# Nitrite Vacu-vials® Kit

**K-7003:** 0 - 1.00 ppm N (Prog. # 125)

## **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 to 520 nm and to zero the instrument using the ZERO ampoule supplied.

## **Safety Information**

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

### **Test Procedure**

- 1. Fill the sample cup to the 25 mL mark with the sample to be tested (fig 1).
- 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).
- To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.
- Dry the ampoule and wait 10 minutes for color development.
- Insert the Vacu-vial ampoule into the photometer, flat end first, and obtain a reading in ppm (mg/Liter) nitrite-nitrogen (NO<sub>2</sub>-N).

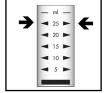


Figure 1

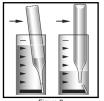


Figure 2

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. If instrument response is > 2 absorbance (abs), dilute sample and retest.

ppm N =  $0.24 \text{ (abs)}^3 - 0.67 \text{ (abs)}^2 + 1.17 \text{ (abs)}$ 

**NOTE:** To convert to ppm Nitrite (NO<sub>2</sub>), multiply test result by 3.3.

#### **Test Method**

The Nitrite Vacu-vials<sup>®1</sup> test kit employs the azo dye formation method.<sup>2,3</sup> In an acidic solution, nitrite diazotizes with a primary aromatic amine and then couples with another organic molecule to produce a highly colored azo dye. The resulting pink-orange color is proportional to the nitrite concentration in the sample.

- Vacu-vials is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
- 2. APHA Standard Methods, 22<sup>nd</sup> ed., Method 4500-NO<sub>2</sub>-B 2000.
- EPA Methods for Chemical Analysis of Water and Wastes, Method 354.1 (1983).

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



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