

# Chlorine VACUettes®

## 0 - 30 & 30 - 150 ppm

### Free Chlorine Procedure

1. Fill the dilutor snapper cup to the **top edge** with **chlorine free water**.
2. Fill the micro-test tube approximately halfway with **your sample** (fig 1).
3. Make sure that the VACUette tip is firmly attached to the ampoule tip.
4. Holding the VACUette almost horizontally, touch the tip to the contents of the micro-test tube (fig 1).

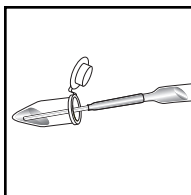


Figure 1

5. Pull the VACUette into a vertical position. A small portion of the collected sample should fall into the sleeve of the VACUette tip (fig 2).

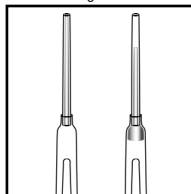


Figure 2

- NOTE:** The capillary tip will fill completely with sample.
6. Place the VACUette in the dilutor snapper cup and snap the tip (fig 3). The ampoule will fill leaving a bubble to facilitate mixing.
  7. Mix the contents of the ampoule by inverting it several times, allowing the bubble to travel from end to end. Dry the exterior of the ampoule and wait **1 minute** for color development.

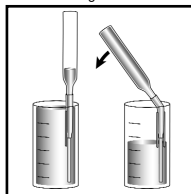


Figure 3

8. Use the appropriate comparator to determine the level of chlorine in the sample. If the color of the VACUette ampoule is between two color standards, a concentration estimate can be made.

- a. Place the ampoule, flat end downward into the center of the low range comparator. Direct the top of the comparator up toward a source of light while viewing from the bottom. Rotate the comparator until the color standard below the ampoule shows the closest match (fig 4).

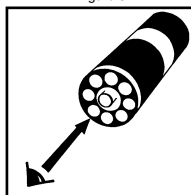


Figure 4

- b. Hold the high range comparator in a nearly horizontal position while standing directly beneath a bright source of light. Place the VACUette ampoule between the color standards moving it from left to right along the comparator until the best color match is found (fig 5).

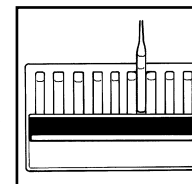


Figure 5

### Total Chlorine Procedure

1. Fill the dilutor snapper cup to the top edge with **chlorine free water**.
2. Add **5 drops** of A-2500 Activator Solution. Stir briefly to mix the contents.
3. Proceed with the **Free Chlorine Procedure** using this pretreated dilution water in Step #1.

### Test Method

The Chlorine VACUettes®<sup>1</sup> employ the DPD chemistry.<sup>2</sup> Results are expressed in ppm (mg/Liter) Cl<sub>2</sub>.

It is not appropriate to use permanganate based standards to validate this test method. Standardized chlorine solutions must be used for this purpose.

Halogens and ozone will produce high test results. High levels of chloramines interfere with the free chlorine test. Use the following pretreatment to eliminate chloramine interference:

- A. Fill the dilutor snapper to the top edge with **chlorine free water**.
- B. Add 14 drops of A-2501 Solution. Stir briefly and wait **10 to 15 seconds**.
- C. Proceed with the **Free Chlorine Procedure** using this pretreated dilution water in Step #1.

1. VACUettes is a registered trademark of CHEMetrics, Inc. U.S. Patent Nos. 4,537,747 & 4,596,780
2. The DPD methodology was developed by CHEMetrics, Inc.

### Safety Information

Breaking the ampoule tip when it is not fully immersed in the sample may cause the ampoule to shatter. Read MSDS before performing this test.

### Reorder Information

### Cat. No.

<i>Test Kit, complete</i> .....	<i>K-2505D</i>
<i>Refill, 30 VACUette ampoules</i> .....	<i>R-2505D</i>
<i>Activator Solution, six 10 mL bottles</i> .....	<i>A-2500</i>
<i>Neutralizer Solution, six 20 mL bottles</i> .....	<i>A-2501</i>
<i>Dilutor Snapper Cup, 25 mL, package of six</i> .....	<i>A-0018</i>
<i>Micro-Test Tube, package of ten</i> .....	<i>A-0015</i>
<i>Comparator, 0-30 ppm</i> .....	<i>C-2501D</i>
<i>Comparator, 30-150 ppm</i> .....	<i>C-2505D</i>

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