Procedure for Prevention of Chloride Interference During Analysis with CHEMetrics® Anionic Surfactant (MBAS) Test Kits

Version 7 / Apr 2023

Reference

The following procedure is based on a process outlined in method 5540 C - 2000 of APHA Standard Methods, 23rd ed.

Overview

The organic extract of a sample containing high levels of chloride is rinsed with a wash solution to remove many dissolved solids, including chloride. CHEMetrics has experimentally demonstrated that this procedure effectively minimizes interference from up to at least 10,000 ppm chloride.

Reagent Preparation

Note: CHEMetrics does not manufacture or sell the chemical reagents needed to perform this procedure.

Wash Solution:

- Slowly add 41 mL 6N sulfuric acid (H_2SO_4) to 500 mL distilled water in a 1-liter volumetric flask.
- Add 50 g sodium phosphate monobasic, monohydrate ($NaH_2PO_4 \cdot H_20$) and shake until dissolved.
- Dilute to 1 L with distilled water.

Read Safety Data Sheet for each chemical used in this procedure for specific safety precautions.

Procedure

1. Perform the following steps as directed in the kit instructions:
   For K-9400: perform steps 1 through 4.
   For R-9423: perform steps 1 through 5.
2. Using a pipet or similar device, remove as much of the aqueous (top) layer as possible from the reaction tube (K-9400) or dropper bottle (R-9423) without disturbing the organic extract (bottom layer). Do **not** remove any of the bottom layer.
3. Add 2-3 mL of the wash solution to the reaction tube (K-9400) or 9-10 mL to the dropper bottle (R-9423). Cap the vessel and shake vigorously for **30 seconds**. Allow the tube or bottle to stand undisturbed for approximately **1 minute**.
4. Proceed to the following steps in the kit-specific instructions to continue with analysis:
   For K-9400: proceed to step 5.
   For R-9423: proceed to step 6.