

Manganese

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

Hazard warning:

Manganese-1 contains paraformaldehyde 1–3 % and hydroxylammonium chloride 5–10 %. Manganese-2 contains ammonia solution 16–25 %. Manganese-3 contains hydroxylammonium chloride 10–25 % and methanol 3–10 %.

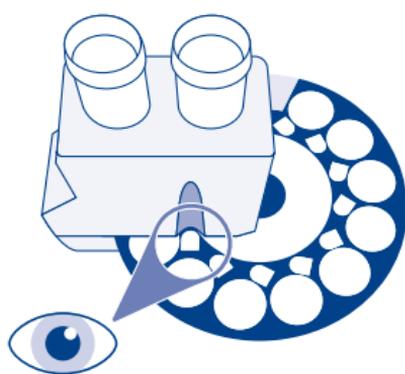
H314, H317, H351 Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of causing cancer.

P201, P260sh, P280sh, P303+361+353, P305+351+338, P310 Obtain special instructions before use. Do not breathe dust/vapors. Wear protective gloves/eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Procedure:

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

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



This method can not 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 coloration.

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

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

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

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