LCW032 Manganese

DOC312.53.94386

0.02–1.00 mg/L Mn (Mn-50) and 0.2–5.0 mg/L Mn (Mn-10) LCW032

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

Test preparation

Test storage

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

pH/Temperature

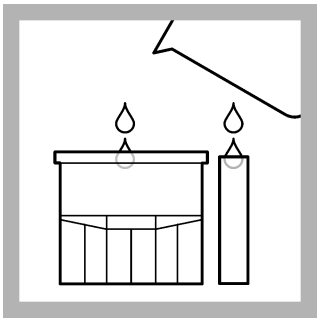
The pH of the water sample must be between pH 3–10.

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

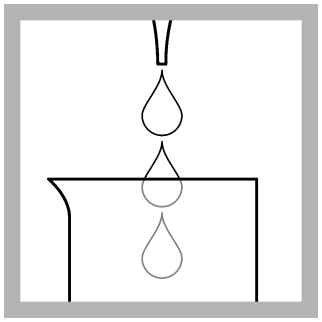
Before starting

Measuring range Mn-50 = **50 mm rectangular cuvette** (0.02–1.00 mg/L) Mn-10 = **10 mm rectangular cuvette** (0.2–5.0 mg/L)
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.

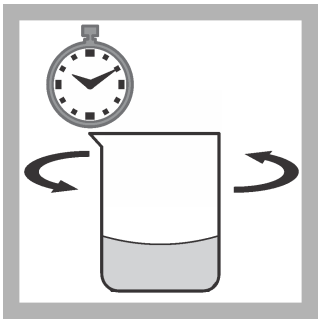
Procedure



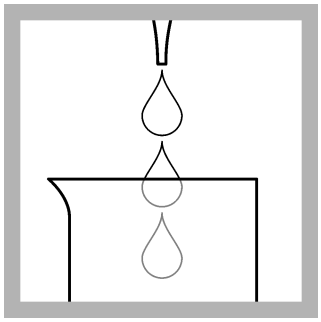
1. Blank:
Transfer **sample** to a **rectangular cuvette** (50 mm or 10 mm).



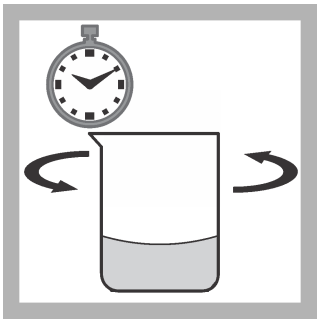
2. Sample:
Pipet into a beaker:
20.0 mL sample, **1.0 mL solution A** and **1.0 mL solution B**.



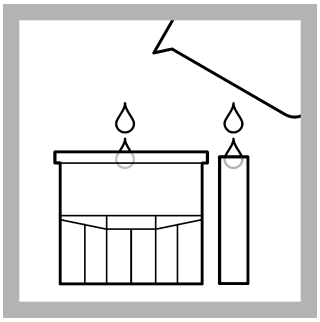
3. Mix and wait **2 minutes**.



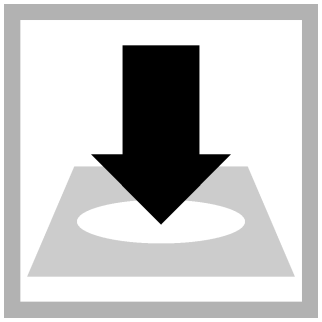
4. Pipet into the beaker:
1.0 mL solution C.



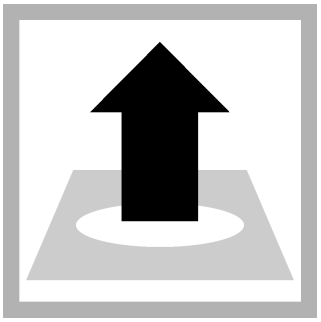
5. Mix and allow to stand for **5 minutes**.



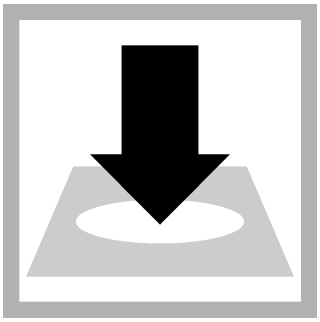
6. Transfer to a **rectangular cuvette** (50 mm or 10 mm).



7. Thoroughly clean the outside of the blank and insert the blank into the cell holder.
Go to **Stored Programs**.
Select the test: push **ZERO**.



8. Remove the blank.



9. Thoroughly clean the outside of sample cuvette and insert the sample cuvette into the cell holder.
Push **READ**.

Interferences

Calcium and magnesium concentrations above 300 mg/L cause high-bias results; in such cases the water sample must be diluted with distilled water.

Concentrations of phosphate ions above 5 mg/L cause low-bias results only if calcium ions are also present; otherwise they do not interfere.

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

Removal of Interferences

After the colored complex has been formed any turbidities must be removed by filtration (Membrane Filtration Set LCW904) before the solution is measured photometrically.

Summary of method

Manganese(II) ions react with formaldoxime in an ammoniacal solution to form a red-colored complex.

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