DROP TEST
MOLYBDENUM (1 drop = 2, 5, 20 or 50 ppm)

Instr. #5359

COMPONENTS:

1 x 4029	Pipet, Calibrated (0.5 & 1.0 mL), plastic
2 x 4030	Pipet, Calibrated (0.5 & 1.0 mL) w/ cap, plastic
1 x 4078	Pipet, Graduated (3 mL w/ 0.5 mL div), plastic
1 x 5359	Instruction
3 x 9198	Sample Tube, Graduated (25 mL) w/ cap, plastic
1 x R-0890-C	Molybdenum Buffer Solution, 2 oz
1 x R-0892-C	Molybdenum Titrating Solution, 2 oz, DB
1 x R-0900-I	Molybdenum Indicator Powder, 10 g
1 x R-0901-C	Molybdenum Indicator Solvent, 2 oz

TO ORDER REPLACEMENT PARTS AND REAGENTS CALL TOLL-FREE 800-TEST KIT (800-837-8548).

PROCEDURE:

CAREFULLY READ AND FOLLOW PRECAUTIONS ON REAGENT LABELS. KEEP REAGENTS AWAY FROM CHILDREN.

NOTE: When dispensing reagents from dropper bottles, **always** hold bottle in a vertical position.

Molybdenum Test

Molybdenum Indicator Solution Preparation:

For 1 drop = 2, 20, or 50 ppm Molybdenum

Using a 1.0 mL pipet (#4030), add 2.5 mL R-0901 Molydenum Indicator Solvent to a clean 25 mL sample tube (#9198). Add 5 level dippers R-0900 Molybdenum Indicator Powder. Swirl until solution turns a clear, reddish-orange color. Undissolved crystals will remain in the solvent-powder mixture (Fig. 1).

For 1 drop = 5 ppm Molybdenum

Using a 1.0 mL pipet (#4030), add 1.5 mL R-0901 Molydenum Indicator Solvent to a clean 25 mL sample tube (#9198). Add 3 level dippers R-0900 Molybdenum Indicator Powder. Swirl until solution turns a clear, reddish-orange color. Undissovled crystals will remain in the solvent-powder mixture (Fig. 1).

For 1 drop = 2 ppm Molybdenum

1. Rinse and fill a clean 25 mL sample tube (#9198) to 25 mL mark with distilled, deionized, or molybdenum-free tap water. This will be the blank.
2. Rinse and fill a second clean 25 mL sample tube to 25 mL mark with water to be tested (Fig. 2).
3. Using a 1.0 mL pipet (#4030), add 1.0 mL R-0890 Molybdenum Buffer Solution to each 25 mL sample tube. Swirl to mix.
4. Using a separate 1.0 mL pipet (#4029), add 1.0 mL Molybdenum Indicator Solution (prepared above) to each sample tube, transferring as few undissolved crystals as possible. However, a few crystals that may be transferred will not affect results. Swirl to mix. The blank will turn peach (Fig. 3) and the sample will turn reddish orange to red (Fig. 4) if molybdenum is present.
5. Add R-0892 Molybdenum Titrating Solution, dropwise, swirling and counting after each drop, to sample tube containing water sample, until sample color matches blank color, or until no further change in color occurs.
6. Multiply drops of R-0892 Molybdenum Titrating Solution by 2. Record as parts per million (ppm) molybdenum.

NOTE: To convert molybdenum (Mo) readings to molybdate (MoO_4), multiply Mo readings by 1.7; to convert to sodium molybdate dihydrate ($Na_2MoO_4 \cdot 2H_2O$), multiply by 2.52.

(OVER)

Fig. 1

Fig. 2

Fig. 3

DROP TEST
MOLYBDENUM (1 drop = 2, 5, 20 or 50 ppm)

For 1 drop = 5 ppm Mo

1. Rinse and fill a clean 25 mL sample tube (#9198) to 10 mL mark with distilled, deionized, or molybdenum-free tap water. This will be the blank.
2. Rinse and fill a second clean 25 mL sample tube to 10 mL mark with water to be tested (Fig. 2).
3. Using a 1.0 mL pipet (#4030), add 0.5 mL R-0890 Molybdenum Buffer Solution to each 25 mL sample tube. Swirl to mix.
4. Using a separate 1.0 mL pipet (#4029), add 0.5 mL Molybdenum Indicator Solution (prepared above) to each sample tube, transferring as few undissolved crystals as possible. However, a few crystals that may be transferred will not affect results. Swirl to mix. The blank will turn peach (Fig. 3) and the sample will turn reddish orange to red (Fig. 4) if molybdenum is present.
5. Add R-0892 Molybdenum Titrating Solution, dropwise, swirling and counting after each drop, to sample tube containing water sample until sample color matches blank color or until no further change in color occurs.
6. Multiply drops of R-0892 Molybdenum Titrating Solution by 5. Record as parts per million (ppm) molybdenum.

NOTE: To convert molybdenum (Mo) readings to molybdate (MoO_4), multiply Mo readings by 1.7; to convert to sodium molybdate dihydrate ($Na_2MoO_4 \cdot 2H_2O$), multiply by 2.52.

For 1 drop = 20 or 50 ppm Mo

1. Rinse and fill a clean 25 mL sample tube (#9198) to 25 mL mark with distilled, deionized, or molybdenum-free tap water. This will be the blank.
2. Using a 3 mL pipet (#4078), place water to be tested in a second clean 25 mL sample tube.

NOTE: For 1 drop = 20 ppm, fill pipet to 2.5 mL mark.
For 1 drop = 50 ppm, fill pipet to 1.0 mL mark.

3. Dilute to 25 mL mark with distilled, deionized, or molybdenum-free tap water (Fig. 2).
4. Using a 1.0 mL pipet (#4030), add 1.0 mL R-0890 Molybdenum Buffer Solution to each 25 mL sample tube. Swirl to mix.
5. Using a separate 1.0 mL pipet (#4029), add 1.0 mL Molybdenum Indicator Solution (prepared above) to each sample tube, transferring as few undissolved crystals as possible. However, a few crystals that may be transferred will not affect results. Swirl to mix. The blank will turn peach (Fig. 3) and the sample will turn reddish orange to red (Fig. 4) if molybdenum is present.
6. Add R-0892 Molybdenum Titrating Solution dropwise, swirling and counting after each drop, to sample tube containing water sample until sample color matches blank color or until no further change in color occurs.
7. For 2.5 mL sample, multiply drops of R-0892 Molybdenum Titrating Solution by 20. Record as parts per million (ppm) molybdenum.

   For 1.0 mL sample, multiply drops of R-0892 Molybdenum Titrating Solution by 50. Record as ppm molybdenum.

NOTE: To convert molybdenum (Mo) readings to molybdate (MoO_4), multiply Mo readings by 1.7; to convert to sodium molybdate dihydrate ($Na_2MoO_4 \cdot 2H_2O$), multiply by 2.52.

Fig. 4

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