**Chloride T****M90****0.5 - 25 mg/L Cl<sup>-</sup>****CL-1****Silver Nitrate / Turbidity**

## 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	0.5 - 25 mg/L Cl <sup>-</sup>
SpectroDirect, XD 7000, XD 7500	ø 24 mm	450 nm	0.5 - 25 mg/L Cl <sup>-</sup>

## Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Chloride T1	Tablet / 100	515910BT
Chloride T1	Tablet / 250	515911BT
Chloride T2	Tablet / 100	515920BT
Chloride T2	Tablet / 250	515921BT
Set Chloride T1/T 2 100 Pc.#	100 each	517741BT
Set Chloride T1/T 2 250 Pc.#	250 each	517742BT

## Application List

- Waste Water Treatment
- Cooling Water
- Drinking Water Treatment
- Raw Water Treatment
- Galvanization

## Preparation

1. Highly alkaline water should – if necessary – be neutralised before any analysis with Nitric acid.



## Notes

1. High concentrations of electrolytes and organic compounds have different effects on the precipitation reaction.



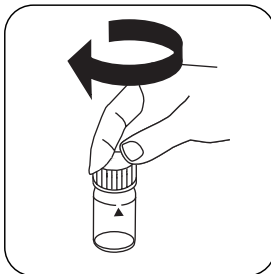
## Determination of Chloride with Tablet

Select the method on the device.

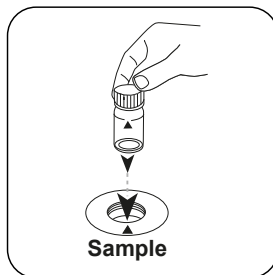
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



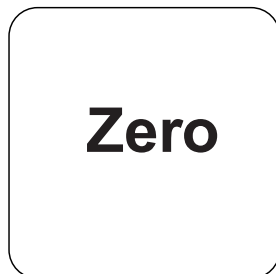
Fill 24 mm vial with **10 mL sample**.



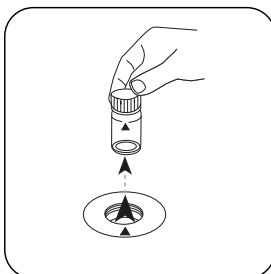
Close vial(s).



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

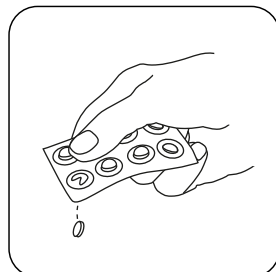


Press the **ZERO** button.

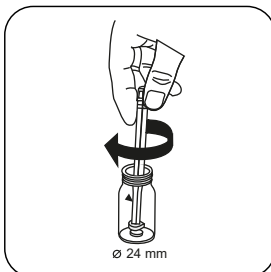


Remove the vial from the sample chamber.

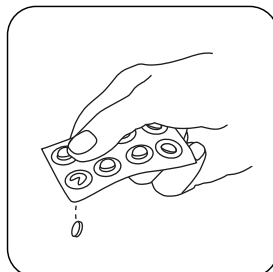
For devices that require **no ZERO measurement**, start here.



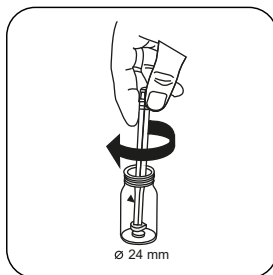
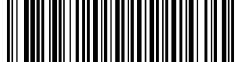
Add **CHLORIDE T1 tablet**.



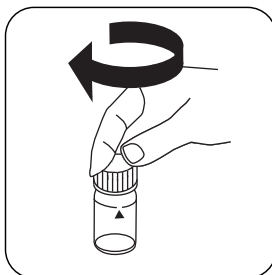
Crush tablet(s) by rotating slightly and dissolve.



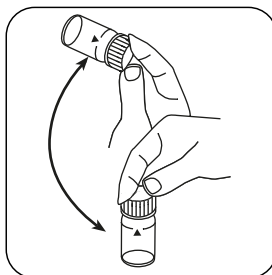
Add **CHLORIDE T2 tablet**.



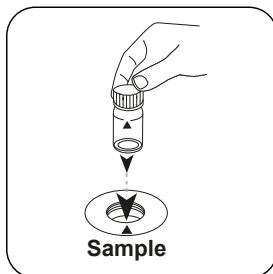
Crush tablet(s) by rotating slightly.



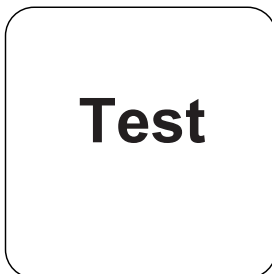
Close vial(s).



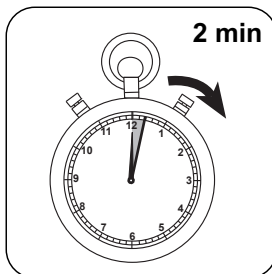
Dissolve tablet(s) by inverting.



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

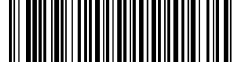


Press the **TEST** (XD: **START**) button.



Wait for **2 minute(s) reaction time**.

Once the reaction period is finished, the measurement takes place automatically.  
The result in mg/L Chloride 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	Cl <sup>-</sup>	1
mg/l	NaCl	1.65

## Chemical Method

Silver Nitrate / Turbidity

## Appendix

### Calibration function for 3rd-party photometers

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

	ø 24 mm	□ 10 mm
a	$-1.74125 \cdot 10^{+0}$	$-1.74125 \cdot 10^{+0}$
b	$1.28236 \cdot 10^{+1}$	$2.75707 \cdot 10^{+1}$
c		
d		
e		
f		

## Interferences

### Persistent Interferences

1. Ions that also form deposits with Silver nitrate in acidic media, such as Bromides, Iodides and Thiocyanates, cause interference.
2. Individual particles are not attributable to the presence of chloride. Chloride causes a finely distributed turbidity with a milky appearance. **Disturbance through heavy shaking or stirring leads to bigger sized particles, which can cause lower readings.**
3. Cyanide, Iodine and Bromine also are determined as chloride. Chromate and dichromate interfere and should be reduced to the chromic state or removed.

### Derived from

DIN 38405

\* including stirring rod, 10 cm