LCW 632 Manganese

DOC312.53.94171

0.005–0.700 mg/L Mn **LCW 632**

Scope and application: For drinking water, mineral water and raw 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 4–9.

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

Before starting

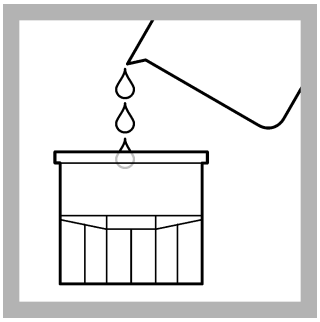
Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.

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.

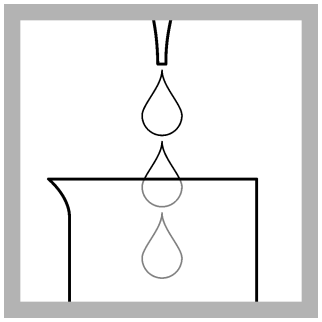
Attention:

When using the LZP 341 plastic cuvette, insert the sealed cuvette with the flap to the right-hand side of the photometers DR 2800, DR 3800 and DR 3900.

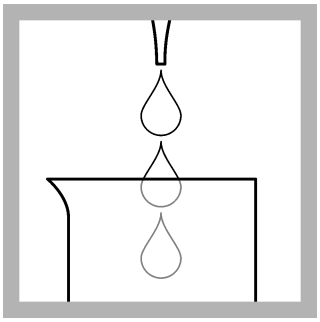
Procedure



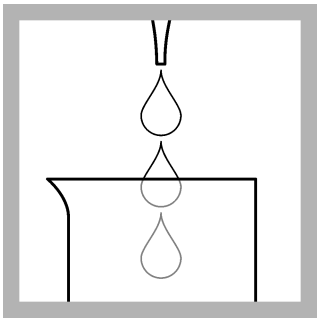
1. Blank Preparation: Fill a rectangular cuvette (50 mm) with sample.



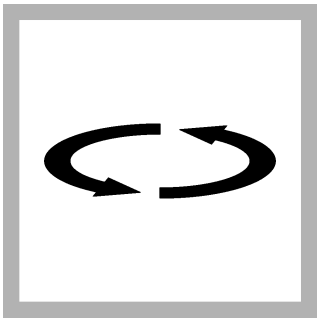
2. Prepared sample: Pipet **0.5 mL** of **reagent A** into a beaker.



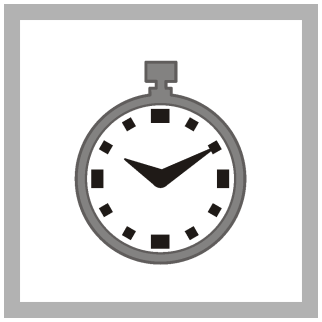
3. Pipet **5.0 mL** of **sample**.



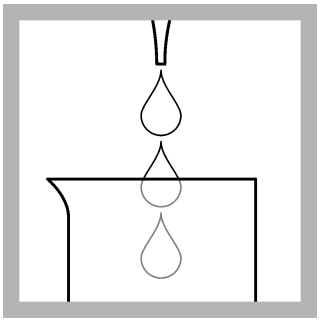
4. Pipet **0.5 mL** of **reagent B**.



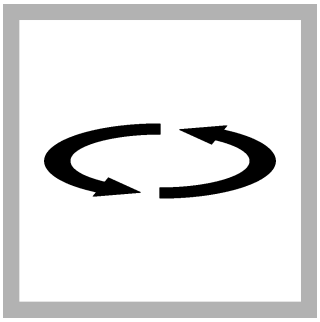
5. Swirl gently.



6. Allow to stand for **5 minutes**.

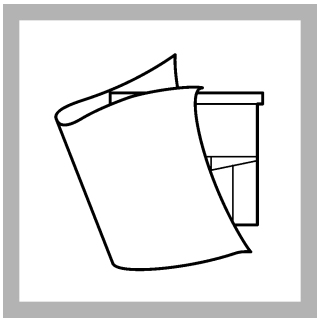


7. Pipet **1.0 mL** of **reagent C**.

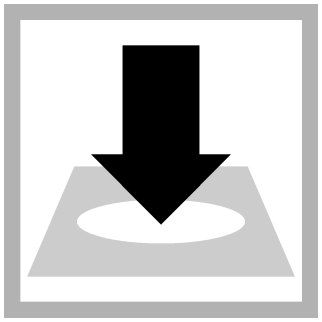


8. Swirl gently.

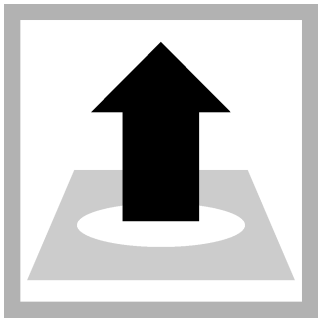
9. Allow to stand for **1 minute**.



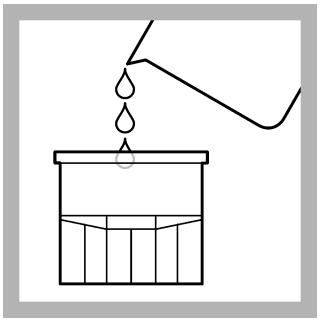
10. Thoroughly clean the outside of the **blank**.



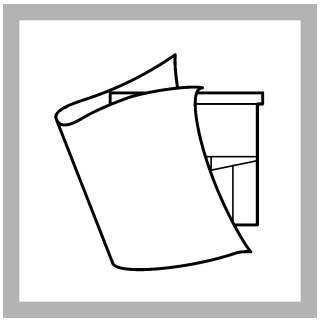
11. Insert the **blank** into the cell holder. Go to **Stored Programs**. Select the test, push **ZERO**.



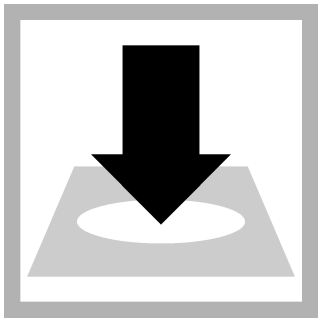
12. Remove the blank.



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 method is susceptible to oxidizing substances such as, for example, chlorine and chlorine-containing compounds. 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
1200 mg/L	Cl^-
1000 mg/L	Ca^{2+}
800 mg/L	Alkalinity as $CaCO_3$
500 mg/L	Mg^{2+}, SO_4^{2-}
200 mg/L	NO_3^-
100 mg/L	NH_4^+ , PO_4^{3-}, SiO_2
10 mg/L	F^-, Fe^{2+}, Fe^{3+}
4.0 mg/L	Cu^{2+}, Zn^{2+}
2.0 mg/L	Al^{3+}

Summary of method

The TMB method is a colorimetric proofing method according to Serrat. Mn (IV) ions form a color complex with tetramethylbenzidine, which is photometrically evaluated at 450 nm.

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