Nitrate HR CHEMets® Kit

K-6901B/R-6901: 0 - 14 ppm N

Sample Temperature

Sample temperatures that deviate significantly from 20°C (68°F) may introduce test result bias.

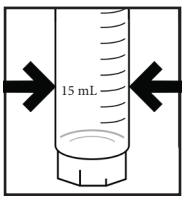


Figure 1

Test Procedure

1. Using the syringe provided, obtain **1.5 mL** of the sample to be tested, and then dispense it into the **reaction tube** (screw cap tube).
2. Dilute the contents of the **reaction tube** to the **15 mL mark with distilled water** (fig. 1).
3. Add **10 drops** of S-6902 to the reaction tube (fig. 2).
4. Add a **level** scoop of S-6904 Zinc to the **reaction tube** (fig. 3). Cap the reaction tube and shake it vigorously for **2 minutes**.
5. Add 10 drops of S-7004 Acidifier Solution to the empty **25 mL sample cup**.
6. Pour the treated sample from the reaction tube into the **25 mL sample cup**, being careful not to transfer any solid material to the sample cup.

   NOTE: A small amount of solids in the sample cup will not affect test results. Set tube aside, it is no longer needed.

7. Place the CHEMet ampoule, tip first, into the sample cup. Snap the tip. The ampoule will fill leaving a bubble for mixing (fig. 4).

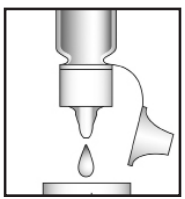
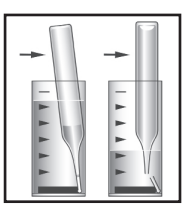

Figure 2


Figure 3


Figure 4

8. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
9. Dry the ampoule. Obtain a test result **8 minutes** after snapping the tip.
10. Use the 0 - 14 concentration scale on the comparator label. Obtain a test result by placing the ampoule between the color standards until the best color match is found (fig. 5).

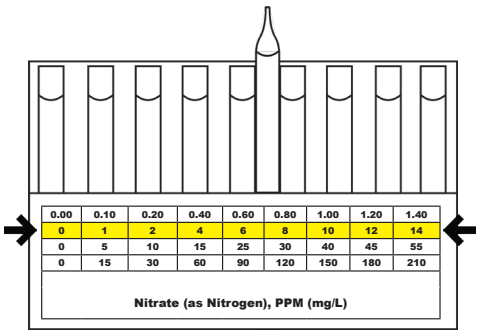


Figure 5

Test Method

The Nitrate CHEMets®[1] test kit employs the zinc reduction method.[2,3,4,5] In an acidic solution, nitrite diazotizes with the primary aromatic amine N-(1-naphthyl)ethylenediamine dihydrochloride (NED) and then couples with sulfanilic acid to produce a highly colored azo dye. The resulting pink color is proportional to the nitrite concentration in the sample.

1. CHEMets is a registered trademark of AquaPhoenix Scientific, LLC U.S. Patent No.3,634,038
2. APHA Standard Methods, 23rd ed., Method 4500-NO_3- E - 2016
3. ASTM D 3867 - 09, Nitrite-Nitrate in Water, Test Method B
4. EPA Methods for Chemical Analysis of Water and Wastes, Method 353.3 (1983)
5. Nelson J. L., Kurtz, L. T., and R. H. Bray (1954) Rapid Determination of Nitrates and Nitrites. Analytical Chem., V26, p 1081-2

Safety Information

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

Sep. 26, Rev. 1