

Ammonia Vacu-vials® Kit

K-1403: Multiple Ranges (Prog. # 14)

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 610 nm and to zero the instrument using the ZERO ampoule supplied.

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

0 - 3.00 ppm Test Procedure

1. Add **5 drops** of A-1402 Stabilizer Solution to the empty sample cup (fig. 2).
2. Fill the sample cup to the 25 mL mark with the sample to be tested (fig. 1).
3. Add **2 drops** of A-1401 Catalyzer Solution (fig. 2). Stir to mix the contents of the cup.
4. Add **2 drops** of A-1400 Activator Solution (fig. 2). Stir to mix the contents of the cup.
5. Immediately place the Vacu-vial ampoule, tip first, into the sample cup. Snap the tip. The ampoule will fill, leaving a bubble for mixing (fig 3).
6. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
7. Dry the ampoule and wait **15 minutes** for color development.
8. Insert the Vacu-vial ampoule into the photometer, flat end first, and obtain a reading in ppm (mg/Liter) ammonia-nitrogen (NH₃-N).

NOTE: If using a spectrophotometer that is not pre-calibrated for CHEMetrics products, then use the **equation below** or the **Concentration Calculator** found under the Support tab at www.chemetrics.com.

$$\text{ppm} = 2.84 (\text{abs}) - 0.08$$

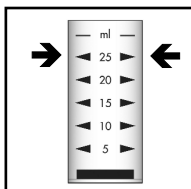


Figure 1

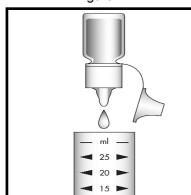


Figure 2

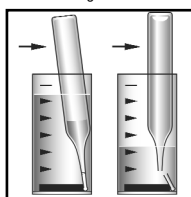


Figure 3

Sample Dilution Procedure - use distilled water only

Dilute the sample if the contents of the reacted ampoule are cloudy or if the ammonia concentration is suspected to exceed 3 ppm. Sample dilution is required because high levels of ammonia can produce false low test results with this reagent.

- A. Using the table below, select the most appropriate Test Range for the sample being tested.
- B. Collect the necessary equipment to accomplish the sample dilution. A Dilution Kit (Cat. No. A-0188) that contains the needed equipment is sold separately.
- C. Add the specified number of drops of A-1402 Stabilizer Solution to the selected sample cup.
- D. Dispense the specified volume of sample into the sample cup and dilute to the specified total volume with distilled water.
- E. Add the specified number of drops of A-1401 Catalyzer Solution to the sample cup. Stir briefly with the ampoule.
- F. Add the specified number of drops of A-1400 Activator Solution to the sample cup. Stir briefly with the ampoule.
- G. Proceed with Steps 5-8 of the 0.20 - 3.00 ppm Test Procedure.
- H. Multiply the test result obtained in Step 8 by the specified multiplication factor.

Test Range, ppm NH ₃ -N	Drops of A-1402	Volume of Sample	Total Volume (mL)	Drops of A-1401 & A-1400	Multiplication Factor
0 - 30	5	2.5 mL	25	2	10
0 - 375	5	200 uL	25	2	125
0 - 750	5	100 uL	25	2	250
0 - 1500	5	50 uL	25	2	500
0 - 3000	5	25 uL	25	2	1000
0 - 15,000	10	10 uL	50	4	5000

Visit www.chemetrics.com to view product demonstration videos.

Always follow the test procedure above to perform a test.