

Molybdate Vacu-vials® Kit

K-6703: 1.0 - 25.0 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 400 nm and to use the ZERO ampoule supplied with this test kit to zero the instrument.

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 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 2).
3. 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.
4. Read the Vacu-vial ampoule in your photometer. If applicable, use the calibration table to obtain test results in ppm (mg/Liter) molybdenum as Mo. Accuracy may be compromised if test results are outside the stated test range.

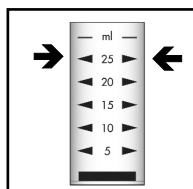


Figure 1

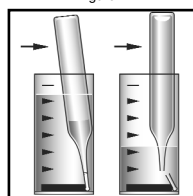


Figure 2

NOTE: Test results are expressed in ppm (mg/L) molybdenum (Mo). To convert test results to ppm (mg/L) molybdate (MoO_4), multiply test results by 1.67.

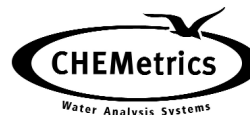
Test Method

The Molybdate Vacu-vials¹ test kit employs the catechol chemistry^{2,3}. In a mildly reducing alkaline solution, catechol reacts with hexavalent molybdenum to form a yellow-orange colored chelate in direct proportion to the hexavalent molybdenum concentration. Test results are expressed in ppm (mg/Liter) molybdenum (Mo).

1. Vacu-vials is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. Haight, G. P; Paragamian, V., Analytical Chemistry, p. 32, 642, 1960
3. Onishi, H.; Sandell, E. B., Photometric Determination of Trace Metals, 4th ed., Part 1, p. 295, 1978

Safety Information

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



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