

Peroxide Vacu-vials® Kit

K-5543: 0 - 6.00 ppm (Prog. # 95)

Instrument Set-up

For CHEMetrics photometers, follow the **Setup and Measurement Procedures** in the operator's manual.

For spectrophotometers, follow the manufacturer's instructions to set the wavelength to 470 nm 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. Place the Vacu-vial ampoule, tip first, into the sample cup. Snap the tip. The ampoule will fill leaving a bubble for mixing (fig. 2).
3. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
4. Dry the ampoule. Test results should be obtained **between 30 seconds and 1 minute** after snapping the ampoule.
5. Insert the Vacu-vial ampoule into the photometer, flat end first, and obtain a reading in ppm (mg/Liter) hydrogen peroxide (H₂O₂).

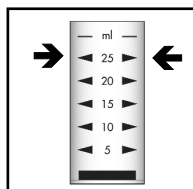


Figure 1

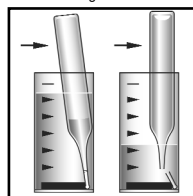


Figure 2

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.

$$\text{ppm} = 4.39 (\text{abs}) - 0.03$$

Test Method

The Peroxide Vacu-vials®¹ test kit employs the ferric thiocyanate chemistry.² In an acidic solution, hydrogen peroxide oxidizes ferrous iron. The resulting ferric iron reacts with ammonium thiocyanate to form ferric thiocyanate, a red-orange colored complex, in direct proportion to the hydrogen peroxide concentration.

Various oxidizing agents such as peracetic acid, ferric ions and cupric ions will produce high test results.

Testing for peroxide in the presence of PAA requires a modified test procedure. Contact technical@chemetrics.com for more information.

1. Vacu-vials is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. D. F. Boltz and J. A. Howell, eds., Colorimetric Determination of Nonmetals, 2nd ed., Vol. 8, p. 304 (1978)

Safety Information

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

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



Simplicity in Water Analysis

www.chemetrics.com
4295 Catlett Road, Midland, VA 22728 U.S.A.
Phone: (800) 356-3072; Fax: (540) 788-4856
E-Mail: orders@chemetrics.com

Feb. 18, Rev. 25