

# Chromate CHEMets®

## 0 - 1 & 1 - 10 ppm

### Test Procedure

1. Fill the sample cup to the 20 mL mark with the sample (fig 1).
2. Add 4 drops of A-2800 Acidifier 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 **2 minutes** for color development.
5. Use the appropriate comparator to determine the level of hexavalent chromium as chromate ( $\text{CrO}_4$ ) 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).

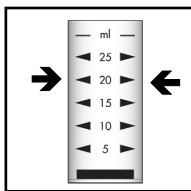


Figure 1

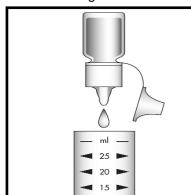


Figure 2

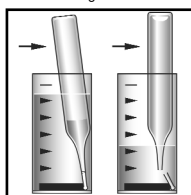


Figure 3

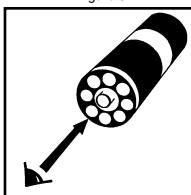


Figure 4

- 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).

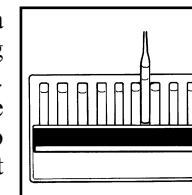


Figure 5

### Test Method

The Chromate CHEMets®<sup>1</sup> test method employs the diphenylcarbazide chemistry.<sup>2,3</sup> In an acidic solution, hexavalent chromium reacts with diphenylcarbazide to form a red-violet colored complex in direct proportion to the hexavalent chromium concentration. Results are expressed in ppm (mg/Liter)  $\text{CrO}_4$ .

1. CHEMets is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. APHA Standard Methods, 20th ed., p. 3-66, method 3500-Cr B (1998)
3. ASTM D 1687 - 02, Chromium in Water, Test Method A

### Safety Information

Read MSDS before performing this test procedure. Wear safety glasses.

### Reorder Information

### Cat. No.

<b>Test Kit, complete</b> .....	<b>K-2810</b>
<b>Refill, 30 CHEMet ampoules</b> .....	<b>R-2810</b>
<b>Acidifier Solution, six 10 mL bottles</b> .....	<b>A-2800</b>
<b>Sample Cup, 25 mL, package of six</b> .....	<b>A-0013</b>
<b>Comparator, 0-1 ppm</b> .....	<b>C-2801</b>
<b>Comparator, 1-10 ppm</b> .....	<b>C-2810</b>

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