LCK311 Chloride

DOC312.53.94040

Measuring range I: 1–70 mg/L Cl^-,
measuring range II: 70–1000 mg/L Cl^-

LCK311

Scope and application: For wastewater, drinking water, surface water, boiler feed water, process analysis and structural concrete.

Test preparation

Test storage

Storage temperature: 2–8 °C (35–46 °F)

pH/Temperature

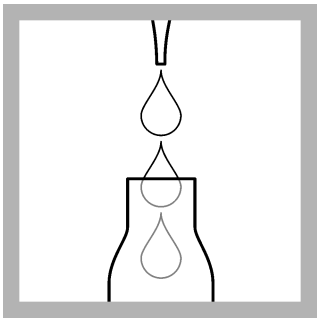
The pH of the water sample must be between pH 3–10.

The temperature of the water sample and reagents must be between 15–25 °C (59–77 °F).

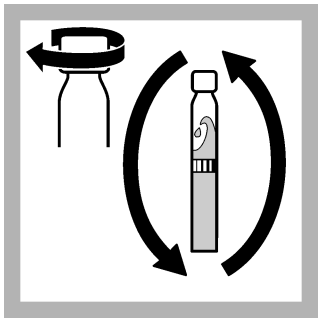
Before starting

Review safety information and expiration date on the package.
Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.
Dispose of reacted solutions according to local, state and federal regulations. Refer to the Safety Data Sheets for disposal information for unused reagents. Refer to the environmental, health and safety staff for your facility and/or local regulatory agencies for further disposal information.

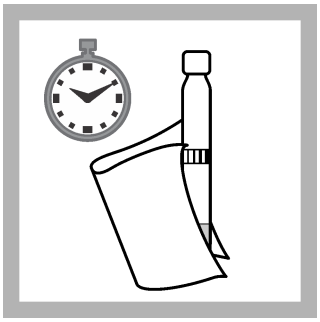
Procedure Measuring range I



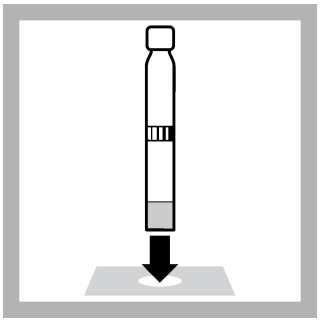
1. Carefully pipet **1.0 mL** of **sample** into the **sample cuvette**.



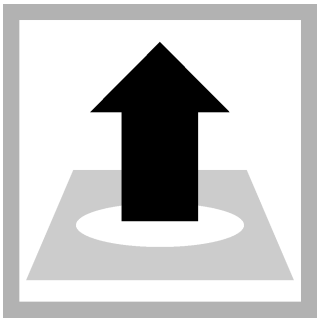
2. Close the cuvette and invert a few times.



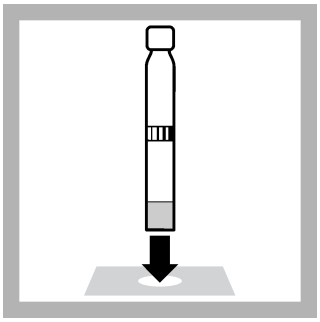
3. After **3 minutes**, thoroughly clean the outside of the **sample cuvette**.



4. Insert the **zero cuvette** into the cell holder.
DR1900: Go to LCK/TNTplus methods.
Select the test: push **ZERO**.

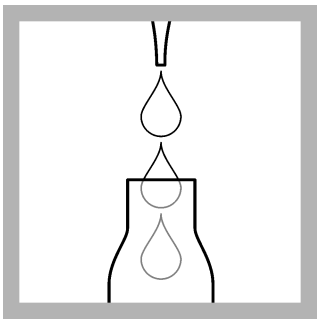


5. Remove the zero cuvette.

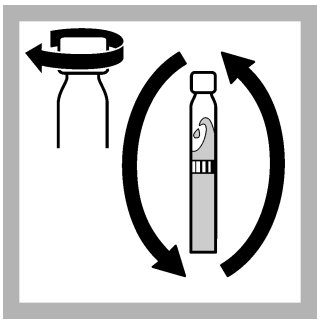


6. Insert the **sample cuvette** into the cell holder.
DR1900: Push **READ**.

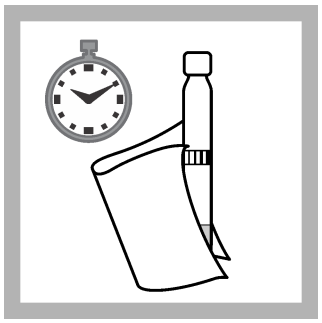
Procedure Measuring range II



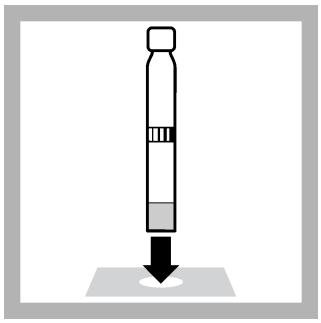
1. Carefully pipet **0.1 mL** of **sample** into the **sample cuvette**.



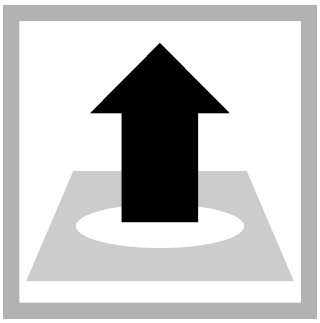
2. Close the cuvette and invert a few times.



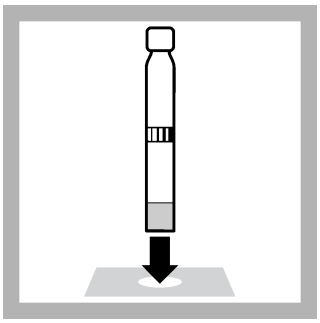
3. After **3 minutes**, thoroughly clean the outside of the **sample cuvette**.



4. Insert the **zero cuvette** into the cell holder.
DR1900: Go to LCK/TNTplus methods.
Select the test: push **ZERO**.



5. Remove the zero cuvette.



6. Insert the **sample cuvette** into the cell holder.
DR1900: Push **READ**.

Interferences

The ions listed in the table have been individually checked against the given concentrations and do not cause interference. The cumulative effects and the influence of other ions have not been determined.

Silver interferes due to the precipitation of silver chloride (low-bias results). Mercury hinders the reaction (low-bias results). Bromides and iodides, which are found in particular in many mineral waters, undergo the same reaction (high-bias results). Substances which form colored complexes with iron(III) salts interfere with the determination.

The measurement results must be subjected to plausibility checks (dilute and/or spike the sample).

Interference level	Interfering substance
1000 mg/L	SO_4^{2-}, NO_3^-
50 mg/L	Pb^{2+}, Zn^{2+}, Ni^{2+}, Cu^{2+}, Cr^{3+}, Cr^{6+}
10 mg/L	Cd^{2+}
0.4 mg/L	CN^-, S^{2-}

Summary of method

During the reaction of chloride ions with mercury thiocyanate the slightly dissociated mercury(II) chloride is formed. Simultaneously an equivalent amount of thiocyanate ions are set free, which react with iron(III) salts to form iron(III) thiocyanate.

HACH LANGE GMBH
Willstätterstraße 11
D-40549 Düsseldorf
Tel. +49 (0) 2 11 52 88-0
Fax +49 (0) 2 11 52 88-143
info-de@hach.com
www.hach.com

© Hach Company, 2019, 2022. All rights reserved.
04/2022, Edition 3