

0.1–2.0 mg/L Pb

TNTplus®—Method 10216

Scope and application: For wastewater and process control.



Test preparation

Reagent 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

If test is not performed at the correct recommended temperature an incorrect result may be obtained.

pH: The color reaction requires the sample to have a pH between 3 and 9.

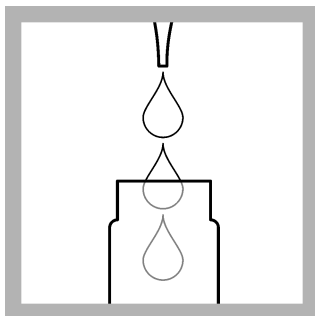
Samples which are free from complexing agents and have a pH between 3 and 6 can be analyzed directly. Samples with a pH between 6 and 9 must be additionally digested with Metals Prep Set TNT 890 in order to bring undissolved lead hydroxide or complex lead compounds into solution.

Review safety information and expiration date on the package.

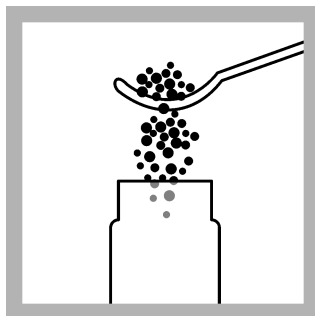
Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.

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.

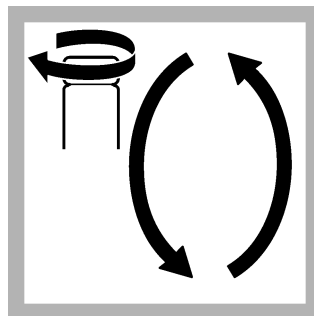
Procedure



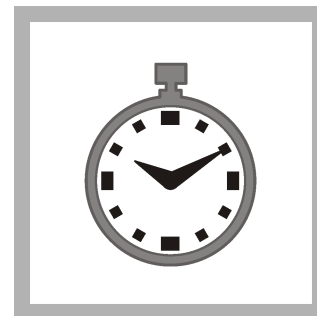
1. Add to a dry reaction tube: **10 mL of sample**.



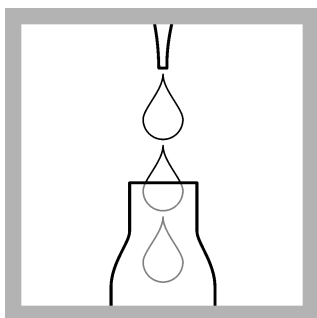
2. Add **1 dosing spoon** of reagent **A**.



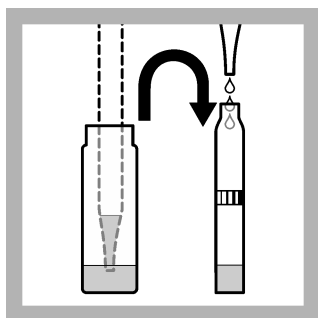
3. Close the reaction tube and invert a few times.



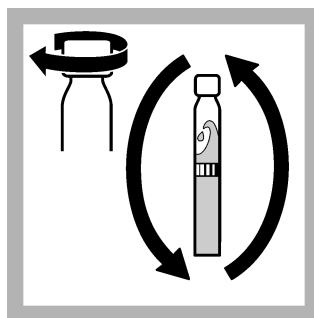
4. Start the reaction timer for **2 minutes**.



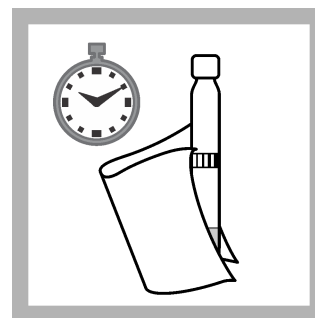
5. Carefully pipet into the Vial Test: **1.5 mL** of **solution B**.



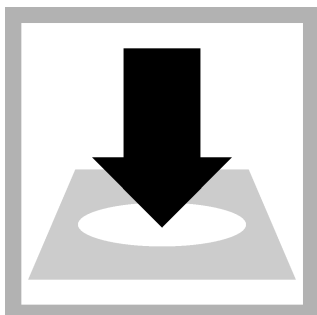
6. Carefully pipet into the same vial: **4.0 mL** of **pretreated sample**.



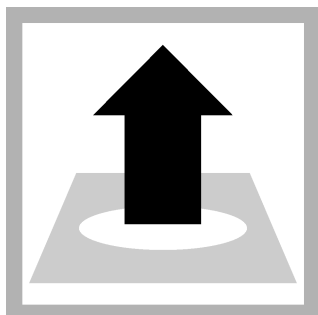
7. Close the vial and invert a few times.



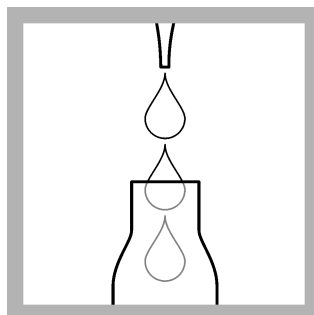
8. After **2 minutes**, thoroughly clean the outside of the vial and evaluate.



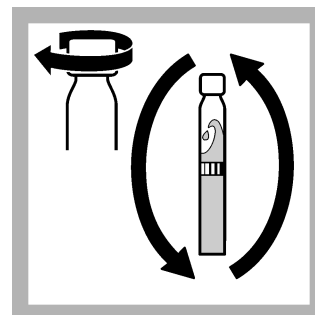
9. Insert the vial into the cell holder.
DR 1900: Select the test, push **READ 1**.



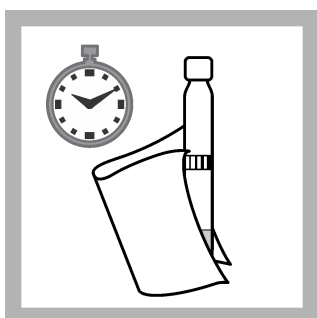
10. Remove the vial.



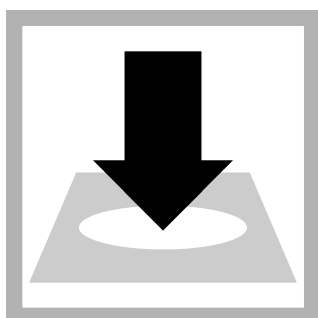
11. Carefully pipet into the same vial: **0.3 mL** of **solution C**.



12. Close the vial and invert a few times.



13. After **1 minute**, thoroughly clean the outside of the vial and evaluate.



14. Insert the vial into the cell holder.
DR 1900: Push **READ 2**.

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
500 mg/L	K^+ , Na^+ , Ca^{2+} , Mg^{2+} , NO_3^- , Cl^- , PO_4^{3-} , CO_3^{2-} , SO_4^{2-}
50 mg/L	F^- , NH_4^+ , Sr^{2+}
25 mg/L	Ag^+ , Cd^{2+} , Cr^{6+} , Zn^{2+} , Cu^{2+} , Co^{2+} , Ni^{2+}
10 mg/L	Cr^{3+} , Al^{3+} , Fe^{2+} , Fe^{3+}

Interference level	Interfering substance
5 mg/L	Mn ²⁺ , Hg ²⁺
0.5 mg/L	Sn ²⁺

Summary of method

Lead(II) ions react at pH 9 with 4-(2-pyridylazo)-resorcin (PAR) to form a red complex.



FOR TECHNICAL ASSISTANCE, PRICE INFORMATION AND ORDERING:
In the U.S.A. – Call toll-free 800-227-4224
Outside the U.S.A. – Contact the HACH office or distributor serving you.
On the Worldwide Web – www.hach.com; E-mail – techhelp@hach.com

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Telephone: (970) 669-3050
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