

Peracetic Acid Vacu-vials® Kit

K-7913: 0.40 - 5.00 ppm

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 515 nm and to zero the instrument using the ZERO ampoule supplied.

Test Procedure

1. Add 5 drops of A-7900 Activator Solution to the empty sample cup (fig 1).
2. Fill the sample cup to the 25 mL mark with the sample to be tested (fig 2).
3. Immediately place the Vacu-vial 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. 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.
5. Dry the ampoule and wait **1 minute** for color development.
6. Insert the Vacu-vial ampoule into the photometer, flat end first, and obtain a reading in ppm (mg/Liter) peracetic acid. Accuracy may be compromised if test results are outside the stated test range.

NOTE: Only use the equation below if you are using a spectrophotometer that is not pre-calibrated for CHEMetrics products:

$$\text{ppm} = 0.92 (\text{abs})^2 + 4.84 (\text{abs}) - 0.01$$

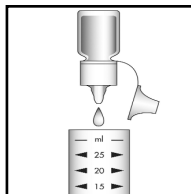


Figure 1

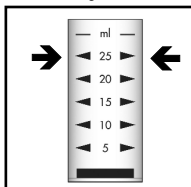


Figure 2

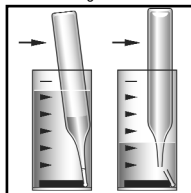


Figure 3

Test Method

The Peracetic Acid Vacu-vials®¹ test kit employs the DPD chemistry.^{2,3} The sample is treated with an excess of potassium iodide. Peracetic acid oxidizes the iodide to iodine. The iodine then oxidizes DPD (N,N-diethyl-p-phenylenediamine) to form a pink colored species in direct proportion to the peracetic acid concentration.

Various oxidizing agents such as halogens, ferric ions and cupric ions will produce high test results. Hydrogen peroxide does not interfere with this test if present at levels comparable to the peracetic acid levels.

1. Vacu-vials is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. APHA Standard Methods, 21st ed., method 4500-Cl G (2005)
3. EPA Methods for Chemical Analysis of Water and Wastes, method 330.5 (1983)

Safety Information

Read MSDS (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.



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

Aug. 12, Rev. 3