drink and animal feedingstuffs. Keep away from sources of ignition – No smoking. Do not breathe vapour. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. For further information ask for safety data sheets.

Instructions for use:

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

1. Pour a 5 ml water sample into each of the measuring glasses using the plastic syringe.

Place one measuring glass on position A in the comparator.

Only add the reagents to measuring glass B.

2. Add **10 drops of Cl-1**. Seal the glass and mix.

3. Add **10 drops of Cl-2**. Seal the glass and mix.

4. Open the glass after **1 min** and place it on position B in the comparator.

5. Slide the comparator until the colours match in the inspection hole on top. Check the measurement reading in the recess on the comparator reed. Mid-values can be estimated.

6. After use, rinse out both measuring glasses thoroughly (see „Disposal“) and seal them.

The method can not be applied for the analysis of sea water.

Measurement up to 300 mg/l chloride:

1. Pour a **1 ml water sample** and **4 ml of distilled water** into each of the measuring glasses.

2. Same procedure as described above. Multiply the read-off value by **5** (see „Conversion table“).

Conversion table for measurements up to 300 mg/l chloride:

Read-off value in mg/l Cl ⁻	Chloride concentration in mg/l Cl ⁻ (read-off value x 5)
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1	5
2	10
4	20
7	35
12	60
20	100
40	200
60	300

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

Disposal:

We recommend to collect the contents of the measuring glass and the water used for rinsing as mercury containing waste disposal. Please observe local regulations concerning waste.

Interferences:

Bromide, cyanide, iodide, sulphide, thiocyanate and thiosulphate all interfere since they react in the same way as chloride.

The following ions will not interfere: ≤ 2000 mg/l NO₂⁻; ≤ 20 mg/l F⁻

Note:

For the determination of chloride in concrete, please contact MACHEREY-NAGEL for special working instructions.

Storage:

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