

# 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

## Test Procedure

- For K2020, K2050, K2051, K2055:** Fill the sample cup to the 15 mL mark with the sample to be tested (fig. 1).
  - 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).
- Add 6 drops of A-2000 Activator Solution (fig. 2). Stir to mix the contents of the cup. Wait **3 minutes**.
- Snap the tip of the ampoule at the black snap ring (fig. 3).
 

**NOTE:** When the tip is snapped, the flexible tubing will remain in place on the tapered neck of the ampoule.
- Lift the control bar and insert the Titret assembly into the Titrettor (fig. 4).
 

**NOTE:** The rigid sample pipe will extend approximately 1.5 inches beyond the body of the Titrettor.
- 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. 5). The contents will turn **PURPLE**.
 

**NOTE:** NEVER press the control bar unless the sample pipe is in the sample.
- Press the control bar again to draw another small amount of sample into the ampoule.

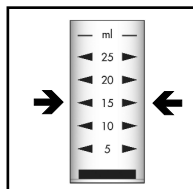


Figure 1

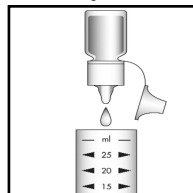


Figure 2

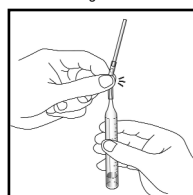


Figure 3

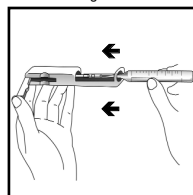


Figure 4

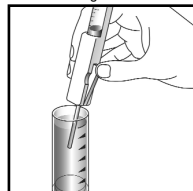


Figure 5

- Rock the entire assembly to mix the contents of the ampoule. Watch for a color change from **PURPLE to COLORLESS**.

- Repeat steps 6 and 7 until a permanent color change occurs.

- 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. 6). Results are expressed in ppm (mg/Liter) Chloride (Cl<sup>-</sup>).

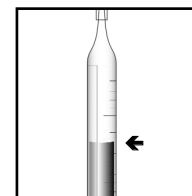


Figure 6

**K-2020:** direct read scale, no multiplication factor

**K-2050:** direct read scale, no multiplication factor

**K-2051:** direct read scale, no multiplication factor

**K-2055:** multiply scale unit by 1,000

**K-2070:** multiply scale unit by 10,000

## Interpretation of Test Results

If the contents of the ampoule do not turn **purple** in Step # 5, 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®<sup>1</sup> test method employs the mercuric nitrate titrimetric chemistry.<sup>2,3,4</sup> In an acidic solution, mercuric nitrate reacts with chloride to form mercuric chloride. Diphenylcarbazone forms a purple complex with excess mercuric ions.

- Titrets is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 4,332,769
- ASTM D 512 - 04, Chloride Ion In Water, Test Method A
- APHA Standard Methods, 22nd ed., Method 4500-Cl<sup>-</sup> C -1997
- EPA Methods for Chemical Analysis of Water and Wastes, method 325.3 (1983)

## Safety Information

Read MSDS (available at [www.chemetrics.com](http://www.chemetrics.com)) before performing this test procedure. Wear safety glasses and protective gloves.

Visit [www.chemetrics.com](http://www.chemetrics.com) to view product demonstration videos.

**Always follow the test procedure above to perform a test.**