

Sulphide L

M366

8 - 1400 mg/L Tannin

Methylene Blue

### 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 600, SpectroDirect, XD 7000, XD 7500	ø 24 mm	665 nm	8 - 1400 mg/L Tannin
MD 600, MD 610, MD 640, MultiDirect	ø 24 mm	660 nm	15 - 1400 mg/L Tannin

### Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
VARIO Sulphide Reagent Set	1 pc.	535170
VARIO Sulphide Reagent 1	100 mL	531310
VARIO Sulphide Reagent 2	100 mL	531320

### Application List

- Drinking Water Treatment
- Raw Water Treatment
- Waste Water Treatment

### Sampling

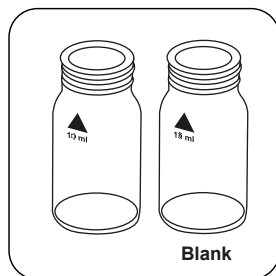
1. During sampling, exposure to air must be minimised to avoid losses.
2. The analysis must be carried out immediately after sampling.



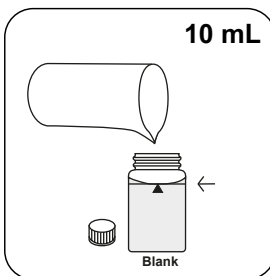


## Determination of Sulphide with VARIO liquid reagent

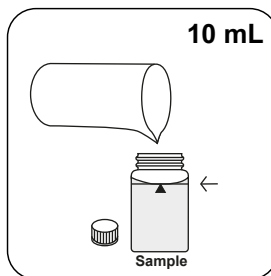
Select the method on the device.



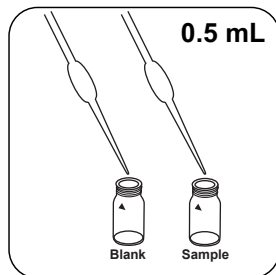
Prepare two clean 24 mm vials. Mark one as a blank.



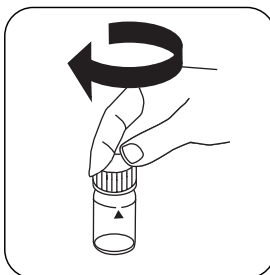
Put **10 mL deionised water** in the blank.



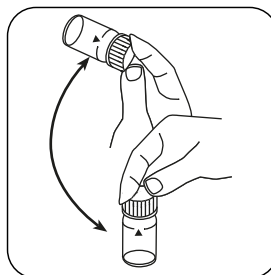
Put **10 mL sample** in the sample vial.



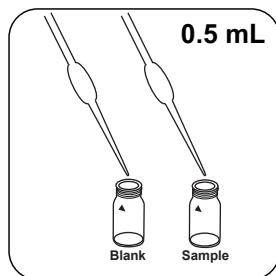
Add **0.5 mL VARIO Sulfide 1 solution** to each vial.



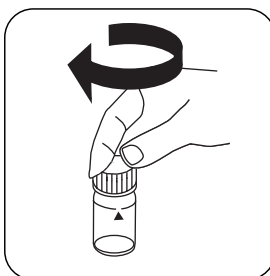
Close vial(s).



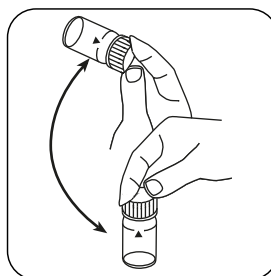
Invert several times to mix the contents.



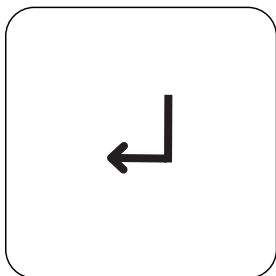
Add **0.5 mL VARIO Sulfide 2 solution** to each vial.



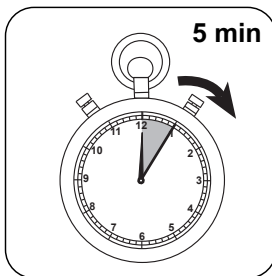
Close vial(s).



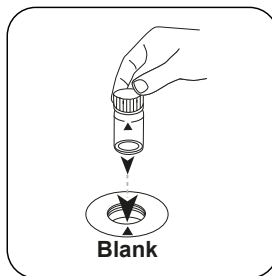
Invert several times to mix the contents.



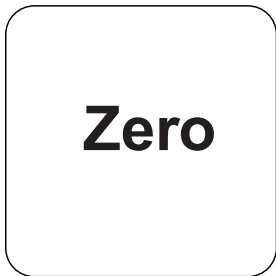
Press the **ENTER** button.



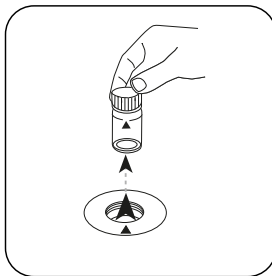
Wait for **5 minute(s) reaction time**.



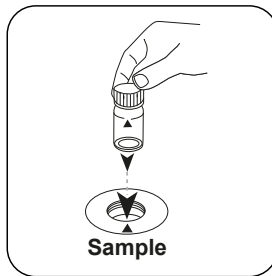
Place **blank** in the sample chamber. Pay attention to the positioning.



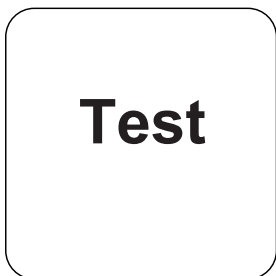
Press the **ZERO** button.



Remove the vial from the sample chamber.



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



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

The result in **µg/L Sulphide** appears on the display.



## Analyses

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

Unit	Cite form	Scale Factor
µg/l	S <sup>2-</sup>	1
µg/l	H <sub>2</sub> S	1.0629

## Chemical Method

Methylene Blue

## Appendix

### Calibration function for 3rd-party photometers

$$\text{Conc.} = a + b \cdot \text{Abs} + c \cdot \text{Abs}^2 + d \cdot \text{Abs}^3 + e \cdot \text{Abs}^4 + f \cdot \text{Abs}^5$$

	∅ 24 mm	□ 10 mm
a	0.0000 • 10 <sup>+0</sup>	0.0000 • 10 <sup>+0</sup>
b	4.7431 • 10 <sup>+2</sup>	1.0198 • 10 <sup>+3</sup>
c	5.6021 • 10 <sup>+1</sup>	2.5896 • 10 <sup>+2</sup>
d		
e		
f		

## Interferences

### Persistent Interferences

1. Strongly reducing substances can interfere with colour development.

Interference	from / [mg/L]
Ba	20



## Method Validation

<b>Limit of Detection</b>	8 µg/L
<b>Limit of Quantification</b>	24 µg/L
<b>End of Measuring Range</b>	1400 µg/L
<b>Sensitivity</b>	609 µg/L/Abs
<b>Confidence Intervall</b>	40 µg/L
<b>Standard Deviation</b>	18 µg/L
<b>Variation Coefficient</b>	2.7%

### Derived from

Standard Method 4500-S<sup>2</sup>-D