

# Chloride CL 500

Test kit for the determination of chloride in water

**Method:**

Mercuric Titration

**Contents of test kit (\*refill pack):**

sufficient for 300 tests with an average chloride content of 200 mg/L Cl<sup>-</sup>

10 mL indicator CL 500\*

30 mL HNO<sub>3</sub> 3–5 %\*

100 mL titration solution TL CL 500\*

1 test tube with ring mark

1 titration syringe 0–500 mg/L Cl<sup>-</sup>

(1 graduation mark  $\triangle$  5 mg/L)

2 plastic dropping tips

**Hazard warning:**

Information regarding safety can be found on the box' label and in the safety data sheet. You can download the SDS from [www.mn-net.com/SDS](http://www.mn-net.com/SDS).

**Procedure:**

1. Rinse test tube several times with the test sample and fill to ring mark.
2. Add 1 drop indicator CL 500 and dissolve while shaking. The test sample turns blue (if the sample turns yellow after addition of indicator add dropwise sodium hydroxide solution (10 %) until the test sample turns blue).
3. Slowly add HNO<sub>3</sub> 3–5 % dropwise while continuously swirling until the solution turns yellow. Normally one drop is sufficient.
4. Put dropping tip onto the titration syringe, press down plunger, dip the tip into the titration solution TL CL 500 and draw up plunger slowly, until the lower rim of the black plunger O-ring agrees with value 0 on the barrel scale. The small air pocket below the plunger tip does not disturb the determination.
5. Addition of the titration solution: We recommend taking the syringe in the left hand and the test tube in the right hand (see drawing) and adding titration solution dropwise while smoothly shaking the test tube until the solution turns from yellow to violet. Read off chloride content in mg/L Cl<sup>-</sup> from the syringe barrel (lower rim of the black plunger O-ring). Color change is followed easily when holding test tube before a light background (e.g. sheet of white paper).
6. If the first syringe filling is not enough to reach color change (values > 500 mg/L Cl<sup>-</sup>), fill syringe once more with titration solution TL CL 500 and titrate to color change (as described above). Read off chloride content and for each used syringe filling add 500 mg/L Cl<sup>-</sup>. Rinse test tube immediately with plenty of water!

This method is suitable for the analysis of sea water after dilution (1+49).

**Disposal:**

Information regarding disposal can be found in the safety data sheet. You can download the SDS from [www.mn-net.com/SDS](http://www.mn-net.com/SDS).

**Interferences:**

Bromide and iodide ions are determined too. Fe > 5 mg/L interferes. This interference can be circumvented by adding of 2 drops of a sodium pyrophosphate solution 5 %. Interferences of sulfide or sulfite ions are circumvented by dropwise addition of diluted H<sub>2</sub>O<sub>2</sub> solution. H<sub>2</sub>S is evaporated by boiling.

The following ions do not interfere: < 5 mg/L NO<sub>2</sub><sup>-</sup>  
< 10 mg/L CrO<sub>4</sub><sup>2-</sup>  
< 50 mg/L Cu  
< 100 mg/L Al, Pb, Cr, Ni, Zn

