Phosphate Vacu-vials® Kit

K-8503: 0 - 80.0 ppm PO_4 (Prog. # 158)

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 **420 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 25 mL mark with the sample to be tested (fig. 1).
2. Place the Vacu-vial ampoule, tip first, into the sample cup. Snap the tip. The ampoule will fill leaving a bubble for mixing (fig. 2).
3. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
4. Dry the ampoule. Obtain a test result **5 minutes** after snapping tip.
5. Insert the Vacu-vial ampoule into the photometer, flat end first, and obtain a reading in ppm (mg/Liter) phosphate (PO_4).

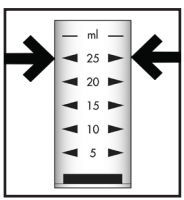

Figure 1

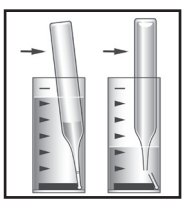
Figure 2

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.

$$ppm = 72.9 (abs) - 1.8$$

Test Method

The Phosphate Vacu-vials®[1] test kit employs the vanadomolybdophosphoric acid chemistry.[2,3] In an acidic solution, ortho-phosphate reacts with ammonium molybdate andammonium vanadate to produce a yellow colored complex in direct proportion to the phosphate concentration.

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

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 4500-P C - 2005
3. ASTM D 515 - 82, Phosphorus in Water, Test Method C

Safety Information

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

CHEMetrics®
By AquaPhoenix Scientific

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