



## Technical Data Sheet

### Filming Amine (aliphatic amine) Methyl Orange Method

**Applications and Industries:** Boiler feedwater

**References:** ASTM D 2327-80, Mono- and Dioctadecylamines in Water (1989).

**Chemistry:** Filming amine reacts with methyl orange to form a colored complex that is extracted into an immiscible organic solvent. The intensity of the resulting yellow color is directly related to the concentration of "filming amine" in the sample. Results are expressed as ppm (mg/L) octadecylamine.

**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 surface of sample containers. For best accuracy, the kit's reaction tube should be cleaned between uses with a solution of 10% nitric acid followed by a rinse with the sample. Sampling should be performed directly into the reaction tube. Sample dilutions, if necessary, should be performed in the reaction tube to minimize loss of the amine during transfer from an alternate dilution vessel.

#### Interference Information:

The filming amines test works best with primary aliphatic amines. The test will also measure secondary and tertiary amines, but with less sensitivity and accuracy. The reactions of the test are common to long-chain aliphatic amines or compounds having a long-chain amine group in the molecule. The test will measure ethoxylated soy amines, but with less sensitivity and accuracy than aliphatic amines.

Quaternary ammonium compounds and hydrazine interfere positively.

Morpholine and cyclohexylamine (both neutralizing amines) at up to 500 mg/L do not interfere.

Ferric iron and copper interfere.

Chlorine is a significant negative interference at 2.5 ppm but does not interfere at 0.5 ppm.

Only the reaction tube supplied with the kit should be used during analysis. Other types of plasticware or glassware will cause erroneous test results.

Sample pHs up to at least 10 can be tolerated.

Samples with hardness levels greater than 150 ppm as CaCO<sub>3</sub> should be diluted prior to analysis.

**Safety Information:** Safety Data Sheets (SDS) are available upon request and at [www.chemetrics.com](http://www.chemetrics.com). Read SDS before using this product. Breaking the tip of a CHEMet™ ampoule in air rather than water may cause the glass ampoule to shatter. Wear safety glasses and protective gloves.

**Available Analysis Systems:** Visual colorimetric: CHEMets®

**Storage Requirements:** Products should be stored in the dark and at room temperature.

**Shelf Life:** *When stored in the dark and at room temperature:* The CHEMets refill has a shelf life of 4 years. The color comparator has a 2-year shelf.

**Accuracy:** CHEMets kit: ± 1 color standard increment