

# Glycol VACUettes®

## 1,000 - 15,000 ppm

### Test Procedure

1. Fill the micro-test tube to the 1 mL mark with your sample.
2. Add **4 drops** of A-4404 Activator Solution. Close the micro-test tube and shake it. Allow the sample to sit undisturbed for **5 minutes**.
3. Fill the dilutor snapper cup to the **top edge** with **glycol free water**.
4. Add **7 drops** of A-4401 Activator Solution and **5 drops** of A-4402 Activator Solution to the contents of the dilutor snapper cup. Stir briefly (fig 1).
5. Make sure that the VACUette tip is firmly attached to the ampoule tip.
6. Holding the VACUette almost horizontally, touch the tip to the contents of the micro-test tube (fig 2).  
**NOTE:** The capillary tip will fill completely with sample.
7. Place the VACUette in the dilutor snapper cup and snap the tip (fig 3). The ampoule will fill leaving a bubble to facilitate mixing.
8. Mix the contents of the ampoule by inverting it several times, allowing the bubble to travel from end to end each time. Dry the exterior of the ampoule and wait **12 minutes** for color development.
9. Hold the 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 4). If the color of the VACUette ampoule is between two color standards, a concentration estimate can be made.

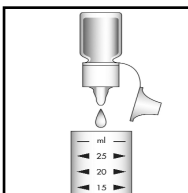


Figure 1

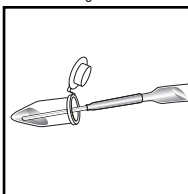


Figure 2

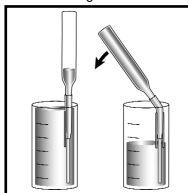


Figure 3

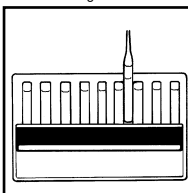


Figure 4

### Activator Solution Preparation

Fill the A-4401 Activator Solution bottle to the shoulder with distilled water. Shake the bottle until the dry chemical dissolves completely. If the solution will be stored at room temperature, label the bottle with an expiration date **6 weeks** from the date of preparation. If it will be stored in the refrigerator, label it with a **4 month** expiration date.

### Test Method

The Glycol VACUettes®<sup>1</sup> test method employs the Purpald®<sup>2</sup> chemistry. Periodic acid oxidizes ethylene glycol and propylene glycol to formaldehyde. In a highly alkaline solution, and in conjunction with an oxidizing agent, formaldehyde reacts with Purpald to form a purple colored complex. Results are expressed in ppm (mg/Liter) ethylene glycol. For test results in ppm (mg/Liter) propylene glycol, multiply the final test result by a factor of 2. This test procedure is somewhat temperature dependent. For best results, samples should be less than 100°F. Certain aldehydes and alcohols will cause high test results.

1. VACUettes is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. Purpald is a registered trademark of Aldrich Chemical Company. The reagent methodology was developed by Aldrich Chemical Company.

### Safety Information

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

### Reorder Information

### Cat. No.

Test Kit, complete .....	K-4815C
Refill, 30 VACUette ampoules .....	R-4815C
Activator Solution, six 10 mL bottles .....	A-4404
Activator Solution, six 20 mL bottles .....	A-4401
Activator Solution, six 10 mL bottles .....	A-4402
Dilutor Snapper Cup, 25 mL, package of six .....	A-0018
Micro-Test Tube, package of ten .....	A-0015
Comparator, 1,000-15,000 ppm .....	C-4815C

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Aug. 06, Rev. 3