LCK355 Silver

DOC312.53.94054

Method

Measurement range I: 5–400 mg/L Ag, measurement range II: 400–2500 mg/L Ag **LCK355**

Scope and application: For film and photo developing, mirror-making, electroplating industries and process analysis.

Test preparation

Test storage

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

pH/Temperature

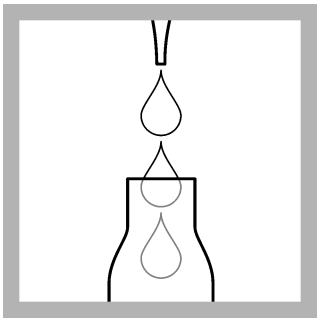
The pH of the water sample must be between pH 3–10.

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

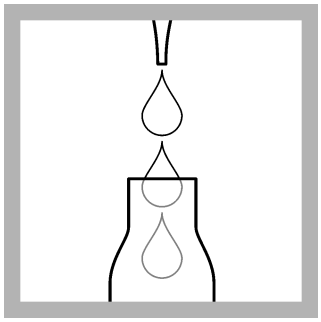
Before starting

A special blank-value must be measured if the samples are intensely colored. Refer to Procedure to prepare a blank on page 3.
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.

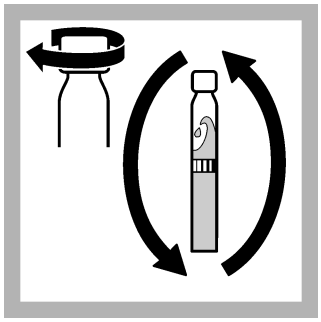
Procedure—Measuring range I



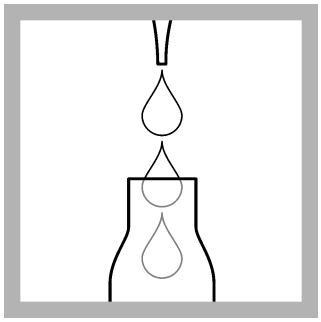
1. Carefully pipet **0.8 mL** of **solution A**.



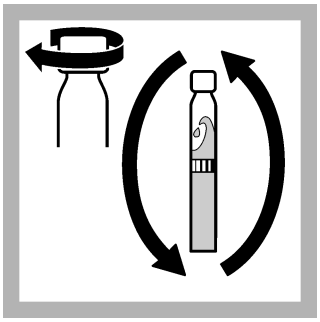
2. Carefully pipet **0.2 mL** of **solution B** in the **same** cuvette.



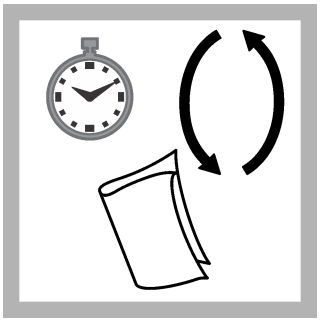
3. Close the cuvette and invert a few times.



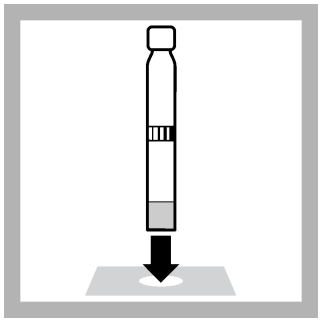
4. Carefully pipet into the **same** cuvette: **2.0 mL** of **sample**.



5. Close the cuvette and invert a few times.

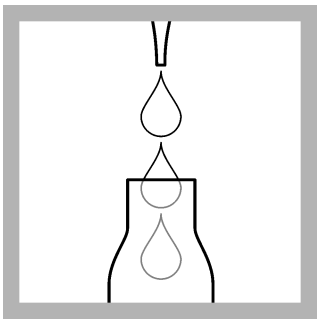


6. After **10 minutes**, invert a few more times, thoroughly clean the outside of the cuvette and evaluate.

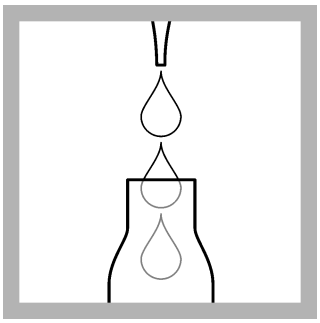


7. Insert the cuvette into the cell holder.
DR1900: Go to LCK/TNTplus methods.
Select the test, push **READ**.

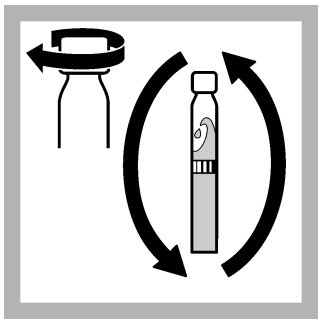
Procedure—Measuring range II



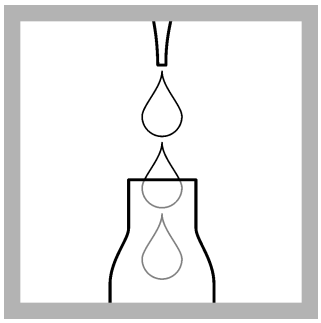
1. Carefully pipet **0.8 mL** of **solution A**.



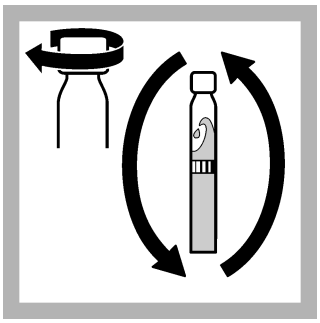
2. Carefully pipet **0.2 mL** of **solution B** in the **same** cuvette.



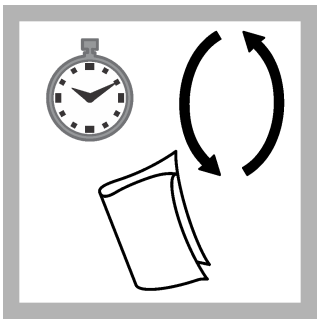
3. Close the cuvette and invert a few times.



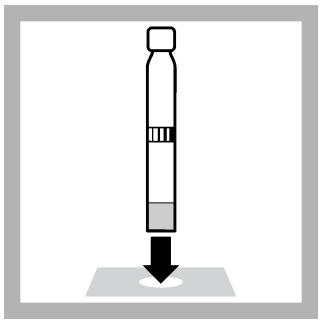
4. Carefully pipet into the **same** cuvette: **0.2 mL** of **sample**.



5. Close the cuvette and invert a few times.



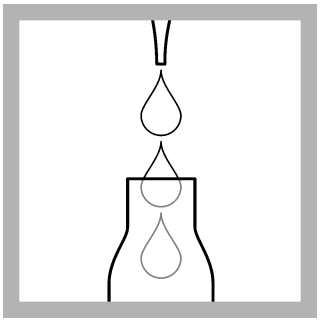
6. After **10 minutes**, invert a few more times, thoroughly clean the outside of the cuvette and evaluate.



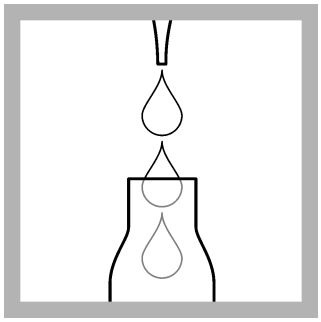
7. Insert the cuvette into the cell holder.
DR1900: Go to LCK/TNTplus methods.
Select the test, push **READ**.

Procedure to prepare a blank

If the sample is colored the blank-value must be measured and subtracted from the value obtained in the analysis (refer to Before starting on page 1). Observe the measuring range limits.



1. Measuring range I: Add to a blank-value cuvette: **3.8 mL distilled water, 0.8 mL solution A, 0.2 mL solution B** and **2.0 mL sample**.



2. Measuring range II: Add to a blank-value cuvette: **3.8 mL distilled water, 0.8 mL solution A, 0.2 mL solution B** and **0.2 mL sample**.

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.

There is no interference from: Measuring range II less than 16 g/L iron and measuring range I less than 8 g/L iron

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

Interference level	Interfering substance
1000 mg/L	Cl^-, SO_4^{2-}
500 mg/L	K^+, Na^+, Ca^{2+}
100 mg/L	Zn^{2+}, Ni^{2+}
50 mg/L	NO_3^-, CO_3^{2-}, Pb^{2+}, Cr^{3+}, Cd^{2+}, Co^{2+}, Hg^{2+}
25 mg/L	Sn^{2+}

Summary of method

Silver ions react with the reagent to produce a brown coloration.

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