

Phosphate ezSample™ (EZ-2337)

0.20- 8.00 ppm (mg/L) PO₄²⁻

Instrument Set-up

The PASPort Water Quality Colorimeter is specifically designed to support PASCO's ezSample test kits. Set up the PASPort Water Quality Colorimeter according to the equipment instructions. In the data display software, choose the appropriate test routine. Set your display to read both high and low values. If the readings are above 1.0 mg/L then use the Phosphate High reading (phosphate (H)). If the readings are below 1.0 mg/L, use the Phosphate Low reading (phosphate (L)). Readings at 1.0 mg/L are accurate on both scales.

The calibration procedure is listed on the equipment instruction card.

Safety Information

Read the Material Safety Data Sheet (MSDS) before performing this test procedure. Wear safety glasses and disposable gloves.

Test Procedure

1. Fill the sample cup to the 25 mL mark with the sample (fig 1).
2. Add 2 drops of A-8500 Catalyst Solution (fig 2). Cap the sample cup and shake it to mix the contents.
3. Immediately 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.
5. Wait **3 minutes** for color development.
6. Use the PASPort Water Quality Colorimeter to measure the concentration value of the ampoule.

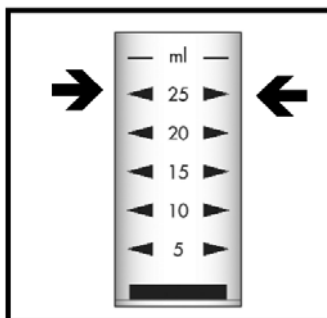


Figure 1

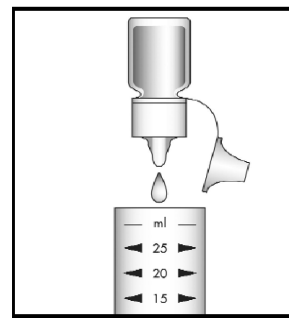


Figure 2

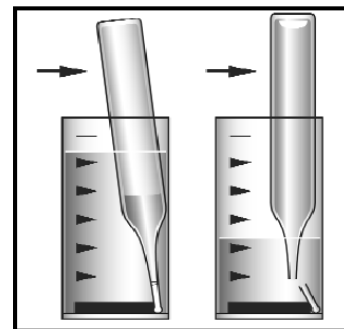


Figure 3

Test Method Description

The phosphate ezSample test method employs the stannous chloride chemistry.¹ In an acidic solution, orthophosphate 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. Results are expressed in ppm (mg/Liter) PO₄²⁻. 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.

Accuracy and practical detection limit (PDL)

The lower limit of the stated test range is the "Practical Detection Limit (PDL)." Accuracy may be compromised if test results are outside of the test range. Test results obtained at or below the PDL should be further confirmed for best accuracy.

Reference

1. Method 4500-P D. APHA Standard Methods, 20th ed., p. 4-145, (1998)