

High sensitivity test kit for the determination in the range of 0.03–0.50 mg/L Mn

Method:

Complex of manganese with formaldoxime

Contents of test kit (*refill pack):

sufficient for 100 tests

30 mL Mn-1*	1 plastic beaker for sampling
28 mL Mn-2*	2 round glass tubes with screw caps
22 mL Mn-3*	1 comparator block
	1 colour comparison disc Manganese

Hazard warning:

Reagent Mn-1 contains formaldoxime 10%, reagent Mn-2 contains ammonia 18%, reagent Mn-3 contains hydroxylammonium chloride < 20% and methanol < 10%.

Causes burns. Harmful by inhalation, in contact with skin and if swallowed. May cause sensitization by skin contact. Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Toxic to aquatic organisms. Keep container tightly closed. Keep away from sources of ignition – No smoking. Avoid contact with skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves. Avoid release to the environment. Refer to special instructions/safety data sheets.

Procedure

1. Place comparator block into the position provided in the box (see illustration).
2. Insert colour comparison disk
3. Open both round glass tubes, rinse several times with water sample and fill up to the mark with the sample.
4. Add **5 drops Mn-1** to the right glass tube, close and mix.
5. Add **5 drops Mn-2** to the right glass tube, close and mix. Wait **2 min**.
6. Add **5 drops Mn-3** to the right glass tube, close and mix. Wait **5 min**.
7. Reading: Turn colour disc until both colours match by transmitted light from above. Read test results from the mark on the front side of the comparator. Intermediate values can be estimated.
8. After use clean both round glass tubes thoroughly and close.

The method cannot be applied for the analysis of sea water.

Disposing of the samples:

The used analysis specimens can be flushed down the drain with tap water and channelled off to the local sewage treatment works.

Interferences:

Nickel ions interfere even in low concentrations (< 0.05 mg/L) by a yellow-green colouration.

Cobalt ions interfere even in low concentrations (< 0.1 mg/L) by a brown-yellow colouration.

Copper ions in excess of 10 mg/L interfere by a brown colouration.

Iron(II+III) ions in excess of 10 mg/L interfere by red-brown colouration.

The temperature of the water sample should be between 15 and 25 °C.

Conversion table:

mg/L Mn	mmol/m ³
0.03	0.55
0.06	1.1
0.10	1.8
0.15	2.7
0.20	3.6
0.25	4.6
0.30	5.5
0.40	7.3
0.50	9.1

