

Ammonia CHEMetrics® Kit

K-1510: 0 - 1 & 1 - 10 ppm

Safety Information

Read MSDS before performing this test procedure. Wear safety glasses and disposable gloves.

Test Procedure for Non-Seawater Samples

1. Fill the sample cup to the 25 mL mark with the sample to be tested (fig 1).
2. Add 2 drops of A-1500 Stabilizer Solution (fig 2). Stir to mix the contents of the cup.
3. Place the CHEMet ampoule in the sample cup. 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. Dry the ampoule and wait **1 minute** for color development.
5. Use the appropriate comparator to determine the level of ammonia-nitrogen ($\text{NH}_3\text{-N}$) in the sample. If the color of the ampoule is between color standards, an estimate can be made.

- a. **Low Range Comparator (fig. 4):** Place the ampoule, flat end downward into the center tube of the comparator. Direct the top of the comparator up toward a source of light while viewing from the bottom. Rotate the comparator until the color standard below the ampoule shows the closest match.

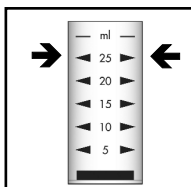


Figure 1

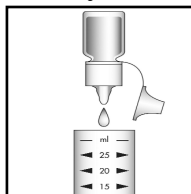


Figure 2

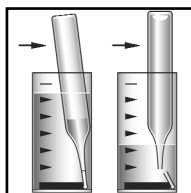


Figure 3

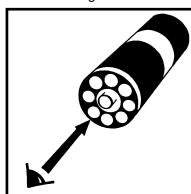


Figure 4

- b. **High Range Comparator (fig. 5):** Hold the comparator in a nearly horizontal position while standing directly beneath a source of light. Place the ampoule between the color standards moving it from left to right along the comparator until the best color match is found.

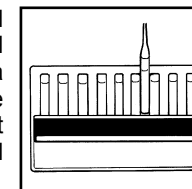


Figure 5

Test Procedure for Seawater Samples

1. Using the syringe, add 1.0 mL of A-1501 Stabilizer Solution to the sample cup.
2. Fill the sample cup to the 25 mL mark with the seawater sample to be tested (fig 1).
3. Perform the Test Procedure above, beginning with Step 3.

Test Method

The Ammonia CHEMetrics®¹ test kit employs direct nesslerization.^{2,3} In a strongly alkaline solution, ammonia reacts with Nessler Reagent (K_2HgI_4) to produce a yellow-colored complex in direct proportion to the ammonia concentration. Results are expressed in ppm (mg/Liter) ammonia-nitrogen, $\text{NH}_3\text{-N}$.

This method is applicable to drinking water, clean surface water, good quality nitrified wastewater effluent and seawater. Other types of samples may require a preliminary distillation step. Ketones, alcohols, and aldehydes may cause off-color test results. Glycine and hydrazine will cause high test results. Aromatic and aliphatic amines, iron, sulfide, calcium and magnesium may cause turbidity.

1. CHEMetrics is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. APHA Standard Methods, 18th ed., p. 4-78, method 4500-NH₃ C (1992)
3. ASTM D 1426 - 03, Ammonia Nitrogen in Water, Test Method A



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