Iron HR CHEMets® Kit

K-6220D/R-6201: 10 - 100 ppm

Ferrous Iron Procedure

1. Using the syringe provided, obtain **2.5 mL** of the sample to be tested, and then dispense it into the empty sample cup.
2. Dilute the contents of the sample cup to the **25 mL mark with distilled water** (fig 1).
3. Place the CHEMet ampoule, tip first, into the sample cup. Snap the tip. The ampoule will fill leaving a bubble for mixing (fig 2).
4. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
5. Dry the ampoule. Obtain a test result **1 minute** after snapping the tip.
6. Obtain a test result by placing the ampoule between the color standards until the best color match is found (fig. 3).

NOTE: Use the 10 - 100 ppm concentration scale on the comparator label.

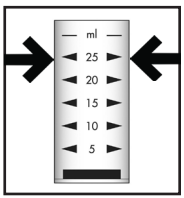

Figure 1

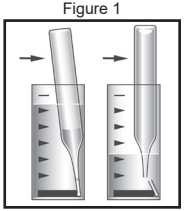
Figure 2

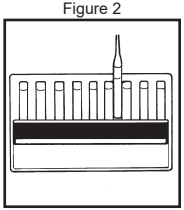
Figure 3

Total Iron Procedure

1. Preform steps 1 - 2 of the Ferrous Iron Procedure.
2. Add 5 drops of S-6000 Activator Solution. Stir briefly. Wait **4 minutes**.
3. After 4 minutes, stir the sample once again and then perform the **Ferrous Iron Procedure** using this pretreated sample.

Test Method

The Iron CHEMets®[1] test method employs the phenanthroline chemistry.[2,3,4] Ferrous iron reacts with 1,10-phenanthroline to form an orange colored complex in direct proportion to the soluble iron concentration. Total iron (ferrous plus ferric) is determined by adding a mixture of thioglycolic acid and ammonia to the sample. This mixture dissolves most forms of particulate iron. Certain forms of very insoluble iron (magnetite, ferrite, etc.) require a digestion procedure in place of the Total Iron Procedure.

1. CHEMets is a registered trademark of AquaPhoenix Scientific, LLC U.S. Patent No. 3,634,038
2. APHA Standard Methods, 23rd ed., Method 3500-Fe B - 1997
3. ASTM D 1068 - 77, Iron in Water, Test Method A
4. J.A. Tetlow and A.L. Wilson, "The Absorptiometric Determination of Iron in Boiler Feedwater," Analyst, Vol. 89, p 442 (1964).

Sampling and Preservation

For ferrous iron, analyze sample immediately upon collection. For total iron, analyze sample at the time of collection if possible. Otherwise, adjust the sample pH to less than 2 with nitric or hydrochloric acid. If the pH of the preserved sample is <1, adjust to pH 2-3 prior to analysis. If necessary, adjust test results for sample dilution resulting from preservation and pH adjustment.

Safety Information

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

CHEMetrics®
By AquaPhoenix Scientific

Apr. 24, Rev. 1