

Phenols CHEMets® Kit

K-8012/R-8012: 0 - 1 & 0 - 12 ppm

Safety Information

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

Test Procedure

1. Fill the sample cup to the 25 mL mark with the sample to be tested (fig. 1).
2. Dissolve the crystals on the tip of the ampoule in the sample by stirring the sample briefly with the ampoule tip (fig. 2).
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 and wait **1 minute** for color development.

NOTE: After the 1 minute color development, the color in the reacted ampoule may be more orange than the color standards. If this is the case, it is appropriate to wait up to an additional 5 minutes for an improved color match.

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.

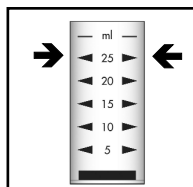


Figure 1

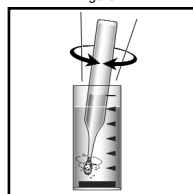


Figure 2

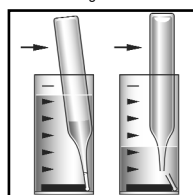


Figure 3

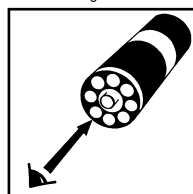


Figure 4

- b. **High Range Comparator (fig. 5):**
Place the ampoule between the color standards until the best color match is found.

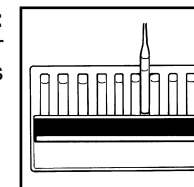


Figure 5

Test Method

The Phenols CHEMets®¹ 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 (tip coating). 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 dissolving the tip coating. 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 CHEMetrics, Inc. 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)

Visit www.chemetrics.com to view product demonstration videos.
Always follow the test procedure above to perform a test.



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