

Sulfide Vacu-vials® Kit

K-9503/K-9523

Instrument Set-up

For CHEMetrics photometers, follow the **Setup and Measurement Procedures** in the operator's manual. For spectrophotometers, follow the manufacturer's specifications to set the wavelength (660 nm for K-9503; 610 nm for K-9523) and to zero the instrument using the ZERO ampoule supplied.

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 A-9500 Activator Solution (fig. 2). Stir to mix the contents of the cup.
NOTE: Store the A-9500 Activator Solution in the glass bottle when not in use.
3. Immediately place the ampoule, tip first, into the sample cup and 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 **5 minutes** for color development.
6. Insert the Vacu-vial ampoule into the photometer, flat end first, and obtain a reading in ppm (mg/Liter) sulfide (S).

NOTE: If using a spectrophotometer that is not pre-calibrated for CHEMetrics products, then use the **equation below** or the **Concentration Calculator** found under the Support tab at www.chemetrics.com.

K-9503: ppm = 1.44 (abs) - 0.01

K-9523: ppm = 5.91 (abs) + 0.03

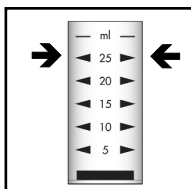


Figure 1

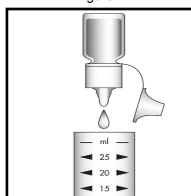


Figure 2

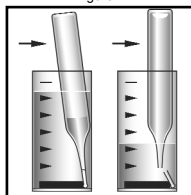


Figure 3

Test Method

The Sulfide Vacu-vials®¹ test kit employs the methylene blue chemistry.^{2,3} In an acidic solution, sulfide reacts with N,N-dimethyl-p-phenylenediamine and ferric chloride to produce methylene blue. The resulting blue color is directly proportional to the sulfide concentration.

Strong reducing agents, including high levels of sulfide, will cause low test results. Sulfide is very volatile, especially when the sample is acidified. It is essential to analyze the sample as quickly as possible.

1. Vacu-vials is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. APHA Standard Methods, 22nd ed., Method 4500-S²⁻- D - 2000
3. EPA Methods for Chemical Analysis of Water and Wastes, Method 376.2 (1983)

Safety Information

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

Instrument Ranges

K-9503 (V-2000, V-3000): 0 - 3.00 ppm (Prog. # 179)

K-9503 (Spectrophotometer): 0 - 1.00 ppm

K-9523 (all instrument types): 0 - 6.00 ppm (Prog. # 180)

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



Simplicity in Water Analysis

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