

Molybdenum 60

Range(s): 0-60.0 ppm Mo, 0-100 ppm MoO_4^{2-} , 0-130 ppm Na_2MoO_4



Procedure

Note: When testing multiple samples simultaneously, a separate sample cell with an unreacted sample of the water tested must be used to zero the colorimeter. Please note that varying the test procedure from the original can affect the precision of the test.

1. Turn on the Colorimeter.
2. Select a test menu (ALL TESTS, RECENT TESTS, or FAVORITES) containing Molybdenum 60 using $\blacktriangleleft\blacktriangleright$.
3. Select Molybdenum 60 using $\blacktriangle\blacktriangledown$; then press ENTER \odot .
4. Select a chemical form (Mo, MoO_4 , or Na_2MoO_4) for expression of test results using $\blacktriangle\blacktriangledown$.
5. Rinse and fill 25 mm sample cell to 10 mL mark with sample; then cap.

6. Insert sample cell into sample cell compartment. Align marks per User's Manual.
7. Select ZERO using $\blacktriangleleft\blacktriangleright$; then press ENTER \odot . Zero will be displayed.
8. Remove sample cell from sample cell compartment; then remove cap.
9. Using the 0.05 g dipper spoon, add 1 level dipper Molybdenum 60 - Reagent A; then cap and swirl to dissolve powder.

Note: Addition of Molybdenum 60 - Reagent A can be omitted if certain sample does not contain nitrite.

10. Add 1 mL Molybdenum 60 - Reagent B; then swirl to mix.
11. Add 1 mL Molybdenum 60 - Reagent C; then swirl to mix.

12. Using the 0.05 g dipper spoon, add 2 heaping dippers Molybdenum 60 - Reagent D; then cap and swirl to dissolve powder.
13. Invert sample cell once, slowly, to remove any air bubbles present on the sides of sample cell.
14. Insert sample cell into sample cell compartment. Align marks.
15. Select TIMER using $\blacktriangleleft\blacktriangleright$; then press ENTER \odot .
16. Select START using $\blacktriangleleft\blacktriangleright$; then press ENTER \odot . (A 1-minute [01:00] countdown will begin.) Immediately select AUTO using $\blacktriangleleft\blacktriangleright$; then press ENTER \odot .
17. When the timer beeps, the instrument will read the sample and the result will be displayed.

Interferences

The following analytes were tested to the levels listed and found not to cause any interference up to the specified values:

Alkalinity, Total (CaCO_3) – 1000 ppm
 Azole (BT) – 5 ppm
 Azole (TT) – 5 ppm
 Bromine – 5 ppm
 Chloride – 1000 ppm

Chlorine – 5 ppm
 Copper – 5 ppm
 Fluoride – 10 ppm
 Hardness, Calcium (CaCO_3) – 1000 ppm
 Iron, Ferric – 10 ppm
 Iron, Ferrous – 10 ppm
 Nitrate – 2000 ppm
 Nitrite – 2000 ppm

Phosphate – 100 ppm
 Phosphonate – 20 ppm
 Polymer – 1000 ppm
 Polyphosphate – 5 ppm
 Silica – 150 ppm
 Sulfate – 1000 ppm
 Sulfite – 100 ppm
 Zinc – 5 ppm

Instruction #5368

Test Method

Thioglycolate

Under acidic conditions, molybdenum, in the presence of an oxidizing agent, is converted to Mo^{6+} . In this form, molybdenum reacts with thioglycolate to produce a bright yellow color that is proportional to the molybdenum concentration in a sample.

Estimated Detection Limit

0.7 ppm Mo

Precision

Using a single lot of reagent and a standard solution of 25 ppm Mo, an individual analyst obtained a standard deviation with the instrument of ± 0.4 ppm Mo.

Application

Industrial Water

Ordering Info

Reagent Pack

K-8028 Molybdenum 60

Formulated for exclusive use with Taylor's TTI® Colorimeter.

Reagent Pack Components

R-8028A Molybdenum 60 - Reagent A

R-8028B Molybdenum 60 - Reagent B

R-8028C Molybdenum 60 - Reagent C

R-8028D Molybdenum 60 - Reagent D



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