

# Chlorine Dioxide CHEMets®

## 0 - 2 & 2 - 10 ppm

### Test Procedure

1. Fill the sample cup to the 15 mL mark with the sample (fig 1).
2. Add 6 drops of A-2700 Neutralizer Solution (fig. 2). Stir briefly with the tip of the ampoule to mix the contents of the sample cup.
3. Place the CHEMet ampoule in the sample cup. Snap the tip by pressing the ampoule against the side of the cup. The ampoule will fill leaving a small bubble to facilitate mixing (fig 3).
4. Mix the contents of the ampoule by inverting it several times, allowing the bubble to travel from end to end each time. Wipe all liquid from the exterior of the ampoule. Wait exactly **1 minute** for color development.
5. Use the appropriate comparator to determine the level of chlorine dioxide in the sample. If the color of the CHEMet ampoule is between two color standards, a concentration estimate can be made.
  - a. Place the CHEMet ampoule, flat end downward into the center tube of the low range comparator. Direct the top of the comparator up toward a source of bright light while viewing from the bottom. Rotate the comparator until the color standard below the CHEMet ampoule shows the closest match (fig 4).

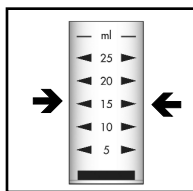


Figure 1

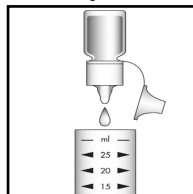


Figure 2

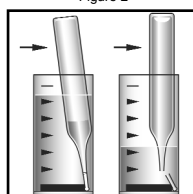


Figure 3

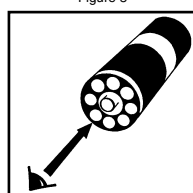


Figure 4

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

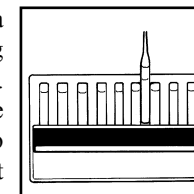


Figure 5

### Test Method

The Chlorine Dioxide CHEMets®<sup>1</sup> test method employs the DPD chemistry.<sup>2,3</sup> Chlorine dioxide oxidizes DPD (N,N-diethyl-p-phenylenediamine) to form a pink colored species in direct proportion to the chlorine dioxide concentration. Interference from free Cl<sub>2</sub> is prevented (up to 6 ppm Cl<sub>2</sub>) by the addition of glycine to the sample. Glycine converts free chlorine to chloroaminoacetic acid. Results are expressed in ppm (mg/Liter) ClO<sub>2</sub>.

Bromine, iodine, ozone and halogenating agents will produce high test results. Chlorine dioxide, at >500 ppm may prevent color development.

1. CHEMets is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. APHA Standard Methods, 20th ed., p. 4-76, method 4500-ClO<sub>2</sub> D and p 4 - 63, method 4500-Cl G (1992)
3. EPA Methods for Chemical Analysis of Water and Wastes, method 330.5 (1983)

### 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 procedure.

### Reorder Information

### Cat. No.

<i>Test Kit, complete</i> . . . . .	<i>K-2705</i>
<i>Refill, 30 CHEMet ampoules</i> . . . . .	<i>R-2705</i>
<i>Neutralizer Solution, six 10 mL bottles</i> . . . . .	<i>A-2700</i>
<i>Sample Cup, 25 mL, package of six</i> . . . . .	<i>A-0013</i>
<i>Comparator, 0-2 ppm</i> . . . . .	<i>C-2702</i>
<i>Comparator, 2-10 ppm</i> . . . . .	<i>C-2710</i>

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