

# Chlorine CHEMets® Kit

**K-2500/R-2500:** 0.1 - 2 ppm

**K-2504/R-2500:** 0 - 1 & 0 - 5 ppm

## Free Chlorine Procedure

1. Fill the sample cup to the 25 mL mark with the sample to be tested (fig. 1).
2. Place the CHEMet ampoule, tip first, into the sample cup. Snap the tip. The ampoule will fill leaving a bubble for mixing (fig. 2).
3. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
4. Dry the ampoule. Obtain a test result **1 minute** after snapping the tip.
5. Obtain a test result using the appropriate comparator (K-2500 has only 1 comparator).
  - a. **Low Range Comparator (fig. 3):** Place the ampoule, flat end first, into the comparator. Hold the comparator up toward a source of light and view from the bottom. Rotate the comparator until the best color match is found.
  - b. **High Range Comparator (fig. 4):** Place the ampoule between the color standards until the best color match is found.

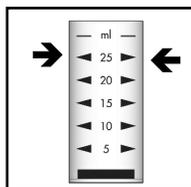


Figure 1

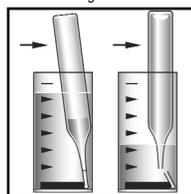


Figure 2



Figure 3

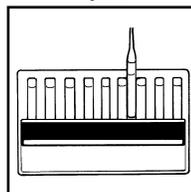


Figure 4

## Total Chlorine Procedure

1. Add 5 drops of A-2500 Activator Solution to the empty sample cup.
2. Fill the sample cup to the 25 mL mark with the sample to be tested.
3. Immediately perform the **Free Chlorine Procedure** starting with Step 2.

## Test Method

The Chlorine CHEMets®<sup>1</sup> test kits employ the DPD chemistry.<sup>2,3</sup> Free chlorine oxidizes DPD (N,N-diethyl-p-phenylenediamine) to form a pink colored species in direct proportion to the chlorine concentration. Total chlorine, the sum of free and combined chlorine, is determined by adding an excess of potassium iodide to the sample. Chloramines (combined chlorine) oxidize the iodide to iodine. The iodine then oxidizes DPD to the pink colored species.

Other halogens, ozone and halogenating agents will produce high test results. Chlorine at concentrations significantly above the test range may prevent proper color development, causing low test results.

1. CHEMets is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. APHA Standard Methods, 23rd ed., Method 4500-Cl G - 2000
3. EPA Methods for Chemical Analysis of Water and Wastes, Method 330.5 (1983)

## Safety Information

Read SDS (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.



Simplicity in Water Analysis

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May 19, Rev. 13