Sulphite 10 T M368

0.1 - 12 mg/L SO_3

DTNB

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	λ	Measuring Range
SpectroDirect, XD 7000, XD 7500	□ 10 mm	405 nm	0.1 - 12 mg/L SO_3

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Sulfite LR	Tablet / 100	518020BT

Application List

- Waste Water Treatment
- Galvanization

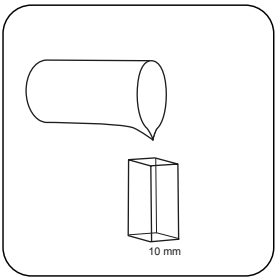
Notes

Variations in the length of the vial can extend the measuring range:
- 10 mm vial: 0.1 mg/L - 10 mg/L, solution: 0.01
- 20 mm vial: 0.05 mg/L - 5 mg/L, solution: 0.01
- 50 mm vial: 0.02 mg/L - 2 mg/L, solution: 0.001

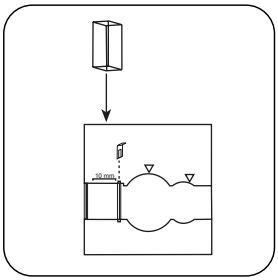
Determination of Sulphite with Tablet

Select the method on the device.

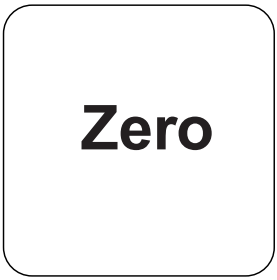
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



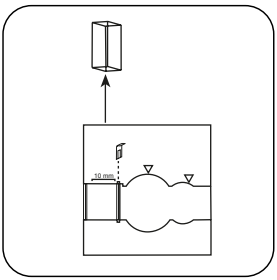
Fill 10 mm vial with **sample**.



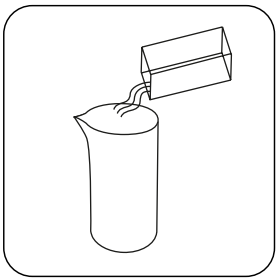
Place **sample vial** in the sample chamber. • Pay attention to the positioning.



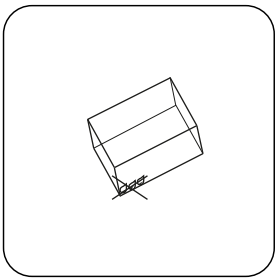
Press the **ZERO** button.



Remove **vial** from the sample chamber.

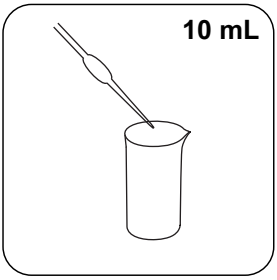


Empty vial.

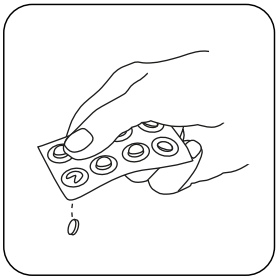


Dry the vial thoroughly.

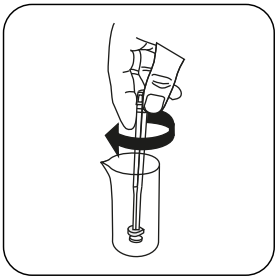
For devices that require **no ZERO measurement** , **start here**.



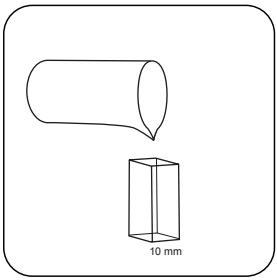
Put **10 mL sample** in the sample vessel.



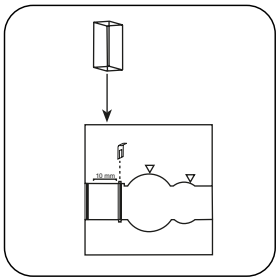
Add **SULFITE LR tablet**.



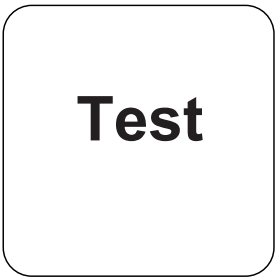
Crush tablet(s) by rotating slightly and dissolve.



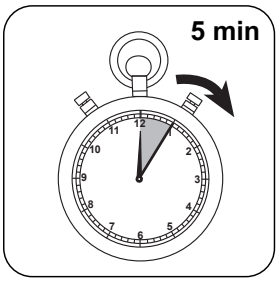
Fill 10 mm vial with **sample**.



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 Sulphite 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	SO_3^{2-}	1
mg/l	Na_2SO_3	1.5743

Chemical Method

DTNB

Appendix

Calibration function for 3rd-party photometers

Conc. = a + b•Abs + c•Abs^2 + d•Abs^3 + e•Abs^4 + f•Abs^5

	□ **10 mm**
a	$-4.72981 \cdot 10^{-1}$
b	$6.87211 \cdot 10^{+0}$
c	
d	
e	
f	

Bibliography

R.E. Humphrey, M.H. Ward, W. Hinze, Spectrophotometric determination of sulphite with 4,4'-dithio-dipyridine and 5,5'-dithiobis(2-nitrobenzoic acid), Anal. Chem., 1970, 42 (7), pp 698–702