Iron Total 3

Range(s): 0-3.00 ppm Fe

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 Iron Total 3 using ◀▶.
3. Select Iron Total 3 using ▲▼; then press ENTER ⊙.
4. Rinse and fill 25 mm sample cell to 10 mL mark with sample; then cap.
5. Insert sample cell into sample cell compartment. Align marks per User's Manual.
6. Select ZERO using ◀▶; then press ENTER ⊙. Zero will be displayed.
7. Remove sample cell from sample cell compartment; then remove cap.
8. Add 1.0 mL Iron Total 3 - Reagent A; then swirl to mix.
9. Using the 0.15 g dipper spoon, add one level dipper Iron Total 3 - Reagent B; then cap and swirl to dissolve powder.
10. Add 0.5 mL Iron Total 3 - Reagent C; then cap and swirl to mix thoroughly.
11. Insert sample cell into sample cell compartment. Align marks.
12. Select TIMER using ◀▶; then press ENTER ⊙.
13. Select START using ◀▶; then press ENTER ⊙. (A 3-minute [03:00] countdown will begin.) Immediately select AUTO using ◀▶; then press ENTER ⊙.
14. When the timer beeps, the instrument will read the sample and the result will be displayed.

Interferences

Lead – negative interference
Molybdate – positive interference
Nitrite – negative interference
Silver – positive interference

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

Alkalinity, Total ($CaCO_3$) – 500 ppm
Aluminum – 60 ppm
Azole (BT) – 50 ppm
Azole (TT) – 20 ppm
Biguanide – 50 ppm
Bromine – 25 ppm
Chloride – 2500 ppm
Chlorine – 10 ppm
Copper – 6 ppm
Cyanuric Acid – 275 ppm
EDTA – 20 ppm
Fluoride – 10 ppm
Hardness, Calcium ($CaCO_3$) – 1000 ppm
Hardness, Magnesium ($CaCO_3$) – 300 ppm
Nitrate – 2000 ppm
Phosphate – 100 ppm
Phosphonate (HEDP) – 50 ppm
Polymer – 1000 ppm
Polyphosphate (SHMP) – 50 ppm
Sulfate – 1000 ppm
Sulfite – 100 ppm
Zinc – 5 ppm

(over)

Test Method

1,10 Phenanthroline
Iron reacts with 1,10 phenanthroline to form an orange color proportional to the concentration of iron in a sample.

Estimated Detection Limit

0.01 ppm Fe

Precision

Using a single lot of reagent and a standard solution of 1.50 ppm Fe, an individual analyst obtained a standard deviation with the instrument of ± 0.02 ppm Fe.

Application

Industrial Water, Recreational Water, and Wastewater

Ordering Info

Reagent Pack

K-8044 Iron Total 3
Formulated for exclusive use with Taylor's TTi® Colorimeter.

Reagent Pack Components

R-8044A Iron Total 3 - Reagent A
R-8044B Iron Total 3 - Reagent B
R-8044C Iron Total 3 - Reagent C

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