

# Manganese VACUettes® Kit

K-6502D/R-6502D: 0 - 60 ppm

## Test Procedure

1. Fill the dilutor snapper cup to the -ml- mark with **distilled water** (fig. 1).
2. Add 3 drops of A-6502 Activator Solution (fig. 2). Cap the cup and shake it to mix the contents well.
3. Fill the micro-test tube approximately halfway with the sample to be tested (fig. 3).

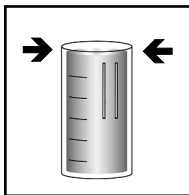


Figure 1

4. Make sure that the VACUette tip is firmly attached to the ampoule tip.
5. Holding the VACUette almost horizontally, touch the tip to the contents of the micro-test tube (fig. 3).

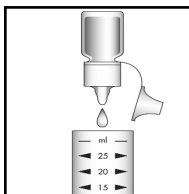


Figure 2

- NOTE:** The capillary tip will fill completely with sample.
6. Pull the VACUette into a vertical position. A small portion of the collected sample should fall into the sleeve of the VACUette tip (fig. 4).

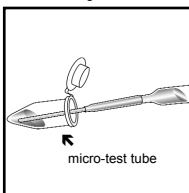


Figure 3

- NOTE:** If none of the sample falls immediately, tap lightly on the shoulder of the ampoule.

7. Place the VACUette between the vertical tip guides on the inside of the dilutor snapper cup. Snap the ampoule tip (fig. 5). The ampoule will fill leaving a bubble for mixing.
8. To mix the ampoule, invert it several times, allowing the bubble to travel from end to end.

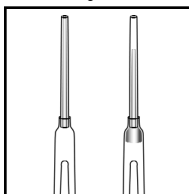


Figure 4

9. Dry the ampoule and wait **1 minute** for color development.

10. Obtain a test result by placing the ampoule, flat end first, into the comparator. Hold the comparator up toward a source of light and view from the bottom. Rotate the comparator until the best color match is found (fig. 6).

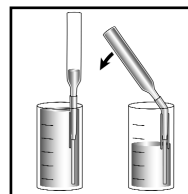


Figure 5

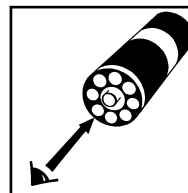


Figure 6

## Test Method

The Manganese VACUettes®<sup>1</sup> test method employs the periodate oxidation chemistry.<sup>2</sup> Soluble manganous compounds are oxidized by periodate in a slightly acidic solution to form permanganate ion. The resulting pink color is proportional to the manganese (Mn) concentration in the sample.

Permanganate ( $\text{MnO}_4^-$ ) develops approximately 25% more color with this reagent than other forms of manganese, causing a high bias. If the sample is known to contain manganese in the form of permanganate only, multiplying test results by 0.8 will improve the accuracy of the results.

1. VACUettes is a registered trademark of CHEMetrics, Inc. U.S. Patent Nos. 4,537,747 & 4,596,780

2. APHA Standard Methods, 14th ed., Method 314C (1975).

## Safety Information

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

Visit [www.chemetrics.com](http://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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Feb. 18, Rev. 12