LCK365 Organic acid (fatty acid) / Butanoic acid

DOC312.53.94057

50–2500 mg/L CH_3COOH or 75–3600 mg/L C_3H_7COOH **LCK365**

Scope and application: For digested sludge, activated sludge, process water and food products.

Test preparation

Test storage

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

pH/Temperature

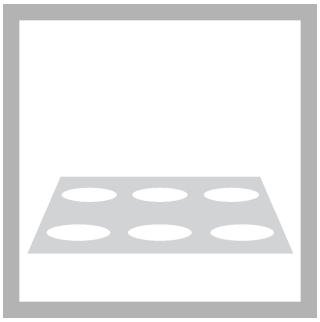
The pH of the water sample must be between pH 3–9.

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

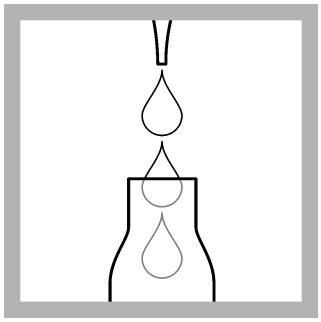
Before starting

The analyzed samples must be particle-free and should be filtered if necessary (process waters, activated sludge).
Digested sludge should be centrifuged (10 min, 6000 rpm) or filtered. The time taken to obtain the digested sludge water should be as short as possible (< 15 minutes), otherwise the fatty acids may break down, causing a low-bias result to be obtained.
The time taken and the sample preparation procedure up to the execution of the test should be identical for each analysis in order to ensure the best possible quality of the results.
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.

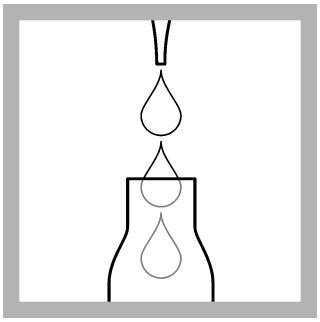
Procedure



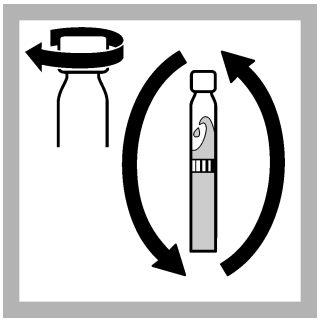
1. Preheat the thermostat to **100 °C (212 °F)**.



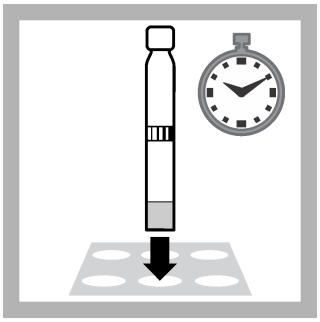
2. Carefully pipet **0.4 mL** of **solution A**.



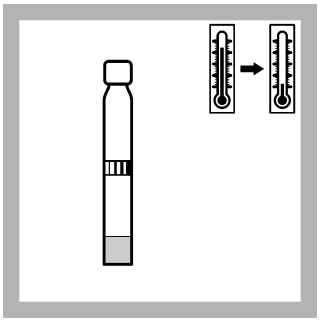
3. Carefully pipet **0.4 mL** of **sample**.



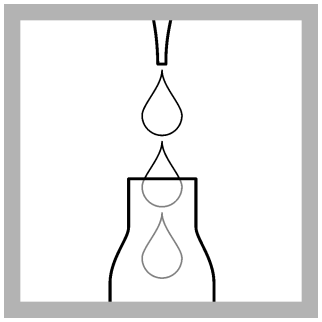
4. Close the cuvette and invert a few times.



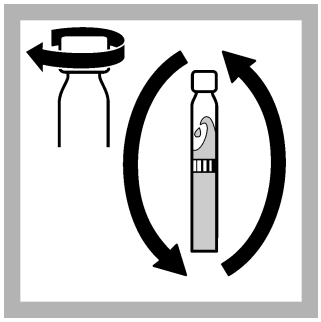
5. Heat in the thermostat for **10 minutes** at **100 °C (212 °F)**.



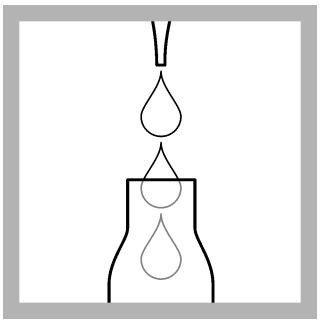
6. Allow to **cool** to room temperature.



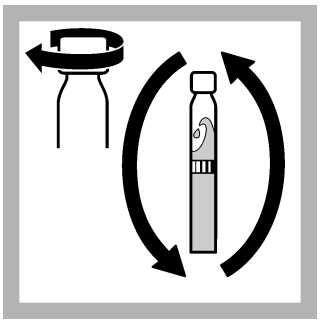
7. Carefully pipet **0.4 mL** of **solution B**.



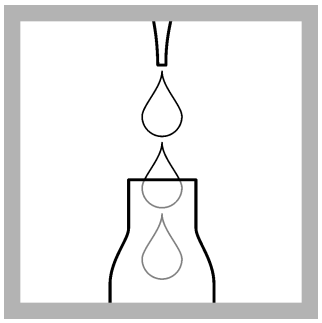
8. Close the cuvette and invert a few times.



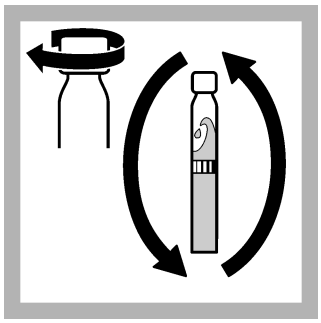
9. Carefully pipet **0.4 mL** of **solution C**.



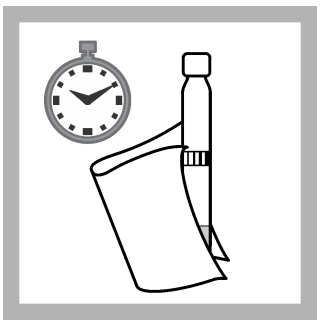
10. Close the cuvette and invert a few times.



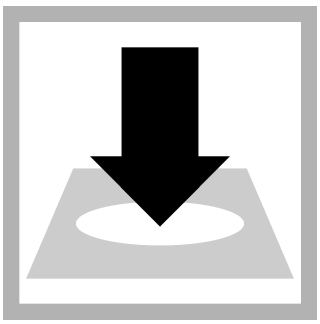
11. Carefully pipet **2.0 mL** of **solution D**.



12. Close the cuvette and invert a few times.



13. After **3 minutes**, thoroughly clean the outside of the cuvette and evaluate.



14. Insert the cuvette into the cell holder.
DR1900: 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.

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	Na^+, K^+, Ca^{2+}, Mg^{2+}
250 mg/L	NH_4^+
50 mg/L	Al^{3+}, Cd^{2+}, Co^{2+}, Cr^{3+}, CO_3^{2-}, Cu^{2+}, I^-, Mn^{2+}, Mo^{2+}, NO_2^-, Pb^{2+}, S^{2-}, Sn^{2+}, SiO_2, SO_3^{2-}, Acetaldehyde, formaldehyde, acetone
25 mg/L	Zn^{2+}
10 mg/L	Ni^{2+}
5 mg/L	Fe^{2+}, Fe^{3+}, Cr^{6+}

Summary of method

Fatty acids react with diols in an acidic environment, forming fatty acid esters. These are reduced by iron(III) salts to form red colored complexes, which are evaluated photometrically.

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

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