Chloride Titrets® Kit

K-2020: 20 - 200 ppm
K-2050: 50 - 500 ppm
K-2051: 250 - 2500 ppm
K-2055: 1000 - 10,000 ppm
K-2070: 10,000 - 100,000 ppm

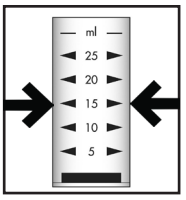


Figure 1

Sample Temperature

Sample temperatures that deviate significantly from 20°C (68°F) may introduce test result bias.

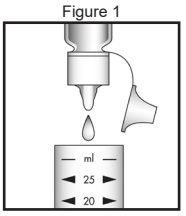


Figure 2

Test Procedure

1. **a. For K2020, K2050, K2051, K2055:** Fill the sample cup to the 15 mL mark with the sample to be tested (fig. 1).

   b. For K2070 only: Using the syringe, obtain 1.5 mL of the sample to be tested and dispense into the empty sample cup. Dilute to the 15 mL mark with distilled water (fig. 1).
2. Add 12 drops of S-2000 Activator Solution (fig. 2). Stir to mix the contents of the cup. Wait **3 minutes**.
3. Slide the open end of the valve assembly over the tapered tip of the Titret so that it fits snugly to the white reference line (fig. 3).
4. Snap the tip of the ampoule at the black snap ring (fig. 4).

   NOTE: When the tip is snapped, the flexible tubing will remain in place on the tapered neck of the ampoule.
5. Lift the control bar and insert the Titret assembly into the Titrettor (fig. 5).

   NOTE: The rigid sample pipe will extend approximately 1.5 inches beyond the body of the Titrettor.
6. Hold the Titrettor with the sample pipe in the sample. Press the control bar firmly, but briefly, to pull in a small amount of sample (fig. 6). The contents will turn **PURPLE.**

   NOTE: **NEVER** press the control bar unless the sample pipe is in the sample.

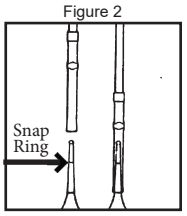
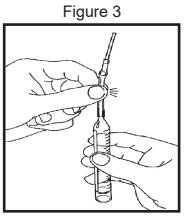


Figure 3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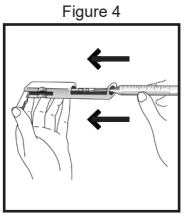
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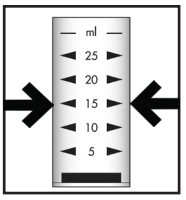

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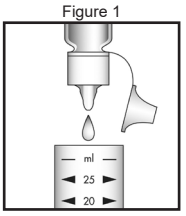

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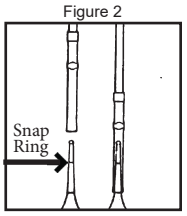

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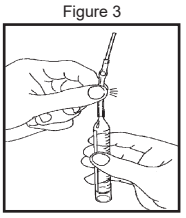
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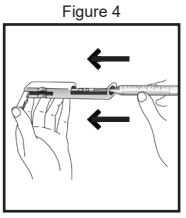
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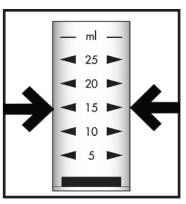

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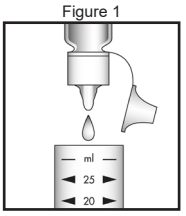

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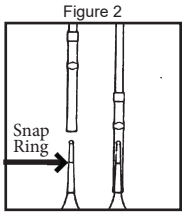

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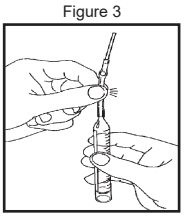
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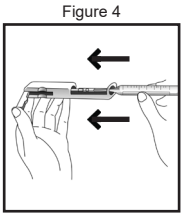
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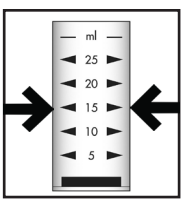

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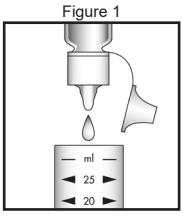

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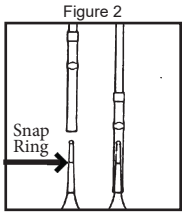

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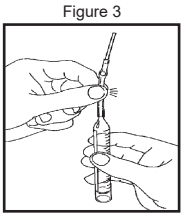
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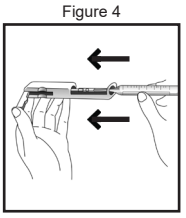
Figure 5

7. Press the control bar again to draw another small amount of sample into the ampoule (fig. 6).
8. Rock the entire assembly to mix the contents of the ampoule. Watch for a color change from **PURPLE to COLORLESS.**
9. Repeat Steps # 7 and 8 until a permanent color change occurs.
10. When the color of the liquid in the ampoule changes to **COLORLESS**, remove the ampoule from the Titrettor. Hold the ampoule, **tip pointed upward**, and read the scale opposite the liquid level (fig. 7). Results are expressed in ppm (mg/Liter) Chloride (Cl-).

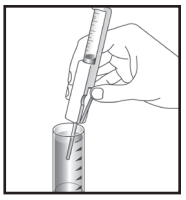

Figure 6

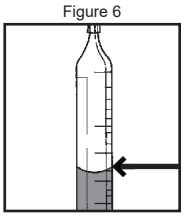

Figure 7

K-2050 only: multiply scale unit by 50
K-2051 only: multiply scale unit by 250
K-2055 only: multiply scale unit by 1,000
K-2070 only: multiply scale unit by 10,000

Interpretation of Test Results

If the contents of the ampoule do not turn purple after the first small dose of sample in Step # 6, add additional small doses to ensure that the purple color does not appear. If no **PURPLE** color appears, the chloride concentration in the sample is above the test range. If the ampoule fills completely and the contents do not turn **COLORLESS**, the chloride concentration is below the test range.

Test Method

The Chloride Titrets®[1] test method employs the mercuric nitrate titrimetric chemistry.[2,3,4] In an acidic solution, mercuric nitrate reacts with chloride to form mercuric chloride. Diphenylcar-bazone forms a purple complex with excess mercuric ions.

1. Titrets is a registered trademark of AquaPhoenix Scientific, LLC U.S. Patent No. 4,332,769
2. ASTM D 512 - 04, Chloride Ion In Water, Test Method A
3. APHA Standard Methods, 23rd ed., Method 4500-Cl- C -1997
4. EPA Methods for Chemical Analysis of Water and Wastes, method 325.3 (1983)

Safety Information

Read SDS before performing this test procedure. Wear safety glasses and protective gloves.

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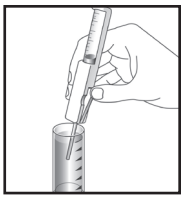

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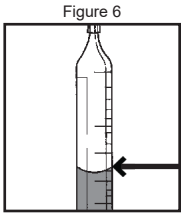

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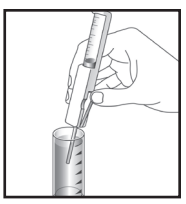

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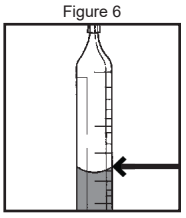

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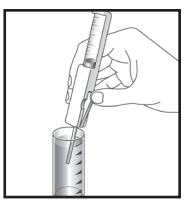

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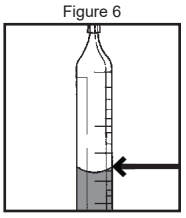

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