

Copper

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

Method:

Combined with caparison [oxalic acid bis(cyclohexylidene hydrazide)], copper(II) ions form a blue complex in the alkaline range.

Measurement range:

0.1–1.5 mg/L Cu²⁺

Contents (*refill pack):

sufficient for 100 tests

30 mL Cu-1*

20 mL Cu-2*

2 screw-plug measuring glasses

1 slide comparator

1 color chart

1 plastic syringe 5 mL

1 instruction for use*

Hazard warning:

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

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 Cu-1**, seal the glass and mix.
3. Add **5 drops of Cu-2**, seal the glass and mix.
4. Open the glass after **10 min** and place it on position B in the comparator.
5. 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.
6. After use, rinse out both measuring glasses thoroughly and seal them.

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

This technique can be used also for analyzing sea water.

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:

Strongly acidic and buffered test samples are to be adjusted to pH 9 with ammonia before determination.

Iron(II), chromium(VI), nickel and manganese ions disrupt tests if they are present in concentrations in excess of 10 mg/L. Chromium(III) ions present in concentrations in excess of 10 mg/L cause clouding and lead to limited results. Cobalt ions form a red color complex and, depending on the concentration of copper, disrupt the tests if present in concentrations from as little as 1 mg/L. If cyanide and sulfide are present in concentrations in excess of 1 mg/L, they will lead to limited results.

Conversion table:

mg/L Cu ²⁺	mmol/m ³
0.1	1.6
0.2	3.1
0.3	4.7
0.5	7.9
0.7	11
1.0	16
1.5	24

Storage:

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