

Ozone Vacu-vials® Kit

K-7403: 0.20 - 2.50 ppm

Instrument Set-up

For CHEMetrics photometers, follow the instrument specific **Setup and Measurement Procedures** in the Operator's manual. For spectrophotometers capable of accepting a 13 mm diameter round cell, follow the manufacturer's specifications to set the wavelength to 565 nm and to use the ZERO ampoule supplied with this test kit to zero the instrument.

Test Procedure

1. Add 5 drops of A-7400 Activator Solution to the sample cup (fig 1).
2. Fill the sample cup to the 25 mL mark with the sample to be tested, being careful to minimize turbulence (fig 2).

Note: Ozone loss from sample occurs rapidly. Do not transfer sample to other containers. Analyze immediately.

3. Place the Vacu-vial ampoule in the sample cup. Snap the tip by pressing the ampoule against the side of the cup. The ampoule will fill leaving a small bubble to facilitate mixing (fig 3).
4. Mix the contents of the ampoule by inverting it several times, allowing the bubble to travel from end to end. Dry the ampoule and wait **1 minute** for color development.
5. Read the Vacu-vial ampoule in your photometer. If applicable, use the calibration table to obtain test results in ppm (mg/Liter) ozone as O₃. Accuracy may be compromised if test results are outside the stated test range.

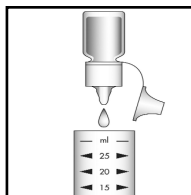


Figure 1

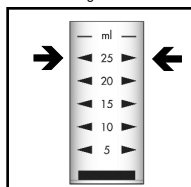


Figure 2

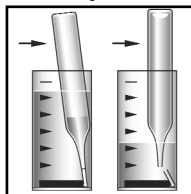


Figure 3

Test Method

The Ozone Vacu-vials®¹ test kit employs the DDPD chemistry.² The sample is treated with an excess of potassium iodide. Ozone oxidizes the iodide to iodine. The iodine then oxidizes DDPD, a methyl-substituted form of DPD (N,N-diethyl-p-phenylenediamine), to form a purple colored species in direct proportion to the ozone concentration. Results are expressed in ppm (mg/Liter) O₃.

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

1. Vacu-vials is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038.
2. The DDPD methodology was developed by CHEMetrics, Inc.

Safety Information

Read MSDS before performing this test procedure. Wear safety glasses and disposable gloves.



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