LCK541 Nitrite

DOC312.53.94392

Method

0.0015–0.0300 mg/L NO_2-N or 0.005–0.100 mg/L NO_2 **LCK541**

Scope and application: For wastewater, drinking water, table water, surface water and mineral water.

Test preparation

Test storage

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

pH/Temperature

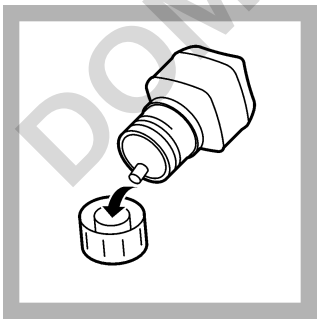
The pH of the water sample must be between pH 3–10.

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

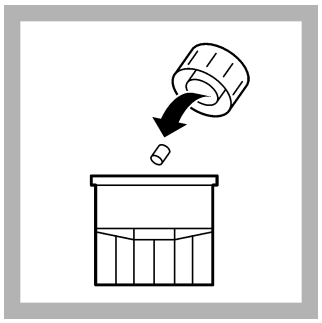
Before starting

The test should only be carried out with plastic cuvettes (LZP341) from the manufacturer, as it has been calibrated with these cuvettes. The plastic cuvettes should **not be used more than 5 times**.
Carbonated water should be degassed before the analysis is carried out.
For exact evaluation it is very important that there are no air bubbles in the beam path (lower half of the cuvette). To fill the cuvette in a bubble-free manner hold the pipette against the narrower face of the slightly tilted cuvette and allow the liquid to run slowly into the cuvette down the side wall. If any air bubbles should adhere to the cuvette walls they can be removed by gentle shaking or tapping the cuvette.
Add the MicroCap to the plastic cuvette with the help of the screw cap.
When carrying out series analyses, close the cuvette and invert it immediately after adding the sample.
Not more than 3 hours should elapse between sampling and analysing the sample.
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.

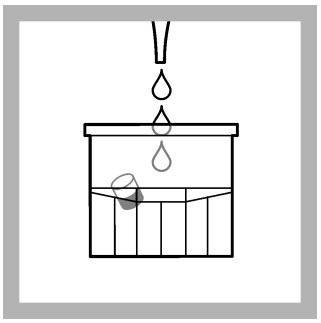
Procedure



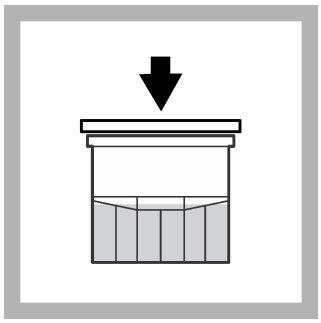
1. Sample preparation: After opening the MicroCap container, slowly introduce **1 MicroCap A** into the metering aid of the lid.



2. Introduce the MicroCap directly into a **50 mm plastic cuvette** (LZP341).

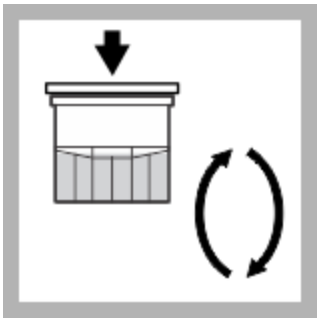


3. Pipet in **quick succession** to the cuvette: **0.5 mL** of **solution B** and **5.0 mL** of **sample**.

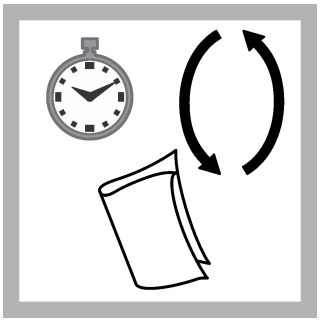


4. Close the sample cuvette **immediately**.

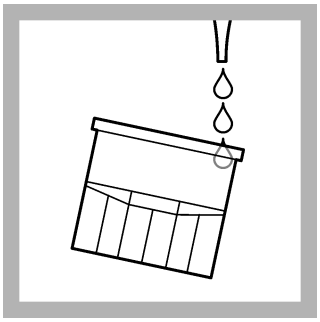
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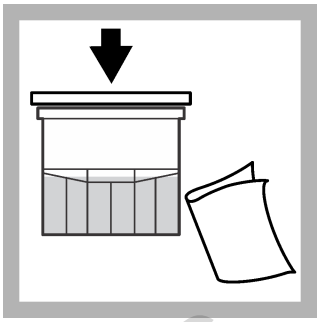
5. Invert a few times until the freeze-dried contents of the MicroCap are dissolved.



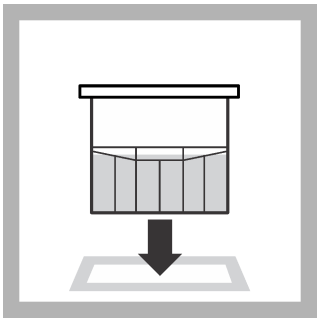
6. After **10 minutes**, invert a few more times, thoroughly clean the outside of the cuvette and evaluate.



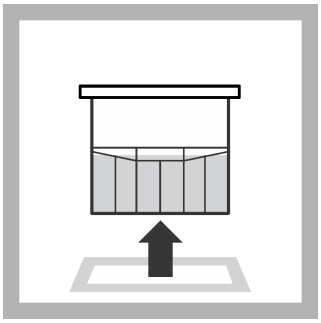
7. Blank preparation: Pipet to a **second** 50 mm plastic cuvette: **5.0 mL** of **sample**.



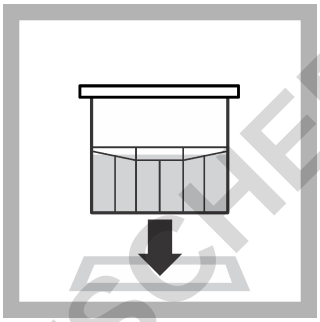
8. Close and clean the blank.



9. Insert the **blank** into the 50 mm rectangular cell holder. Go to **Stored Programs**, select the test. Push **ZERO**.



10. Remove the blank.



11. Insert the **sample cuvette** into the 50 mm rectangular cell holder. Take care that there are **no air bubbles**! 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. Chromium(VI) ions interfere with the determination. Copper(II) ions interfere with the determination even at concentrations below 1 mg/L.

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

Interference level	Interfering substance
2000 mg/L	Cl^-, SO_4^{2-}
1000 mg/L	K^+, NO_3^-, Ca^{2+}
500 mg/L	PO_4^{3-}
250 mg/L	NH_4^+
100 mg/L	Mg^{2+}
50 mg/L	Hg^{2+}
25 mg/L	Zn^{2+}, Cd^{2+}
12 mg/L	Fe^{3+}, Ni^{2+}, Cr^{3+}
10 mg/L	Fe^{2+}, Co^{2+}
5 mg/L	Ag^+
1 mg/L	Sn^{2+}, Cu^{2+}

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Summary of method

Nitrites react with primary aromatic amines in acidic solution to form diazonium salts. These combine with aromatic compounds that contain an amino group or a hydroxyl group to form intensively colored azo dyes.

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