



## MOLYBDENUM KIT

DROP COUNT, 1 DROP = 2 ppm or 20 ppm

CODE 3632-01

QUANTITY	CONTENTS	CODE
120 mL	*Mo Buffer	*3997-J
60 mL	*Denatured Alcohol	*3998-H
60 mL	Mo Titrant	3999-H
0.25 g	*Sym-Diphenylcarbazone	*4001-S
1	Pipet, 1.0 mL, plastic	0354
1	Pipet, 1.0 mL, plastic, w/cap	0372
1	Pipet, plain, glass, w/cap	0371
2	Test Tubes, 2.5-5-10-15-20 mL, glass, w/caps	0970-S
1	Plug, dropper tip	28831
1	Cap	28832
1	Label, Mo Indicator	37088-4000-H

\*WARNING: Reagents marked with an \* are considered to be potential health hazards. To view or print a Safety Data Sheet (SDS) for these reagents go to [www.lamotte.com](http://www.lamotte.com). Search for the four digit reagent code number listed on the reagent label, in the contents list or in the test procedures. Omit any letter that follows or precedes the four digit code number. For example, if the code is 4450WT-H, search 4450. To obtain a printed copy, contact LaMotte by email, phone or fax.

Emergency information for all LaMotte reagents is available from Chem-Tel: (US, 1-800-255-3924) (International, call collect, 813-248-0585)

To order individual reagents or test kit components, use the specified code number.

Warning! This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

### LaMOTTE COMPANY

Helping People Solve Analytical Challenges

PO Box 329 · Chestertown · Maryland · 21620 · USA  
800-344-3100 · 410-778-3100 [Outside U.S.A.] · Fax 410-778-6394

Visit us on the web at [www.lamotte.com](http://www.lamotte.com)

## **BEFORE TESTING:**

---

- A. Replace the black cap on \*Mo Buffer (3997) with the plastic pipet assembly (0372).
- B. Replace the black cap on Mo Titrant (3999) with the glass pipet assembly (0371).

## **PREPARATION OF \*MO INDICATOR [4000-H]**

---

\*Mo Indicator (4000-H) must be prepared when you receive the kit. If stored in a cool, dark place, it can be used for about 6 months.

1. Very carefully pour all of the \*Denatured Alcohol (3998) into the bottle containing the \*Sym-Dyphenylcarbazone (4001). Cap and shake gently to mix.
2. Insert the dropper plug (28831) by firmly pressing into the neck of the bottle until you hear a snapping sound. Recap bottle using cap (28832).
3. Apply the Mo Indicator label (37088-4000-H) over top of the label on the bottle.



NOTE: Consult SDS.

## **SAMPLES LESS THAN 20 ppm MOLYBDENUM**

---

1. Fill two clean test tubes (0970-S) to the 10 mL line with sample water.
2. Add 1.0 mL \*Mo Buffer (3997) to each tube. Swirl to mix.
3. Holding bottle vertically, add 10 drops of \*Mo Indicator (4000) to each tube. Swirl to mix. Sample will turn pinkish-orange.
4. Use one tube as the “reference tube” and the other as the “sample tube.”

### **TO THE REFERENCE TUBE**

---

5. Fill pipet (0371) with Mo Titrant (3999). While gently swirling the tube, add Mo Titrant (3999), one drop at a time, until pink color changes to yellow, and no further color change occurs. Hold pipet vertically.

### **TO THE SAMPLE**

---

6. Fill pipet (0371) with Mo Titrant (3999). While gently swirling the tube, add Mo Titrant (3999), one drop at a time, until pink color changes to yellow, matching the reference tube. Count the number of drops added. Hold pipet vertically.
7. Multiply number of drops used in Step 6 by 2. Record as ppm Molybdenum.

$$\# \text{ of drops} \times 2 = \text{ppm Molybdenum (Mo)}$$

To convert Molybdenum (Mo) reading to Molybdate ( $\text{MoO}_4^-$ ), multiply by 1.7. Record as ppm Molybdate.

To convert Molybdenum (Mo) reading to Sodium Molybdate.

( $\text{Na}_2\text{MoO}_4 - 2\text{H}_2\text{O}$ ), multiply by 2.52. Record as ppm Sodium Molybdate.

## **SAMPLES GREATER THAN 20 ppm MOLYBDATE**

---

1. Use the 1.0 mL pipet (0354) to add 1.0 mL of sample water to each test tube (0970-S).
2. Use the pipet (0372) to add 5 drops of \*Mo Buffer (3997) to each tube. Swirl to mix.
3. Follow Steps 3 to 6 above.
4. Multiply number of drops used in Step 6 by 20. Record as ppm Molybdenum.

$$\# \text{ of Drops} \times 20 = \text{ppm Molybdenum (Mo)}$$