# Manganese 0.8

**Range(s): 0-0.80 ppm Mn**

## Procedure

Note: Glassware that has not been properly cleaned may contaminate the sample and affect test results. If metal contamination is suspected, clean glassware thoroughly before use with Nitric Acid 1N (R-0801); then rinse thoroughly with DI Water (R-0833) or sample water.

1. Turn on the Colorimeter.
2. Select a test menu (ALL TESTS, RECENT TESTS, or FAVORITES) containing Manganese 0.8 using ◀▶.
3. Select Manganese 0.8 using ▲▼; then press ENTER ⊙.
4. Rinse and fill 25 mm sample cell to 10 mL mark with DI Water (R-0833), or manganese-free water; then cap and set aside. (This will be the blank sample cell.)
5. Rinse and fill a second sample cell to 10 mL mark with sample water. (This will be the sample.)
6. Using the 0.05 g dipper spoon, add 1 level dipper Manganese 0.8 - Reagent A to each cell; then cap and swirl to dissolve powder.
7. Add 0.5 mL Manganese 0.8 - Reagent B to each cell; then swirl to mix.
8. Add 0.5 mL Manganese 0.8 - Reagent C to each cell; then swirl to mix.
9. Add 0.5 mL Manganese 0.8 - Reagent D to each cell; then cap and swirl to mix thoroughly.
10. Insert blank sample cell into sample cell compartment. Align marks per User's Manual.
11. Select ZERO using ◀▶; then press ENTER ⊙. Zero will be displayed.
12. Remove blank sample cell from sample cell compartment.
13. Insert sample cell into sample cell compartment. Align marks.
14. Select READ using ◀▶; then press ENTER ⊙. The instrument will read the sample and the result will be displayed.

## Interferences

Alkalinity, Total ($CaCO_3$) ≥ 300 ppm – positive interference
To remove interference: Fill dilution vial to 50 mL mark and adjust pH to 7-7.5 with Sulfuric Acid N (R-0686). Take a 10 mL portion and follow test procedure above.
Biguanide (as product) ≥ 250 ppm – positive interference
Bromine ≥ 20 ppm – negative interference
Chloride ≥ 1000 ppm – positive interference
Chlorine ≥ 10 ppm – negative interference
Copper ≥ 5 ppm – positive interference
Cyanuric Acid ≥ 200 ppm – positive interference
Hardness, Calcium ($CaCO_3$) ≥ 1000 ppm – positive interference
Hardness, Magnesium ($CaCO_3$) ≥ 300 ppm – positive interference
Iron, Ferrous ≥ 2 ppm – positive interference
Permanganate ≥ 0.6 ppm – negative interference

## Test Method

PAN (1-(2-Pyridylazo)-2-napthol)

Under basic conditions PAN chelates with manganese to produce a rust-colored complex that is proportional to the concentration of manganese in a sample.

(over)

**Estimated Detection Limit**

0.02 ppm Mn

**Precision**

Using two lots of reagent and a standard solution of 0.400 ppm Mn, an individual analyst obtained a standard deviation with the instrument of ± 0.02 ppm Mn.

**Application**

Recreational Water

**Ordering Info**

**Reagent Pack**

K-8034 Manganese 0.8
Formulated for exclusive use with Taylor's TTi® Colorimeter.

**Reagent Pack Components**

R-8034A Manganese 0.8 - Reagent A
R-8034B Manganese 0.8 - Reagent B
R-8034C Manganese 0.8 - Reagent C
R-8034D Manganese 0.8 - Reagent D

**Required Reagents & Accessories**

R-0833 DI Water

**Optional Reagents & Accessories**

R-0801 Nitric Acid 1N

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