Filming Amine CHEMets® Kit

K-1006/R-1006: 0 - 2 & 2 - 6 ppm
Octadecylamine (ODA) or Oleylamine (OLA)

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

Test Procedure
1. Rinse the sample cup with the sample to be tested, then fill it to the 20 mL mark with the sample (fig. 1).
2. Add 10 drops of S-1010 Acidifier 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 tiny bubble for mixing (fig. 3).
4. Tap the bottom of the ampoule on a hard surface to cause any tiny bubbles that have collected on the ampoule wall to rise to the top of the liquid in the ampoule. Mix the ampoule by repeatedly inverting it, allowing the bubble to travel from end to end until a uniform color is obtained.
5. Dry the ampoule. Obtain a test result **2 minutes** 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.

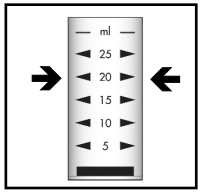

Figure 1

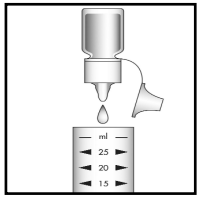

Figure 2

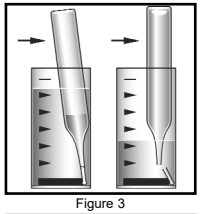
Figure 3

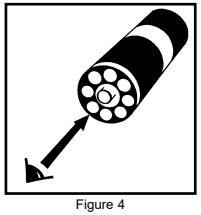
Figure 4

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

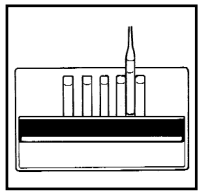
Figure 5

Test Method
The Filming Amines CHEMets® test kit employs the Rose Bengal chemistry. When samples are buffered under acidic conditions (pH 2.3 - 3.3), filming amines such as Octadecylamine (ODA) and Oleylamine (OLA) form a magenta complex with rose bengal (4,5,6,7-tetrachloro-2',4',5',7'-tetraiodofluorescein disodium salt) in direct proportion to the concentration of filming amines present in the sample. Various ionic species typically used for treatment of boilers may cause negative interference. Samples with high total alkalinity may contribute to positive interference.

1. CHEMets is a registered trademark of AquaPhoenix Scientific, LLC. U.S. Patent No. 3,634,038
2. K Stiller, T Wittig, M Urschey. "The Analysis of Film-Forming Amines - Methods, Possibilities, Limits and Recommendations" (2010)

Sampling
Sampling technique is critical. Samples should be cooled to prevent flashing. Sample lines should be flushed thoroughly before sampling. Sampling points should be representative of the system. Filming amines will attach to the surfaces of sample containers. Rinse the sample cup thoroughly with distilled water between uses. Washing the cup after every test is not essential; however, periodic cleaning with standard laboratory detergent or routine replacement of the sample cup is recommended. Sample directly into the clean sample cup.

CHEMetrics®
By AquaPhoenix Scientific

Oct. 23, Rev. 1