LCW532 Manganese

DOC312.53.94116

0.005–0.500 mg/L Mn **LCW532**

Scope and application: For drinking water, mineral water, raw water and process analysis.

Test preparation

Test storage

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

pH/Temperature

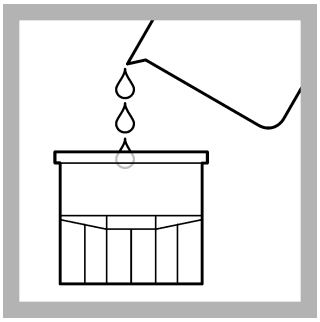
The pH of the water sample must be between pH 3–10.

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

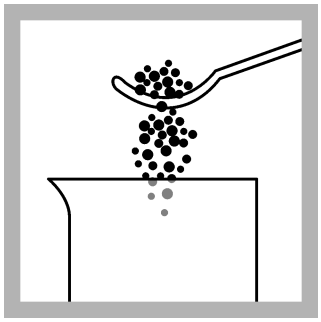
Before starting

With colored samples, a sample-specific blank value must be considered.
High concentrations of calcium and magnesium cause low-bias results to be obtained; the water sample must then be diluted accordingly with distilled water.
Sequential analysis: Multiple samples can be prepared as per steps **2**–**4**. From step **5** onwards, all steps must be carried out individually for **each** sample.
Attention: When using the LZP341 plastic cuvette, insert the sealed cuvette with the flap to the right-hand side of the photometers DR2800, DR3800 and DR3900.
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.

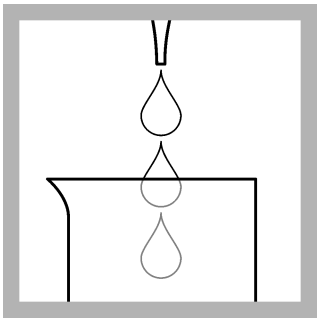
Procedure



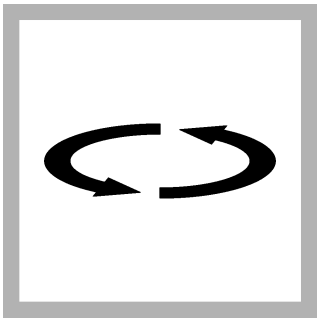
1. Blank Preparation: Fill a rectangular cuvette (50 mm) with sample. **Take care that there are no frothing and air bubbles!**



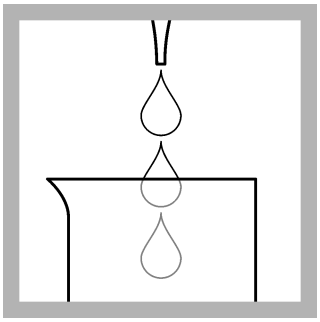
2. Prepared Sample: Add **1 level spoonful reagent A** into a beaker.



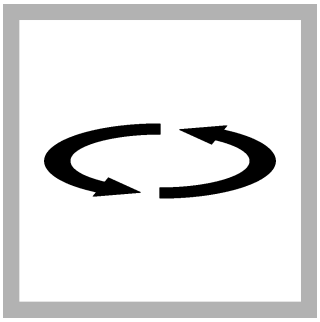
3. Pipet **10.0 mL sample**.



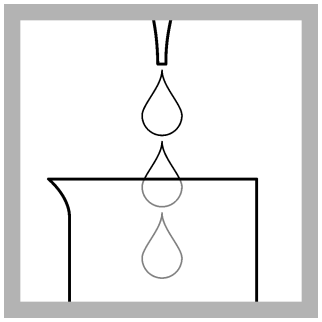
4. Mix until the reagent contents are **completely** dissolved.



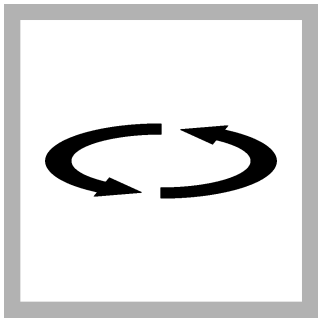
5. Pipet **1.0 mL solution B**.



6. Mix.



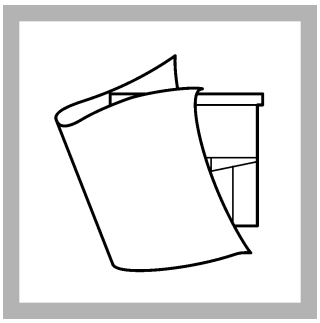
7. Immediately pipet **1.0 mL solution C**.



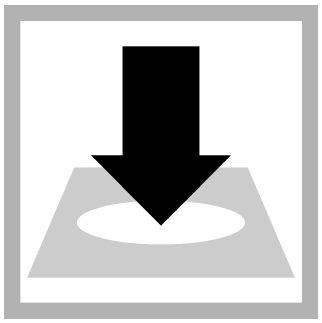
8. Mix.



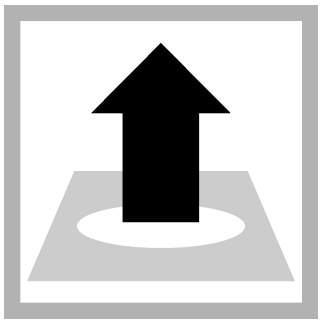
9. Allow to stand for **2 minutes**.



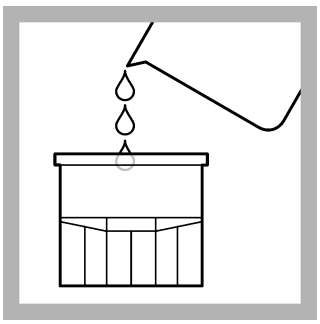
10. Thoroughly clean the outside of the blank.



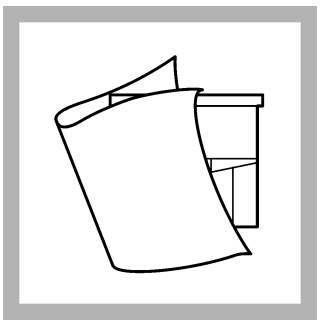
11. Insert the blank into the cell holder.
Go to Stored Programs.
Select the test, push **ZERO**.



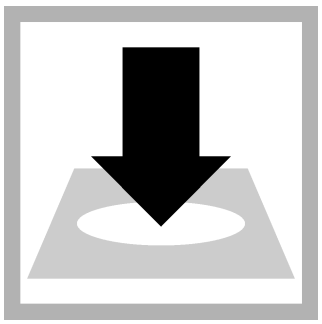
12. Remove the blank.



13. Pour the prepared sample into a second rectangular cuvette (50 mm).
Take care that there are no frothing and air bubbles!



14. Thoroughly clean the outside of the cuvette.



15. Insert the cuvette into the cell holder.
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
1000 mg/L	Cl^-, SO_4^{2-}
500 mg/L	Ca^{2+}
100 mg/L	Mg^{2+}
50 mg/L	Cu^{2+}, Ni^{2+}, NO_3^-
20 mg/L	Al^{3+}, Co^{2+}
10 mg/L	Fe^{2+}, Fe^{3+}
2.5 mg/L	Zn^{2+}, Cd^{2+}, Cr^{6+}
0.5 mg/L	Cr^{3+}, Pb^{2+}

Summary of method

Manganese ions are reduced to Manganese(II) ions using ascorbic acid. These react in weak alkaline solutions with 1-(2-pyridylazo)-2-naphthol (PAN) to form an orange-red complex.

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, 2020. All rights reserved.
03/2020, Edition 1