

Ammonia ezSample™ (EZ-2334)

0.2-3.0 ppm (mg/L) NH₃-N

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. Set your display to read both high and low values. If the readings are above 1.0 mg/L, then use the Ammonia High reading (Ammonia (H)). If the readings are below 1.0 mg/L, use the Ammonia Low reading (Ammonia low (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. Add 5 drops of A-1402 Stabilizer solution to the empty sample cup.
2. Fill the sample cup to the 25 mL mark with the sample (fig 1).
3. Add 2 drops of A-1401 Catalyst Solution (fig 2). Stir briefly with the tip of the ezSample Snap Vial (ampoule).

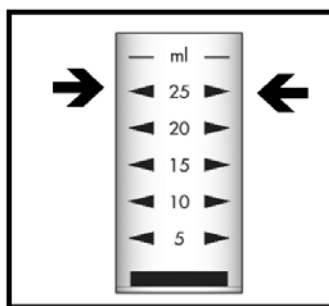


Figure 1

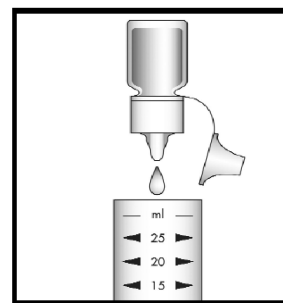


Figure 2

4. Add 2 drops of A-1400 Activator Solution (fig 2). Stir briefly with the tip of the ampoule.
5. 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).
6. 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.
7. Wait **15 minutes** for color development.
8. Use the PASPort Water Quality Colorimeter to measure the concentration value of the ampoule.

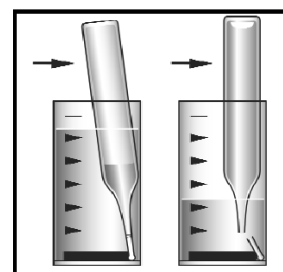


Figure 3

Test Method Description

The ammonia ezSample test method employs the Salicylate chemistry.¹ Free ammonia reacts with hypochlorite to form monochloramine. Monochloramine reacts with salicylate, in the presence of sodium nitroferricyanide, to form 5-aminosalicylate, a green colored complex. This test method measures free ammonia and monochloramine in drinking water, clean surface water and good quality nitrified wastewater effluent.

Results are expressed in ppm (mg/Liter) ammonia-nitrogen, NH₃-N. High levels (>20 ppm) of ammonia can reduce the intensity of the developed color from this reagent. In this case, instead of an over-range (>3.0 ppm) result, a false low test result may be obtained. If high levels of ammonia are suspected, a series of dilutions should be performed on the sample to confirm reagent performance.

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. Krom, Michael D. “Spectrophotometric Determination of Ammonia: A Study of a Modified Berthelot Reduction Using Salicylate and Dichloroisocyanurate”, *The Analyst*, V105, pp. 305-316, 1980.