



1200 COLORIMETER

MANGANESE

MODEL 1200-MN • CODE 3682-01

QUANTITY	CONTENTS	CODE
2 x 100 mL	*Hardness Buffer Reagent	*4255-J
2 x 30 mL	*Manganese Indicator Reagent	*3956-G
15 mL	*Sodium Cyanide, 10%	*6565-E
1	Pipet, 0.5 mL, plastic, w/cap	0369
1	Pipet, 1.0 mL, plastic	0354
6	Colorimeter Tubes, with caps	0290-6
1	Water Sample Collecting Bottle	0688
1	1200 Colorimeter for Manganese	26739

***WARNING:** Reagents marked with an * are considered hazardous substances. To view or print a Material Safety Data Sheet (MSDS) for these reagents see MSDS CD or our web site. To obtain a printed copy, contact us by e-mail, phone, or fax.

To order individual reagents or test kit components, use the specified code number.

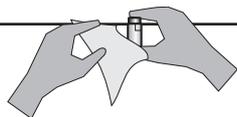
INTRODUCTION

Manganese is present in ground water in the divalent state due to the lack of oxygen. In surface waters, manganese may be in various oxidation states as soluble complexes or as suspended compounds. Manganese is rarely present in excess of 1 mg/L. It may cause an objectionable taste or cause staining problems in laundry, but manganese levels normally encountered in water seldom produce any health hazard.

Manganese is removed from water by various means including chemical precipitation, pH adjustment, aeration, superchlorination and the use of ion exchange resins.

MANGANESE TEST PROCEDURE - PAN METHOD

Read the 1200 Colorimeter Manual before proceeding. Carefully wipe tubes dry before inserting into the colorimeter chamber.



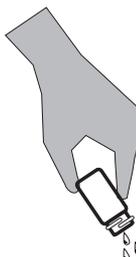
MANGANESE

1.



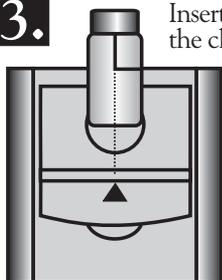
Fill the Water Sample Collecting Bottle (0688) with sample water. This will be used to dispense sample water for the tests.

2.



Rinse and fill a colorimeter tube (0290) to the 10 mL line with sample water. Cap and wipe dry.

3.



Insert the tube into the chamber, being sure to align the index line with the arrow on the meter. Close the lid. This tube is the blank or zero.

4.



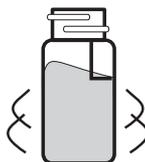
Push the **READ** button to turn the meter on. Press the **ZERO** button and hold it for 2 seconds until **bLA** is displayed. Release the button to take a blank reading (0.0 ppm).

5.



Use the 1.0 mL pipet (0354) to add 2.0 mL of *Hardness Buffer Reagent (4255).

6.



Swirl the tube to mix.

7.



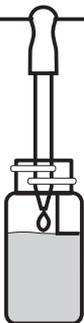
Add two drops of *Sodium Cyanide, 10% (6565).

8.



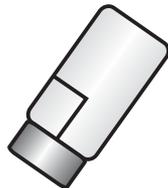
Swirl the tube to mix.

9.



Use the 0.5 mL pipet (0369) to add 0.5 mL of *Manganese Indicator Reagent (3956).

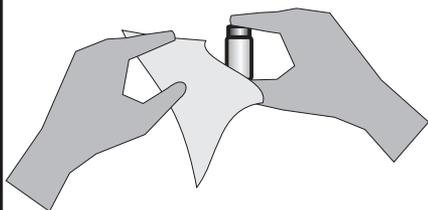
10.



Cap tube and invert to mix.

11.

Wipe tube dry.



12.

Align the index line with the arrow on the meter, insert tube into chamber. Close the lid. Push the **READ** button. Record results as ppm Manganese.



Note:

For the best possible results, carry a reagent blank through the procedure. After scanning the blank in Step 4, perform the test procedure on clear, colorless, distilled or deionized water. Subtract results of reagent blank from all subsequent test results.

If the reading displays *ER2*, repeat procedure on diluted sample, and multiply the result by the appropriate dilution factor. See 1200 Colorimeter Instruction Manual for procedure.

MANGANESE TEST METHOD SPECIFICATIONS

APPLICATION

Drinking and surface; domestic and industrial wastewaters.

RANGE

0.0 - 0.7 mg/L Manganese

METHOD

PAN, (1-[2-Pyridylazo]-2-Naphthol), forms a red complex with Manganese (Mn^{+2}) at a pH of 8 to 10.

HANDLING & PRESERVATION

Manganese may oxidize readily in neutral water and precipitate from solution. It may adhere to or be absorbed by container walls, especially glass. Acidified sample can be stored in plastic.

INTERFERENCES

None. Test is quite specific.

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