

## Phosphate VACUettes® Kit

**K-8510D/R-8510D:** 0 - 30 & 30 - 300 ppm PO<sub>4</sub>

**K-8510A/R-8510A:** 0 - 60 & 60 - 600 ppm PO<sub>4</sub>

**K-8510B/R-8510B:** 0 - 120 & 120 - 1200 ppm PO<sub>4</sub>

**K-8510C/R-8510C:** 0 - 1200 & 1200 - 12,000 ppm PO<sub>4</sub>

### Safety Information

Read SDS (available at [www.chemetrics.com](http://www.chemetrics.com)) before performing this test procedure. Wear safety glasses and protective gloves.

### Test Procedure

1. Fill the dilutor snapper cup to the -ml- mark with **distilled water** (fig. 1).
2. Add 2 drops of A-8500 Activator Solution (fig. 2). Cap the cup and shake it to mix the contents well.
3. Fill the micro-test tube approximately halfway with the sample to be tested (fig. 3).
4. Make sure that the VACUette tip is firmly attached to the ampoule tip.
5. Holding the VACUette almost horizontally, touch the tip to the contents of the micro-test tube (fig. 3).

**NOTE:** The capillary tip will fill completely with sample.

6. **Required for R-8510D only:** Pull the VACUette into a vertical position. A small portion of the collected sample should fall into the sleeve of the VACUette tip (fig. 4).

**NOTE:** If none of the sample falls **immediately**, tap lightly on the shoulder of the ampoule.

7. Place the VACUette between the vertical tip guides on the inside of the dilutor snapper cup. Snap the ampoule tip. The ampoule will fill leaving a bubble for mixing (fig. 5).

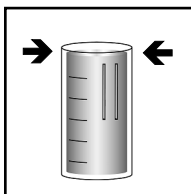


Figure 1

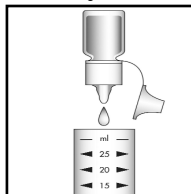


Figure 2

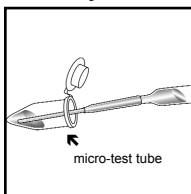


Figure 3

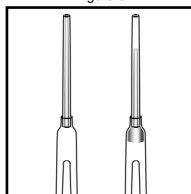


Figure 4

8. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
9. Dry the ampoule and **wait 2 minutes** for color development.
10. Obtain a test result using the appropriate comparator.

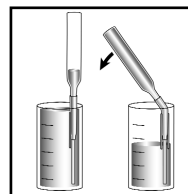


Figure 5

- a. **Low Range Comparator (fig. 6):** Place the ampoule, flat end first into the comparator. Hold the comparator up toward a source of light and view from the bottom. Rotate the comparator until the best color match is found.

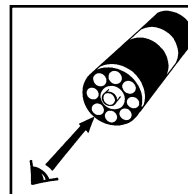


Figure 6

- b. **High Range Comparator (fig. 7):** Place the ampoule between the color standards until the best color match is found.

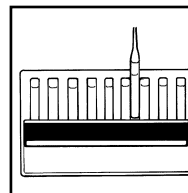


Figure 7

### Test Method

The Phosphate VACUettes®<sup>1</sup> test kit employs the stannous chloride chemistry.<sup>2</sup> In an acidic solution, ortho-phosphate reacts with ammonium molybdate to form molybdophosphoric acid, which is then reduced by stannous chloride to the intensely colored molybdenum blue. The resulting blue color is directly proportional to the phosphate concentration.

Condensed phosphates (pyro-, meta- and other polyphosphates) and organically bound phosphates do not respond to this test. Sulfide, thio-sulfate, and thiocyanate will cause low test results.

1. VACUettes is a registered trademark of CHEMetrics, Inc. U.S. Patent Nos. 4,537,747 & 4,596,780

2. APHA Standard Methods, 22nd ed., Method 4500-P D - 1999

Visit [www.chemetrics.com](http://www.chemetrics.com) to view product demonstration videos.  
Always follow the test procedure above to perform a test.