

Phenols CHEMets® Kit

K-8010/ R-8010: 0 - 1 & 0 - 12 ppm

Sample Temperature

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

Test Procedure

1. Fill the sample cup to the 25 mL mark with the sample to be tested (fig. 1).
2. Add 5 drops of S-8000 solution (fig. 2). Stir to mix the contents of the cup.
3. Place the CHEMet ampoule, tip first, into the sample cup. Snap the tip. The ampoule will fill leaving a bubble for mixing (fig. 3).
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 using the appropriate comparator.

a.Low Range Comparator (fig. 4):

Place the ampoule, flat end first, into the comparator. Hold the comparator up toward a source of light and view from the bottom. Rotate the comparator until the best color match is found.

b.High Range Comparator (fig. 5):

Place the ampoule between the color standards until the best color match is found.

NOTE: Use the 0 - 12 ppm concentration scale on the comparator label.

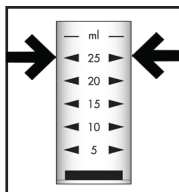


Figure 1

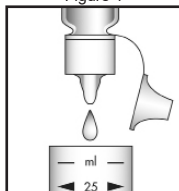


Figure 2

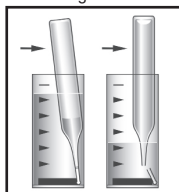


Figure 3



Figure 4

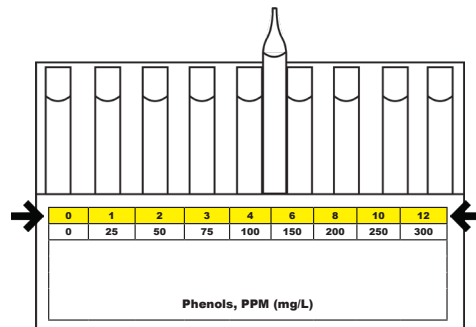


Figure 5

Test Method

The Phenols CHEMets® test kit employs the 4-aminoantipyrine chemistry.^{2,3,4} In an alkaline solution, phenols react with 4-aminoantipyrine to produce a red colored complex. The color forming reaction is initiated by potassium ferricyanide (accessory solution). Test results are expressed in ppm (mg/Liter) "equivalent phenol" as C₆H₅OH.

Most parasubstituted phenols do not produce a color with this reagent. Ferrous iron causes a blue color which can be eliminated by adding several drops of 1% EDTA to the sample before the accessory solution. Sulfide, in excess of 100 ppm, causes a yellow turbidity. Highly contaminated waste waters may require distillation to separate phenols from nonvolatile impurities.

1. CHEMets is a registered trademark of AquaPhoenix Scientific, LLC U.S. Patent No. 3,634,038
2. APHA Standard Methods, 14th ed., Method 510 C (1975)
3. ASTM D 1783 - 01, Phenolic Compounds in Water, Test Method B
4. EPA Methods for Chemical Analysis of Water and Wastes, method 420.1 (1983)

Safety Information

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