Chromate Vacu-vials® Kit

K-2803: 0 - 3.50 ppm (Prog. # 42)

Instrument Set-up

For CHEMetrics photometers, follow the **Setup and Measurement Procedures** in the operator's manual. For spectrophotometers, follow the manufacturer's instructions to set the wavelength to **540 nm**. and to zero the instrument using the ZERO ampoule supplied.

Sample Temperature

Sample temperatures that deviate significantly from 20°C (68°F) may introduce test result bias.

Test Procedure

1. Fill the sample cup to the 20 mL mark with the sample to be tested (fig. 1).
2. Add 4 drops of S-2800 Acidifier Solution (fig. 2). Stir to mix the contents of the cup.
3. Place the Vacu-vial ampoule, tip first, into the sample cup. Snap the tip. The ampoule will fill leaving a bubble for mixing (fig. 3).
4. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
5. Dry the ampoule. Obtain a test result **2 minutes** after snapping tip.
6. Insert the Vacu-vial ampoule into the photometer, flat end first, and obtain a reading in ppm (mg/Liter) chromate (CrO_4).

   NOTE: If using a spectrophotometer that is not pre-calibrated for CHEMetrics products, then use the **equation below** or the **Concentration Calculator** on the website.

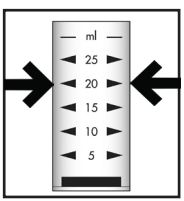

Figure 1

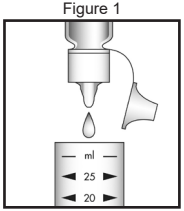

Figure 2

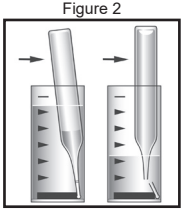
Figure 3

$$ppm = 3.58\,(abs) - 0.01$$

Test Method

The Chromate Vacu-vials®[1] test kit employs the diphenylcarbazide chemistry.[2,3] In an acidic solution, hexavalent chromium reacts with diphenylcarbazide to form a red-violet colored complex in direct proportion to the hexavalent chromium concentration.

1. Vacu-vials is a registered trademark of AquaPhoenix Scientific, LLC U.S. Patent No. 3,634,038
2. APHA Standard Methods, 23rd ed., Method 3500-Cr B - 2009
3. ASTM D 1687-02, Chromium in Water, Test Method A.

Safety Information

Read SDS before performing this test procedure. Wear safety glasses and protective gloves.

CHEMetrics®
By AquaPhoenix Scientific

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