

Manganese T

M240

0.2 - 4 mg/L Mn

Mn

Formaldehyde

### Instrument specific information

The test can be performed on the following devices. In addition, the required cuvette and the absorption range of the photometer are indicated.

| Instrument Type                             | Cuvette | $\lambda$ | Measuring Range |
|---|---------|-----------|-----------------|
| MD 100, MD 600, MD 610, MD 640, MultiDirect | ø 24 mm | 530 nm    | 0.2 - 4 mg/L Mn |
| SpectroDirect, XD 7000, XD 7500             | ø 24 mm | 450 nm    | 0.2 - 4 mg/L Mn |

### Material

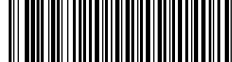
Required material (partly optional):

| Reagents                         | Packaging Unit | Part Number |
|----------------------------------|----------------|-------------|
| Manganese LR 1                   | Tablet / 100   | 516080BT    |
| Manganese LR 1                   | Tablet / 250   | 516081BT    |
| Manganese LR 2                   | Tablet / 100   | 516090BT    |
| Manganese LR 2                   | Tablet / 250   | 516091BT    |
| Set Manganese LR 1/LR 2 100 Pc.# | 100 each       | 517621BT    |
| Set Manganese LR 1/LR 2 250 Pc.# | 250 each       | 517622BT    |

### Application List

- Galvanization
- Drinking Water Treatment
- Raw Water Treatment





## Determination of Manganese with Tablet

Select the method on the device.

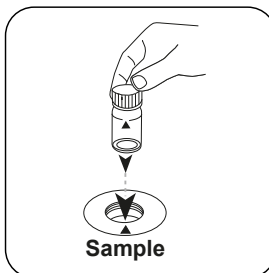
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



Fill 24 mm vial with **10 mL sample**.



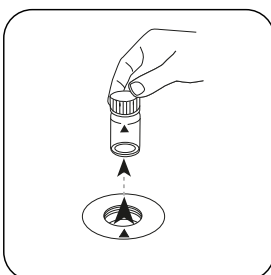
Close vial(s).



Place **sample vial** in the sample chamber. Pay attention to the positioning.



Press the **ZERO** button.

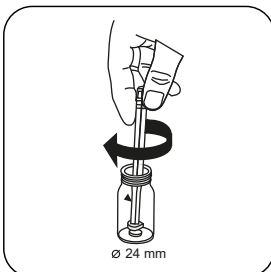


Remove the vial from the sample chamber.

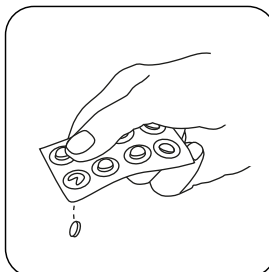
For devices that require **no ZERO measurement**, start here.



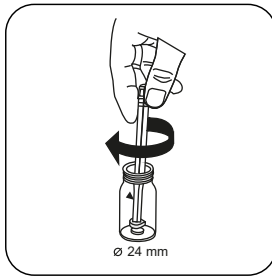
Add **MANGANESE LR 1 tablet**.



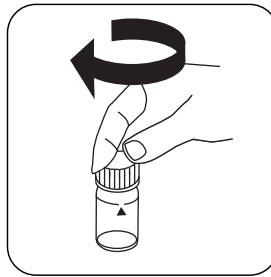
Crush tablet(s) by rotating slightly and dissolve.



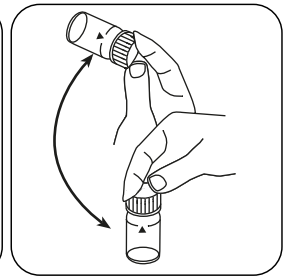
Add **MANGANESE LR 2 tablet**.



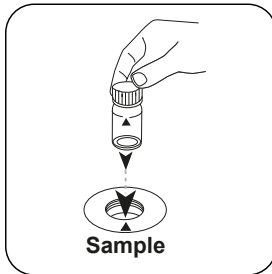
Crush tablet(s) by rotating slightly.



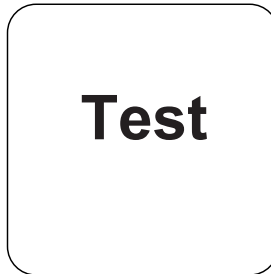
Close vial(s).



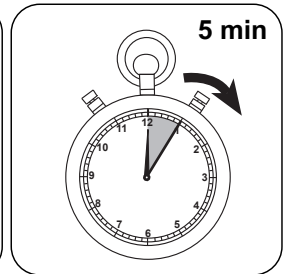
Dissolve tablet(s) by inverting.



Place **sample vial** in the sample chamber. Pay attention to the positioning.

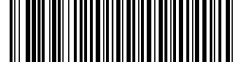


Press the **TEST** (XD: **START**) button.



Wait for **5 minute(s) reaction time**.

Once the reaction period is finished, the measurement takes place automatically. The result in mg/L Manganese appears on the display.



## Analyses

The following table identifies the output values can be converted into other citation forms.

| Unit | Cite form         | Scale Factor |
|------|-------------------|--------------|
| mg/l | Mn                | 1            |
| mg/l | MnO <sub>4</sub>  | 2.17         |
| mg/l | KMnO <sub>4</sub> | 2.88         |

## Chemical Method

Formaloxime

## Appendix

### Calibration function for 3rd-party photometers

Conc. = a + b•Abs + c•Abs<sup>2</sup> + d•Abs<sup>3</sup> + e•Abs<sup>4</sup> + f•Abs<sup>5</sup>

|   | ∅ 24 mm                     | □ 10 mm                     |
|---|-----------------------------|-----------------------------|
| a | -1.42044 • 10 <sup>-1</sup> | -1.42044 • 10 <sup>-1</sup> |
| b | 2.41852 • 10 <sup>+0</sup>  | 5.19982 • 10 <sup>+0</sup>  |
| c |                             |                             |
| d |                             |                             |
| e |                             |                             |
| f |                             |                             |

### Bibliography

Gottlieb, A. & Hecht, F. Mikrochim Acta (1950) 35: 337

### According to

DIN 38406-E2

\* including stirring rod, 10 cm