

Monopersulfate 10

Range(s): 0-10.0 ppm Cl₂, 0-43.4 ppm MPS (Potassium Monopersulfate)



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.

- Turn on the Colorimeter.
- Select a test menu (ALL TESTS, RECENT TESTS, or FAVORITES) containing Monopersulfate 10 using ◀▶.
- Select Monopersulfate 10 using ▲▼; then press ENTER ○.
- Select a chemical form (Cl₂ [TO] or MPS [TO]) for expression of test results using ▲▼.
- Rinse and fill 25 mm sample cell to 10 mL mark with sample; then cap.
- Insert sample cell into sample cell compartment. Align marks per User's Manual.
- Select ZERO using ◀▶; then press ENTER ○. Zero will be displayed.
- Remove sample cell from sample cell compartment; then set aside.
- Using the 0.15 g dipper spoon, add 1 level dipper Monopersulfate 10 - Reagent A to a second clean, dry 25 mm sample cell.
- Add 5 drops Monopersulfate 10 - Reagent B.
- Fill sample cell to 10 mL mark with sample; then cap and swirl to dissolve powder.
- Insert sample cell into sample cell compartment. Align marks.
- Select TIMER using ◀▶; then press ENTER ○.
- Select START using ◀▶; then press ENTER ○. (A 2-minute [02:00] countdown will begin.) Immediately select AUTO using ◀▶; then press ENTER ○.
- When the timer beeps, the instrument will read the sample and the result will be displayed. **Record reading as total oxidizer (TO).**
- Select NEW using ◀▶; then press ENTER ○.
- Select a test menu (ALL TESTS, RECENT TESTS, or FAVORITES) containing Monopersulfate 10 using ◀▶.
- Select Monopersulfate 10 using ▲▼; then press ENTER ○.
- Select the same chemical form (Cl₂ [TC] or MPS [TC]) as selected for total oxidizer for expression of total chlorine test results using ▲▼.
- Retrieve the sample cell previously used to zero the Colorimeter.
- Insert sample cell into sample cell compartment. Align marks.
- Select ZERO using ◀▶; then press ENTER ○. Zero will be displayed.
- Remove sample cell from sample cell compartment; then remove cap.
- Using the 0.15 g dipper spoon, add 1 level dipper Monopersulfate 10 - Reagent A. DO NOT MIX.
- Immediately add 5 drops Monopersulfate 10 - Reagent C; then swirl to dissolve powder.
- Add 5 drops Monopersulfate 10 - Reagent B; then cap and swirl to mix thoroughly.
- Insert sample cell into sample cell compartment. Align marks.
- Select TIMER using ◀▶; then press ENTER ○.
- Select START using ◀▶; then press ENTER ○. (A 2-minute [02:00] countdown will begin.) Immediately select AUTO using ◀▶; then press ENTER ○.
- When the timer beeps, the instrument will read the sample and the result will be displayed. **Record reading as total chlorine (TC).**
- To calculate monopersulfate:
monopersulfate = total oxidizer – total chlorine

Instruction #5698

Interferences

Alkalinity, Total (CaCO_3) > 200 ppm – negative interference
To remove interference: Fill dilution vial to 50 mL mark and adjust pH to 6-7 with Sulfuric Acid N (R-0686). Take a 10 mL portion and follow test procedure above.

Bromine, all levels – positive interference
Chlorine Dioxide, all levels – positive interference
Hardness, Calcium (CaCO_3) > 1000 ppm – negative interference
Iodine, all levels – positive interference

Manganese, all levels – positive interference
Ozone, all levels – positive interference
Peroxides, all levels – positive interference

Test Method

DPD (N,N-diethyl-p-phenylenediamine)

Iodide is converted to iodine by oxidizing agents. Iodine reacts with DPD to produce a magenta color proportional to the concentration of those oxidizing agents. For the total chlorine step, an additional reagent is added that does not allow monopersulfate to react with iodide. The difference between the total oxidizer and total chlorine readings corresponds to the concentration of monopersulfate in a sample.

Estimated Detection Limit

0.049 ppm monopersulfate as Cl_2

Precision

Using a single lot of reagent and a standard solution of 5 ppm monopersulfate as Cl_2 , an individual analyst obtained a standard deviation with the instrument of ± 0.125 ppm monopersulfate as Cl_2 .

Application

Recreational Water

Ordering Info

Reagent Pack

K-8031 Monopersulfate 10
Formulated for exclusive use with Taylor's TTI® Colorimeter.

Reagent Pack Components

R-8031A Monopersulfate 10 - Reagent A
R-8031B Monopersulfate 10 - Reagent B
R-8031C Monopersulfate 10 - Reagent C

Optional Reagents & Accessories

R-0686 Sulfuric Acid N



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