# LCK339 Nitrate

DOC312.53.94016

**Method**

**0.23–13.50 mg/L $NO_3$-N or 1–60 mg/L $NO_3$** **LCK339**

**Scope and application:** For wastewater (beware of interferences), drinking water, raw water, surface water, soils, substrates and nutrient solutions.

## Test preparation

### Test storage

Storage temperature: 15–25 °C (59–77 °F)

### pH/Temperature

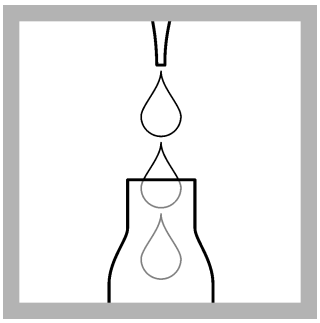
The pH of the water sample must be between pH 3–10.

The temperature of the water sample and reagents must be between 20–24 °C (68–75 °F).

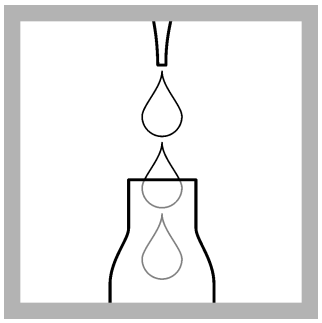
### Before starting

| |
|---|
| **In case of not working at the correct recommended temperature an incorrect result may be obtained.** |
| Not more than **3 hours** should elapse between sampling and analysis. **Store in a cool place!** |
| 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. |

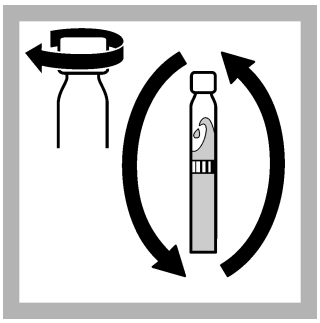
### Procedure



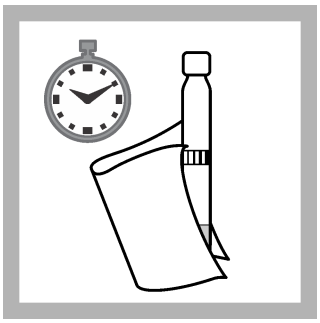
**1.** Carefully pipet **1.0 mL sample**.



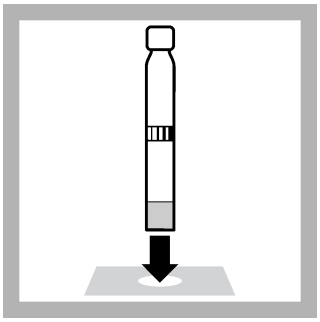
**2.** Carefully pipet **0.2 mL solution A**.



**3.** Close the cuvette and invert a few times until **no more streaks** can be seen.



**4.** After **15 minutes**, thoroughly clean the outside of the cuvette and evaluate.



**5.** Insert the cuvette into the cell holder.
DR 1900: Go to LCK/TNTplus methods. Select the test, 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.

High loads of oxidizable organic substances (COD) cause the reagent to change color and to give high-bias results. The test can only be used for waste water analyses if the COD is less than 200 mg/L.

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

**Removal of Interferences**

Nitrite concentrations of more than 2.0 mg/L interfere (high-bias results) and can be removed by the addition of a spatula-tip full of amidosulphonic acid. The chloride can be precipitated out as silver chloride by adding silver sulphate. High calcium concentrations cause turbidity. This interferes with the determination but can be prevented by adding a spatula-tip full of EDTA to the sample.

| Interference level | Interfering substance |
|---|---|
| 500 mg/L | $K^+$, $Na^+$, $Cl^-$ |
| 100 mg/L | $Ag^+$ |
| 50 mg/L | $Pb^{2+}$, $Zn^{2+}$, $Ni^{2+}$, $Fe^{3+}$, $Cd^{2+}$, $Sn^{2+}$, $Ca^{2+}$, $Cu^{2+}$ |
| 10 mg/L | $Co^{2+}$, $Fe^{2+}$ |
| 5 mg/L | $Cr^{6+}$ |

## Summary of method

Nitrate ions in solutions containing sulphuric and phosphoric acids react with 2.6-dimethylphenol to form 4-nitro-2.6-dimethylphenol.

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