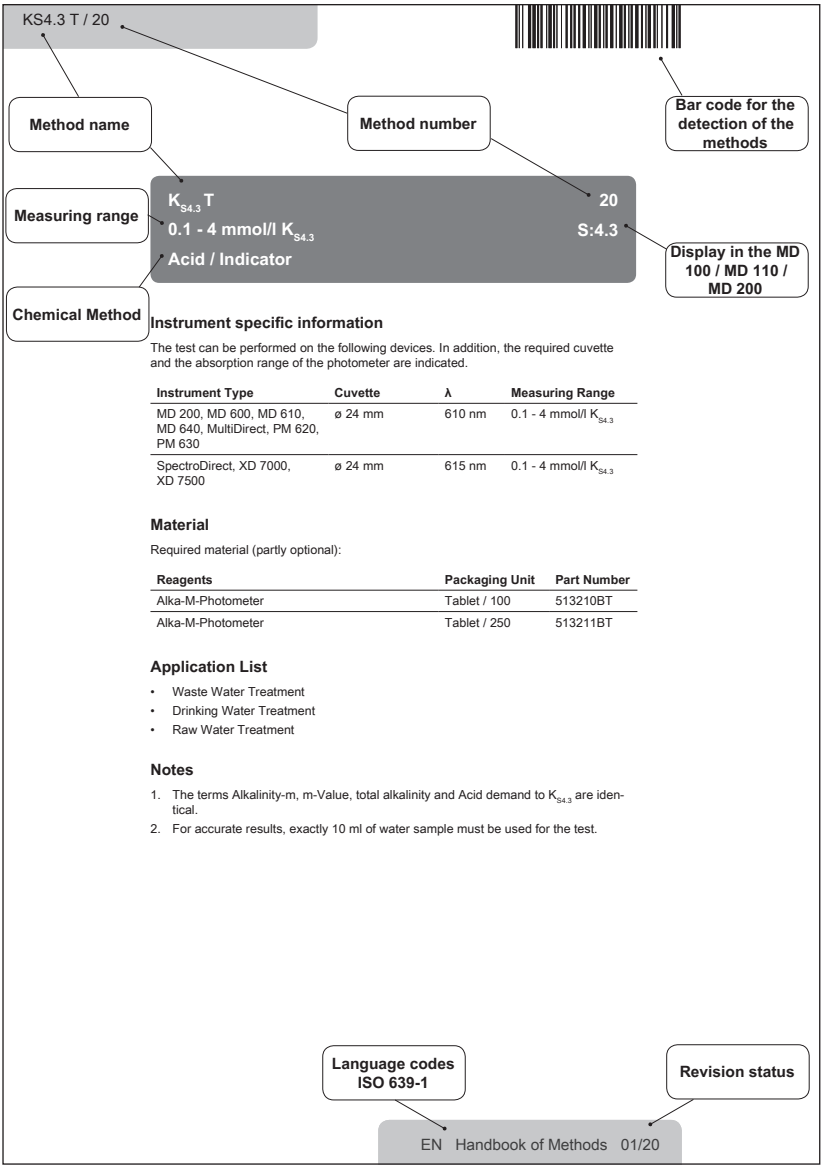
Lovibond® Water Testing

Tintometer® Group

Manual of Methods

MD 100 • MD 110 • MD 200

Chloride



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
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0.1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l $K_{S4.3}$

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Alka-M-Photometer	Tablet / 100	513210BT
Alka-M-Photometer	Tablet / 250	513211BT

Application List

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

Notes

1. The terms Alkalinity-m, m-Value, total alkalinity and Acid demand to $K_{S4.3}$ are identical.
2. For accurate results, exactly 10 ml of water sample must be used for the test.

Performing test procedure

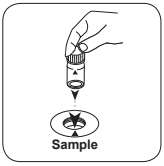
Implementation of the provision Acid capacity $K_{S4.3}$ with Tablet

Select the method on the device

For this method, no ZERO measurements are to be carried out with 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.

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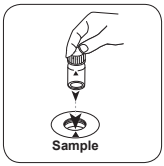
Dissolve tablet(s) by inverting.



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

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

The result in Acid Capacity $K_{S4.3}$ appears on the display.

Chloride T M90

0.5 - 25 mg/L Cl^- CL-1

Silver Nitrate / Turbidity

EN

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

Preparation

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

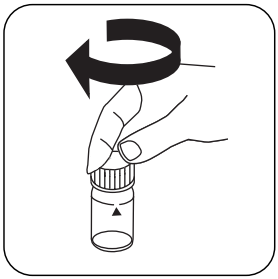
Notes

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

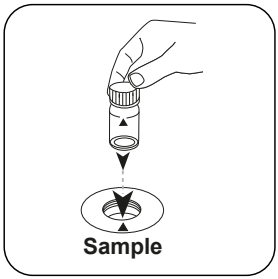
Determination of Chloride with Tablet

Select the method on the device.

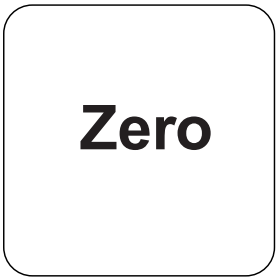
Fill 24 mm vial with **10 mL sample**.



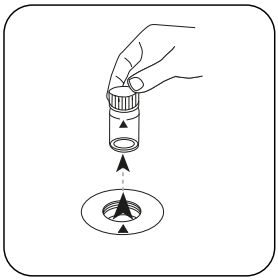
Close vial(s).



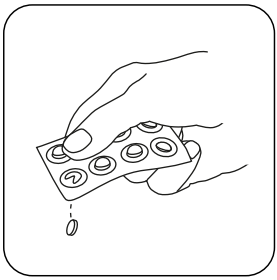
Place **sample vial** in the sample chamber. Pay attention to the positioning.



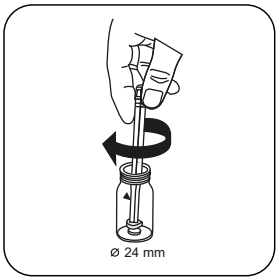
Press the **ZERO** button.



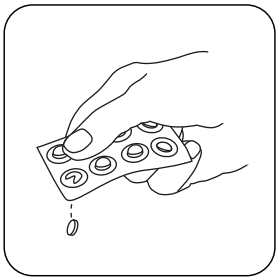
Remove the vial from the sample chamber.



Add **CHOLORIDE T1 tablet** .



Crush tablet(s) by rotating slightly and dissolve.



Add **CHLORIDE T2 tablet** .

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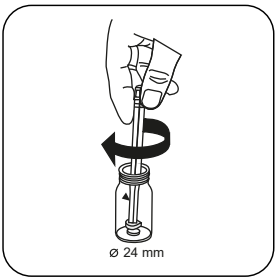
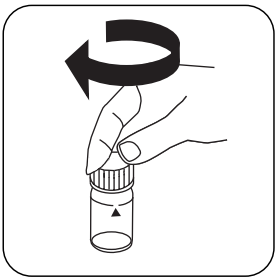
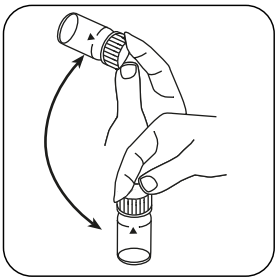


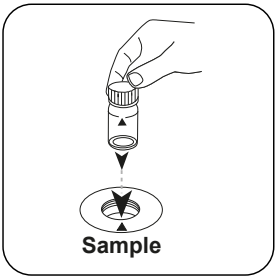
Crush tablet(s) by rotating slightly.



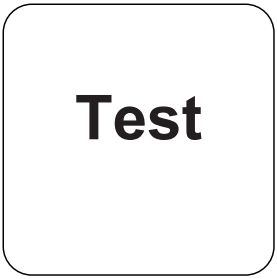
Close vial(s).



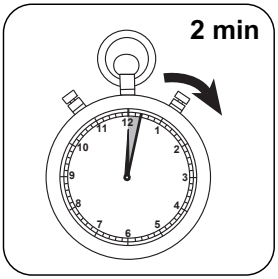
Dissolve tablet(s) by inverting.



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^-	1
mg/l	NaCl	1.65

Chemical Method

Silver Nitrate / Turbidity

Appendix

Interferences

Persistant 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

Chloride T M93

5 - 250 mg/L Cl^- [i] CL-2

Silver Nitrate / Turbidity

EN

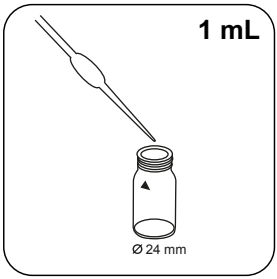
Material

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

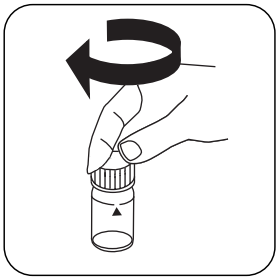
Determination of Chloride with Tablet

Select the method on the device.

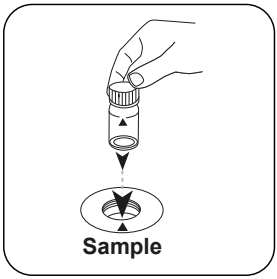


Put **1 mL sample** in the vial.

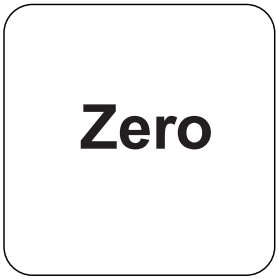
Fill up vial with **deionised water** to the **10 mL mark** .



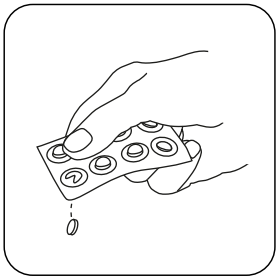
Close vial(s).



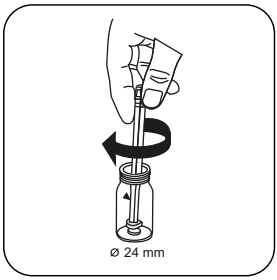
Place **sample vial** in the sample chamber. Pay attention to the positioning.



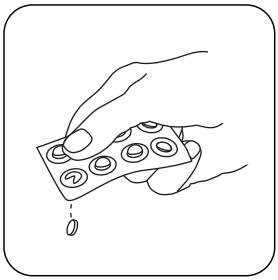
Press the **ZERO** button.



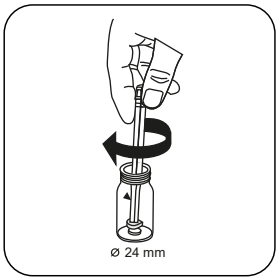
Add **CHLORIDE T1 tablet** .



Crush tablet(s) by rotating slightly and dissolve.

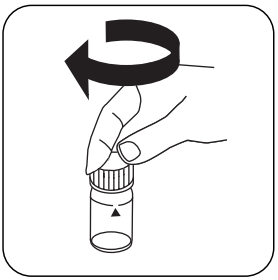


Add **CHLORIDE T2 tablet** .

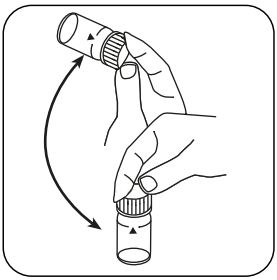


Crush tablet(s) by rotating slightly.

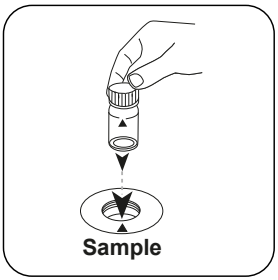
EN



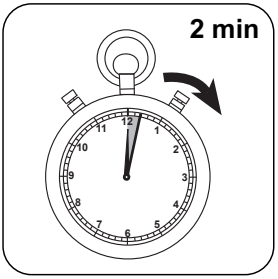
Close vial(s).



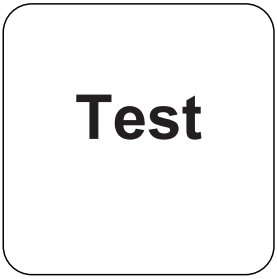
Dissolve tablet(s) by inverting.



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



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



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

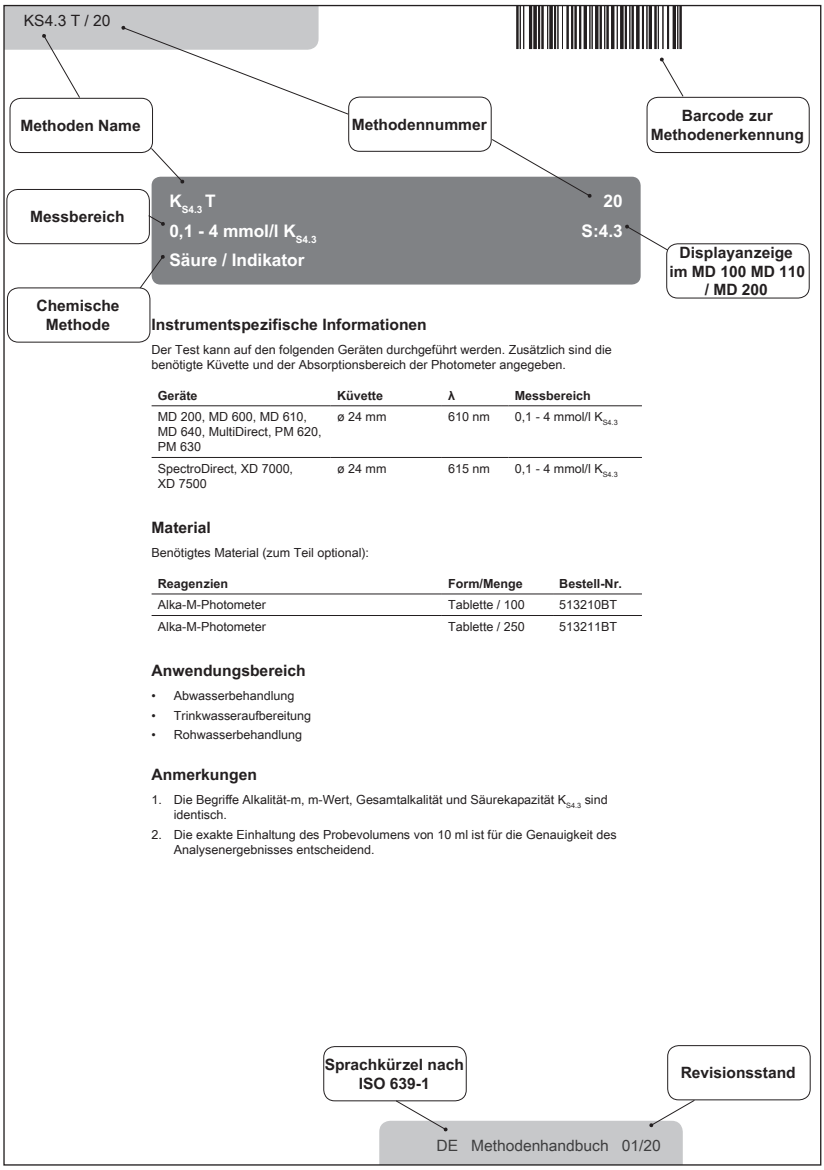
The result in mg/L Chloride appears on the display.

Chemical Method

Silver Nitrate / Turbidity

[3] high range by dilution | # including stirring rod, 10 cm

DE



Instrumentspezifische Informationen

Der Test kann auf den folgenden Geräten durchgeführt werden. Zusätzlich sind die benötigte Küvette und der Absorptionsbereich der Photometer angegeben.

Geräte	Küvette	λ	Messbereich
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0,1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0,1 - 4 mmol/l $K_{S4.3}$

Material

Benötigtes Material (zum Teil optional):

Reagenzien	Form/Menge	Bestell-Nr.
Alka-M-Photometer	Tablette / 100	513210BT
Alka-M-Photometer	Tablette / 250	513211BT

Anwendungsbereich

- Abwasserbehandlung
- Trinkwasseraufbereitung
- Rohwasserbehandlung

Anmerkungen

1. Die Begriffe Alkalität-m, m-Wert, Gesamtalkalität und Säurekapazität $K_{S4.3}$ sind identisch.
2. Die exakte Einhaltung des Probevolumens von 10 ml ist für die Genauigkeit des Analysenergebnisses entscheidend.

Durchführung der Messung

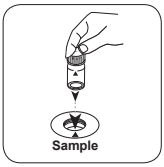
Durchführung der Bestimmung Säurekapazität $K_{S4.3}$ mit Tablette

Die Methode im Gerät auswählen.

Für diese Methode muss bei folgenden Geräten keine ZERO-Messung durchgeführt werden: XD 7000, XD 7500

24-mm-Küvette mit **10 ml Probe** füllen.

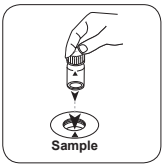
Küvette(n) verschließen.



Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.

• • •

Tablette(n) durch Umschwenken lösen.



Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.

Taste **TEST** (XD: **START**) drücken.

In der Anzeige erscheint das Ergebnis als Säurekapazität $K_{S4.3}$.

Chlorid T M90

0,5 - 25 mg/L Cl^- CL-1

Silbernitrat / Trübung

DE

Material

Benötigtes Material (zum Teil optional):

Reagenzien	Form/Menge	Bestell-Nr.
Chloride T1	Tablette / 100	515910BT
Chloride T1	Tablette / 250	515911BT
Chloride T2	Tablette / 100	515920BT
Chloride T2	Tablette / 250	515921BT
Set Chloride T1/T2 #	je 100	517741BT
Set Chloride T1/T2 #	je 250	517742BT

Vorbereitung

1. Stark alkalische Wässer sollten vor der Analyse ggf. mit Salpetersäure neutralisiert werden.

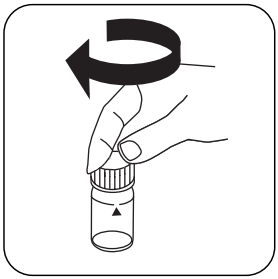
Anmerkungen

1. Höhere Konzentrationen von Elektrolyten und organischen Verbindungen haben unterschiedliche Effekte auf die Fällungsreaktion.

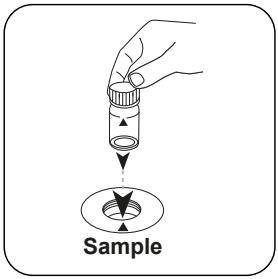
Durchführung der Bestimmung Chlorid mit Tablette

Die Methode im Gerät auswählen.

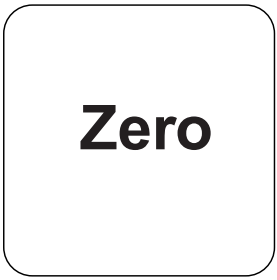
24-mm-Küvette mit **10 mL Probe** füllen.



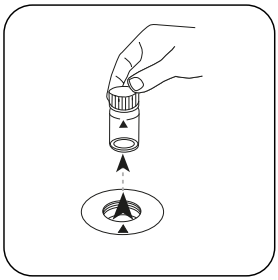
Küvette(n) verschließen.



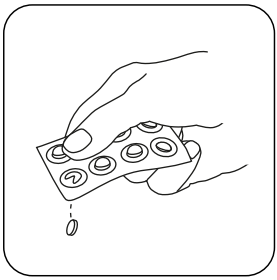
Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.



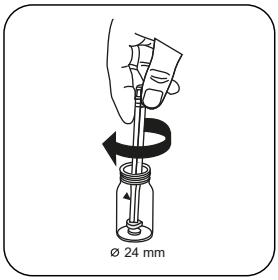
Taste **ZERO** drücken.



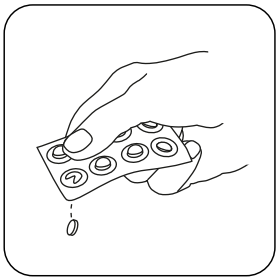
Küvette aus dem Messschacht nehmen.



Eine **CHOLORIDE T1 Tablette** zugeben.

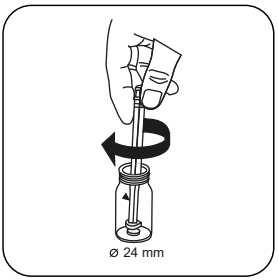


Die Tablette(n) unter leichter Drehung zerdrücken und lösen.

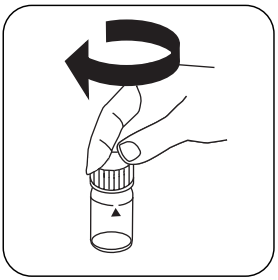


Eine **CHLORIDE T2 Tablette** zugeben.

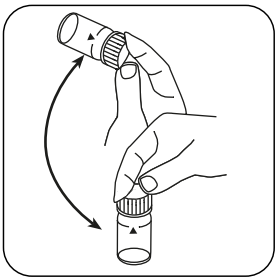
DE



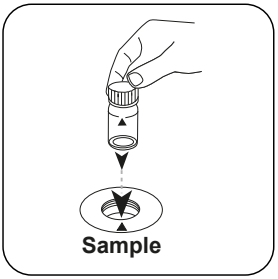
Tablette(n) unter leichter Drehung zerdrücken.



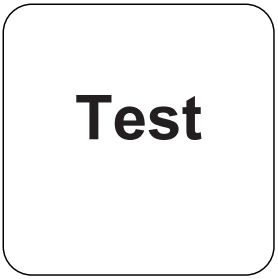
Küvette(n) verschließen.



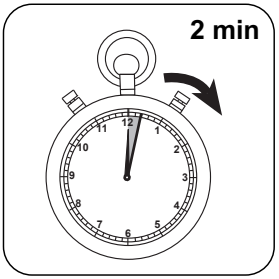
Tablette(n) durch Umschwenken lösen.



Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.



Taste **TEST** (XD: **START**) drücken.



2 Minute(n) Reaktionszeit abwarten.

Nach Ablauf der Reaktionszeit erfolgt automatisch die Messung.

In der Anzeige erscheint das Ergebnis in mg/L Chlorid.

Auswertung

Die folgende Tabelle gibt an wie die ausgegebenen Werte in andere Zitierformen umgewandelt werden können.

Einheit	Zitierform	Umrechnungsfaktor
mg/l	Cl^-	1
mg/l	NaCl	1.65

Chemische Methode

Silbernitrat / Trübung

Appendix

Störungen

Permanente Störungen

1. Ionen, welche ebenfalls Niederschläge mit Silbernitrat in saurem Milieu bilden, wie z.B. Bromid, Iodid, Thiocyanat, stören.
2. Einzelne Partikel sind nicht auf das Vorhandensein von Chlorid zurückzuführen. Chlorid verursacht eine fein verteilte Trübung mit milchigem Aussehen. **Starke Turbulenzen durch kräftiges Rühren oder Schütteln verursachen größere Flocken, die zu Minderbefunden führen können.**
3. Cyanid, Jod und Brom werden ebenfalls als Chlorid bestimmt. Chromat und Dichromat stören und sollten reduziert oder entfernt werden.

Abgeleitet von

DIN 38405

inklusive Rührstab

Chlorid T M93

5 - 250 mg/L Cl^- [i] CL-2

Silbernitrat / Trübung

DE

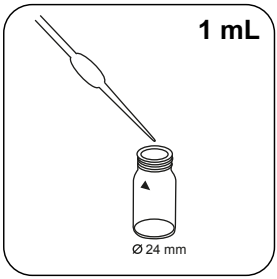
Material

Benötigtes Material (zum Teil optional):

Reagenzien	Form/Menge	Bestell-Nr.
Chloride T1	Tablette / 100	515910BT
Chloride T1	Tablette / 250	515911BT
Chloride T2	Tablette / 100	515920BT
Chloride T2	Tablette / 250	515921BT
Set Chloride T1/T2 #	je 100	517741BT
Set Chloride T1/T2 #	je 250	517742BT

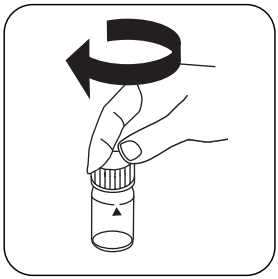
Durchführung der Bestimmung Chlorid mit Tablette

Die Methode im Gerät auswählen.

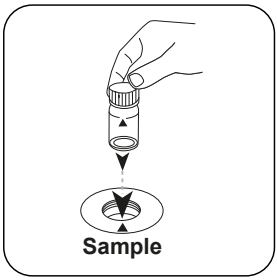


1 mL Probe in die Küvette geben.

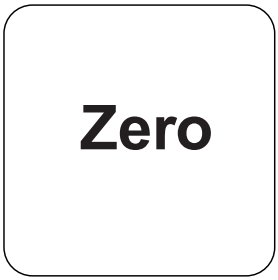
Küvette bis zur **10-mL-Marke** mit **VE-Wasser** auffüllen.



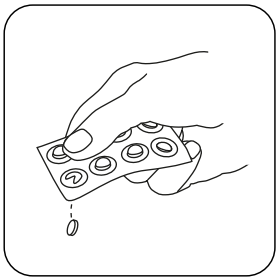
Küvette(n) verschließen.



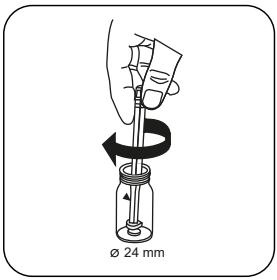
Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.



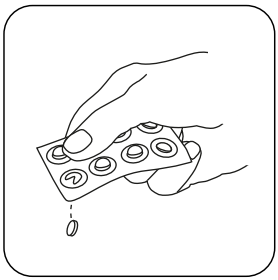
Taste **ZERO** drücken.



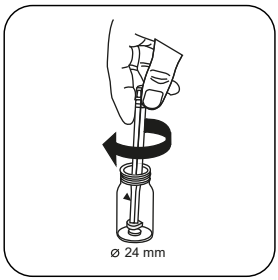
Eine **CHLORIDE T1 Tablette** zugeben.



Die Tablette(n) unter leichter Drehung zerdrücken und lösen.

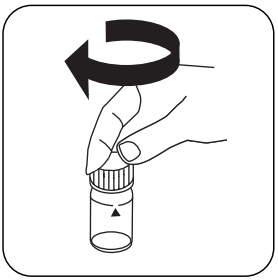


Eine **CHLORIDE T2 Tablette** zugeben.

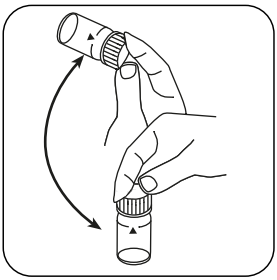


Tablette(n) unter leichter Drehung zerdrücken.

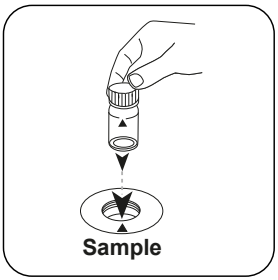
DE



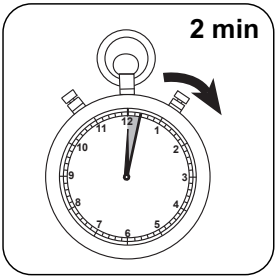
Küvette(n) verschließen.



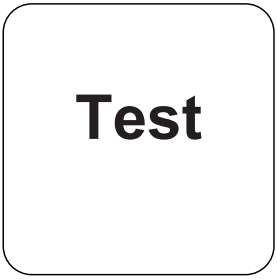
Tablette(n) durch Umschwenken lösen.



Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.



2 Minute(n) Reaktionszeit abwarten.



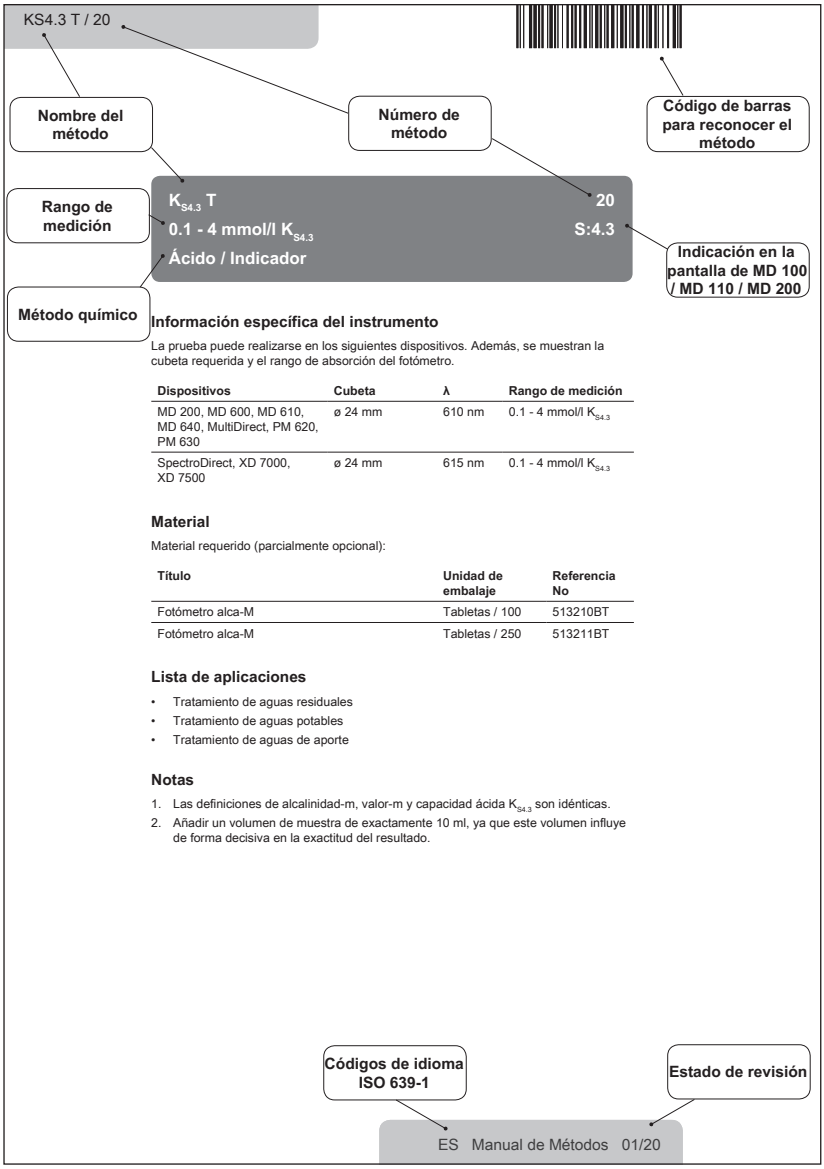
Taste **TEST** (XD: **START**) drücken.

In der Anzeige erscheint das Ergebnis in mg/L Chlorid.

Chemische Methode

Silbernitrat / Trübung

[i] Hoher Messbereich durch Verdünnung | [#] inklusive Rührstab


KS4.3 T / 20
Nombre del método
Número de método
Código de barras para reconocer el método
Rango de medición
$K_{S4.3}$ T
20
0.1 - 4 mmol/l $K_{S4.3}$
S:4.3
Ácido / Indicador
Indicación en la pantalla de MD 100 / MD 110 / MD 200
Método químico
Información específica del instrumento
La prueba puede realizarse en los siguientes dispositivos. Además, se muestran la cubeta requerida y el rango de absorción del fotómetro.
Dispositivos | Cubeta | λ | Rango de medición
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S4.3}$
Material
Material requerido (parcialmente opcional):
Título | Unidad de embalaje | Referencia No
Fotómetro alca-M | Tabletas / 100 | 513210BT
Fotómetro alca-M | Tabletas / 250 | 513211BT
Lista de aplicaciones
• Tratamiento de aguas residuales
• Tratamiento de aguas potables
• Tratamiento de aguas de aporte
Notas
1. Las definiciones de alcalinidad-m, valor-m y capacidad ácida $K_{S4.3}$ son idénticas.
2. Añadir un volumen de muestra de exactamente 10 ml, ya que este volumen influye de forma decisiva en la exactitud del resultado.
Códigos de idioma ISO 639-1
Estado de revisión
ES Manual de Métodos 01/20

Realización de la determinación

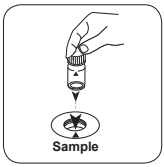
Ejecución de la determinación Capacidad ácida $K_{S4.3}$ con tableta

Seleccionar el método en el aparato.

Para este método no es necesario realizar medición CERO en los aparatos siguientes:
XD 7000, XD 7500

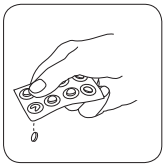
Llenar la cubeta de 24 mm con **10 ml de muestra** .

Cerrar la(s) cubeta(s).

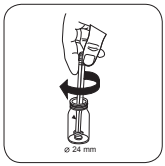


Poner la **cubeta de muestra** en el compartimiento de medición. ¡Debe tenerse en cuenta el posicionamiento!

• • •



Añadir **tableta ALKA-M-PHOTOMETER**.



Triturar la(s) tableta(s) girando ligeramente.

Cerrar la(s) cubeta(s).

Cloruro T M90

0.5 - 25 mg/L Cl^- CL-1

Nitrato de plata / Turbidez

ES

Material

Material requerido (parcialmente opcional):

Reactivos	Unidad de embalaje	No. de referencia
Cloruro T1	Tabletas / 100	515910BT
Cloruro T1	Tabletas / 250	515911BT
Cloruro T2	Tabletas / 100	515920BT
Cloruro T2	Tabletas / 250	515921BT
Juego cloruro T1/T2 #	100 cada	517741BT
Juego cloruro T1/T2 #	250 cada	517742BT

Preparación

1. Las muestras muy alcalinas deberán neutralizarse con ácido nítrico antes de la determinación.

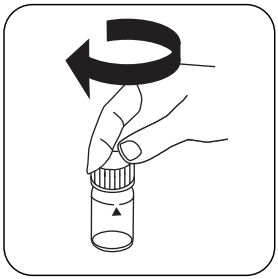
Notas

1. Las grandes concentraciones de electrolitos y sustancias orgánicas producen efectos diferentes en la reacción de precipitación.

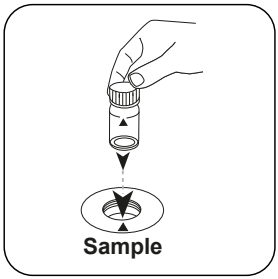
Ejecución de la determinación Cloruro con tableta

Seleccionar el método en el aparato.

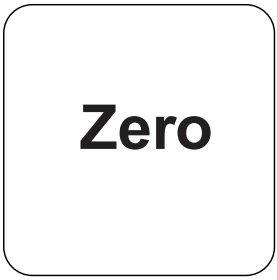
Llenar la cubeta de 24 mm con **10 mL de muestra** .



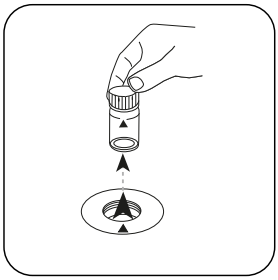
Cerrar la(s) cubeta(s).



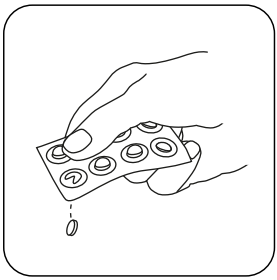
Poner la **cubeta de muestra** en el compartimiento de medición. ¡Debe tenerse en cuenta el posicionamiento!



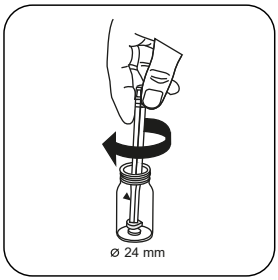
Pulsar la tecla **ZERO**.



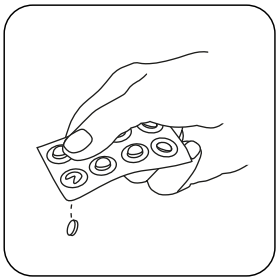
Extraer la cubeta del compartimiento de medición.



Añadir **tableta CHOLORIDE T1**.

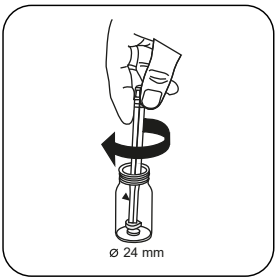


Triturar la(s) tableta(s) girando ligeramente y disolver.

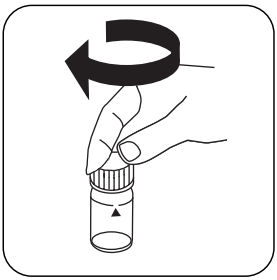


Añadir **tableta CHLORIDE T2**.

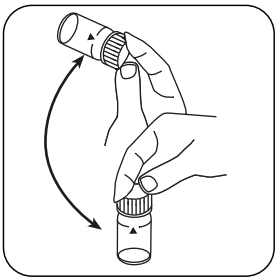
ES



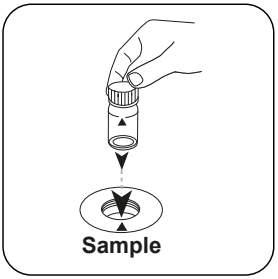
Triturar la(s) tableta(s) girando ligeramente.



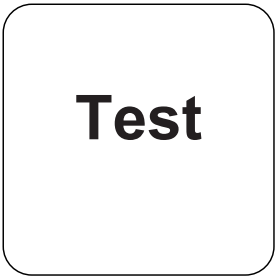
Cerrar la(s) cubeta(s).



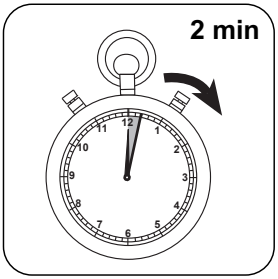
Disolver la(s) tableta(s) girando.



Poner la **cubeta de muestra** en el compartimiento de medición. ¡Debe tenerse en cuenta el posicionamiento!



Pulsar la tecla **TEST** (XD: **START**).



Esperar **2 minutos como periodo de reacción**.

Finalizado el periodo de reacción se realizará la determinación automáticamente.

A continuación se visualizará el resultado en mg/L Cloruro.

Evaluación

La siguiente tabla muestra cómo los valores de salida se pueden convertir a otros formularios de citas.

Unidad	Conversión	Factor de conversión
mg/l	Cl^-	1
mg/l	NaCl	1.65

Método químico

Nitrato de plata / Turbidez

Apéndice

Interferencia

Interferencias persistentes

1. Los iones que precipiten en un medio ácido con nitrato de plata como, por ejemplo, bromuros, yoduros y tiocianatos, provocarán alteraciones en el análisis.
2. Si hay partículas individuales en la muestra no se deberán a la presencia de cloruro. Los cloruros provocan un enturbiamiento fino de la solución, produciendo un aspecto lechoso. **Las grandes turbulencias producidas por agitación intensa o sacudidas provocan copos mayores, que podrían disminuir los resultados.**
3. El cianuro, el yodo y el bromo también se determinan como el cloruro. El cromato y el dicromato causan interferencias y se deben reducir al estado crómico o se deben retirar.

Derivado de

DIN 38405

Cloruro T M93

5 - 250 mg/L Cl^- [i] CL-2

Nitrato de plata / Turbidez

ES

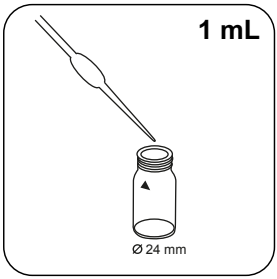
Material

Material requerido (parcialmente opcional):

Reactivos	Unidad de embalaje	No. de referencia
Cloruro T1	Tabletas / 100	515910BT
Cloruro T1	Tabletas / 250	515911BT
Cloruro T2	Tabletas / 100	515920BT
Cloruro T2	Tabletas / 250	515921BT
Juego cloruro T1/T2 #	100 cada	517741BT
Juego cloruro T1/T2 #	250 cada	517742BT

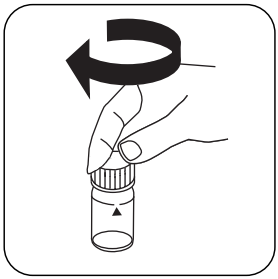
Ejecución de la determinación Cloruro con tableta

Seleccionar el método en el aparato.

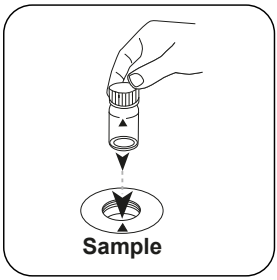


Añadir **1 mL de muestra** en la cubeta.

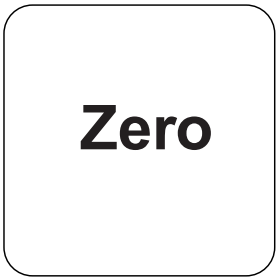
Llenar la cubeta con **agua desionizada** hasta la **marca de 10 mL** .



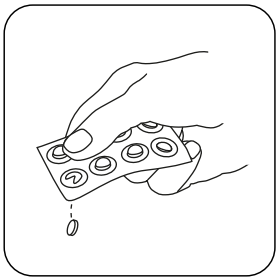
Cerrar la(s) cubeta(s).



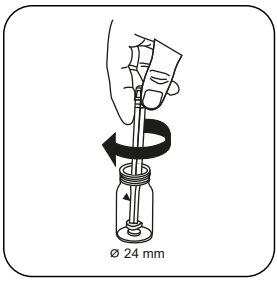
Poner la **cubeta de muestra** en el compartimiento de medición. ¡Debe tenerse en cuenta el posicionamiento!



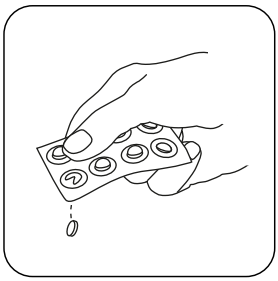
Pulsar la tecla **ZERO**.



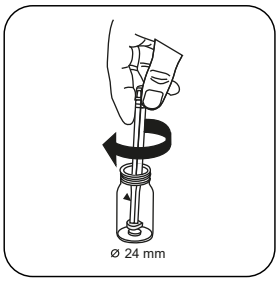
Añadir **tableta CHLORIDE T1**.



Triturar la(s) tableta(s) girando ligeramente y disolver.

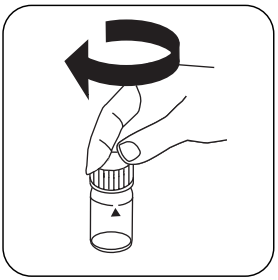


Añadir **tableta CHLORIDE T2**.

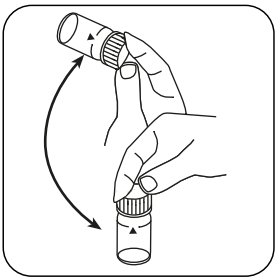


Triturar la(s) tableta(s) girando ligeramente.

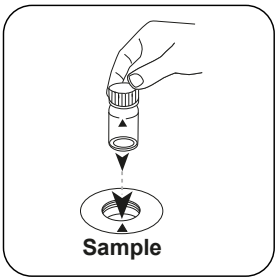
ES



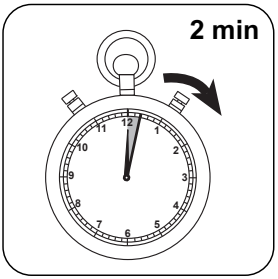
Cerrar la(s) cubeta(s).



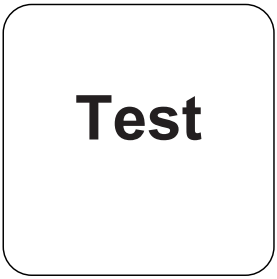
Disolver la(s) tableta(s) girando.



Poner la **cubeta de muestra** en el compartimiento de medición. ¡Debe tenerse en cuenta el posicionamiento!



Esperar **2 minutos como periodo de reacción**.



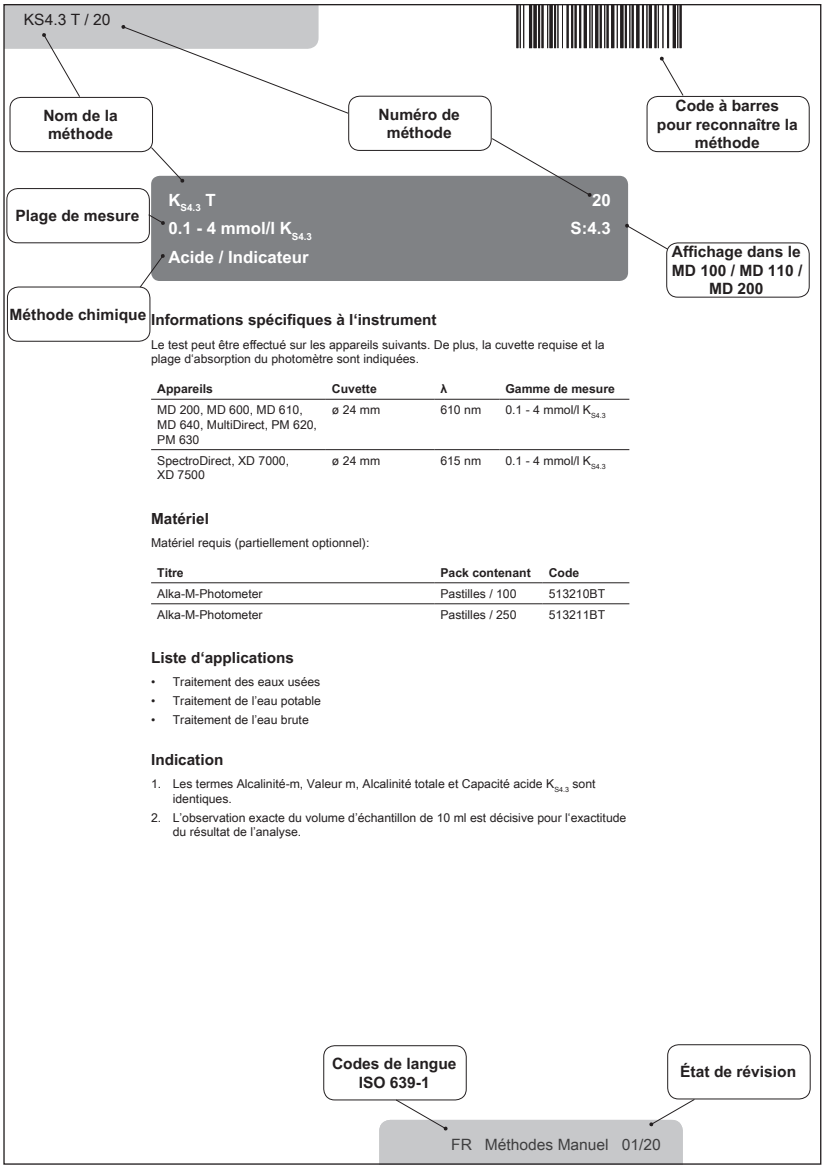
Pulsar la tecla **TEST** (XD: **START**).

A continuación se visualizará el resultado en mg/L Cloruro.

Método químico

Nitrato de plata / Turbidez

[i] Campo de medición elevado con dilución



Informations spécifiques à l'instrument

Le test peut être effectué sur les appareils suivants. De plus, la cuvette requise et la plage d'absorption du photomètre sont indiquées.

Appareils	Cuvette	λ	Gamme de mesure
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0.1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l $K_{S4.3}$

Matériel

Matériel requis (partiellement optionnel):

Titre	Pack contenant	Code
Alka-M-Photometer	Pastilles / 100	513210BT
Alka-M-Photometer	Pastilles / 250	513211BT

Liste d'applications

- Traitement des eaux usées
- Traitement de l'eau potable
- Traitement de l'eau brute

Indication

1. Les termes Alcalinité-m, Valeur m, Alcalinité totale et Capacité acide $K_{S4.3}$ sont identiques.
2. L'observation exacte du volume d'échantillon de 10 ml est décisive pour l'exactitude du résultat de l'analyse.

Procédure du test

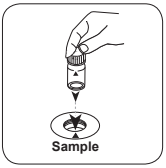
Réalisation de la quantification Capacité acide $K_{S4.3}$ avec pastille

Sélectionnez la méthode sur l'appareil.

Cette méthode ne nécessite aucune mesure du zéro sur les appareils suivants : XD 7000, XD 7500

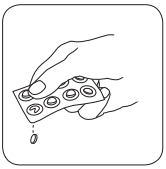
Remplissez une cuvette de 24 mm de **10 ml d'échantillon**.

Fermez la(les) cuvette(s).

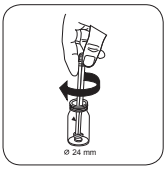


Placez la **cuvette réservée à l'échantillon** dans la chambre de mesure. Attention à la positionner correctement.

• • •



Ajoutez une **pastille de ALKA-M-PHOTOMETER**.



Écrasez la(les) pastille(s) en la(les) tournant un peu.

Fermez la(les) cuvette(s).

Chlorure T — M90

0.5 - 25 mg/L Cl^- — CL-1

Nitrate d’argent/turbidité

FR

Matériel

Matériel requis (partiellement optionnel):

Réactifs	Pack contenant	Code
Chlorure T1	Pastilles / 100	515910BT
Chlorure T1	Pastilles / 250	515911BT
Chlorure T2	Pastilles / 100	515920BT
Chlorure T2	Pastilles / 250	515921BT
Kit chlorure T1/T2 #	100 chacun	517741BT
Kit chlorure T1/T2 #	250 chacun	517742BT

Préparation

1. Avant l’analyse, neutralisez éventuellement les eaux fortement alcalines en utilisant de l'acide nitrique.

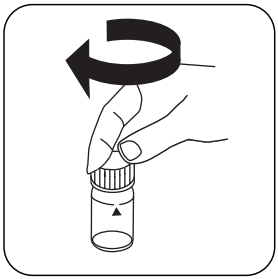
Indication

1. Les concentrations supérieures d’électrolytes et de composés organiques ont différents effets sur le précipité.

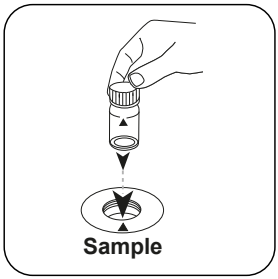
Réalisation de la quantification Chlorure avec pastille

Sélectionnez la méthode sur l'appareil.

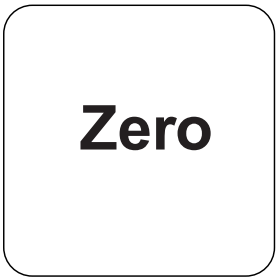
Remplissez une cuvette de 24 mm de **10 mL d'échantillon**.



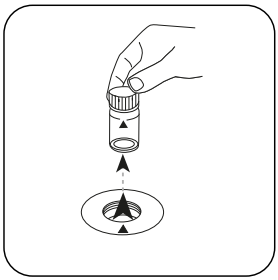
Fermez la(les) cuvette(s).



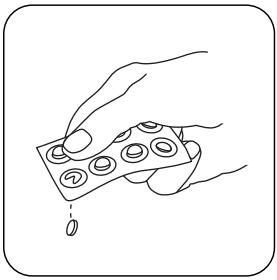
Placez la **cuvette réservée à l'échantillon** dans la chambre de mesure. Attention à la positionner correctement.



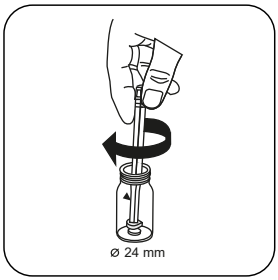
Appuyez sur la touche **ZERO**.



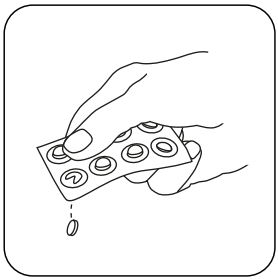
Retirez la cuvette de la chambre de mesure.



Ajoutez une **pastille de CHOLORIDE T1**.

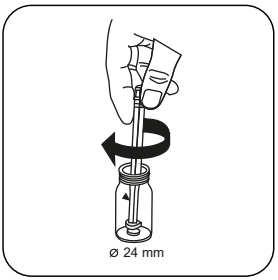


Écrasez et dissolvez la(les) pastille(s) en la(les) tournant un peu.

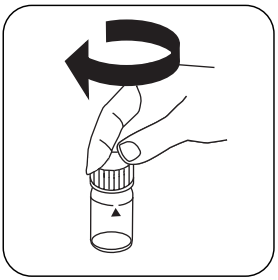


Ajoutez une **pastille de CHLORIDE T2**.

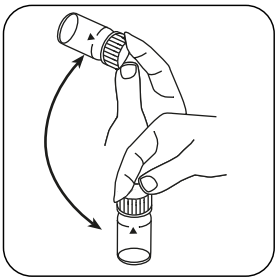
FR



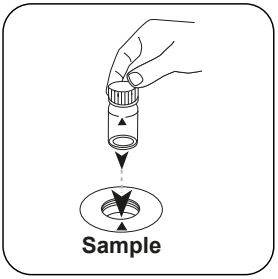
Écrasez la(les) pastille(s) en la(les) tournant un peu.



Fermez la(les) cuvette(s).

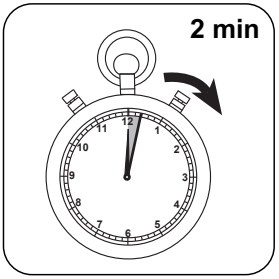


Dissolvez la(les) pastille(s) en mettant le tube plusieurs fois à l'envers.



Placez la **cuvette réservée à l'échantillon** dans la chambre de mesure.
Attention à la positionner correctement.

Appuyez sur la touche **TEST** (XD: **START**).



Attendez la fin du **temps de réaction de 2 minute(s)** .

À l'issue du temps de réaction, la mesure est effectuée automatiquement.

Le résultat s'affiche à l'écran en mg/L chlorure.

Analyses

Le tableau suivant identifie les valeurs de sortie qui peuvent être converties en d'autres formes de citation.

Unité	Formes de citation	Facteur de conversion
mg/l	Cl^-	1
mg/l	NaCl	1.65

Méthode chimique

Nitrate d’argent/turbidité

Appendice

Interférences

Interférences persistantes

1. Les ions qui réagissent également avec le nitrate d'argent dans un milieu acide pour former des précipités, comme par ex. le bromure, l’iodure ou le thiocyanate perturbent également les résultats.
2. Certaines particules ne s'expliquent pas par la présence de chlorure. Le chlorure cause une fine turbidité répartie d’aspect laiteux. **Les fortes turbulences causées en mélangeant ou en agitant fortement entraînent la formation d’une floculation susceptible de diminuer les résultats.**
3. Les cyanures, l’iode et le brome sont également déterminés comme chlorures. Le chromate et le dichromate interfèrent et devraient être réduits à l’état chromatique ou supprimés.

Dérivé de

DIN 38405

[1] # agitateur inclus

Chlorure T **M93**

5 - 250 mg/L Cl^- [i] **CL-2**

Nitrate d'argent/turbidité

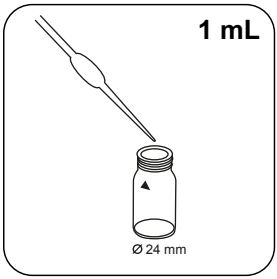
Matériel

Matériel requis (partiellement optionnel):

Réactifs	Pack contenant	Code
Chlorure T1	Pastilles / 100	515910BT
Chlorure T1	Pastilles / 250	515911BT
Chlorure T2	Pastilles / 100	515920BT
Chlorure T2	Pastilles / 250	515921BT
Kit chlorure T1/T2 #	100 chacun	517741BT
Kit chlorure T1/T2 #	250 chacun	517742BT

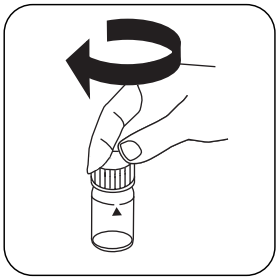
Réalisation de la quantification Chlorure avec pastille

Sélectionnez la méthode sur l'appareil.

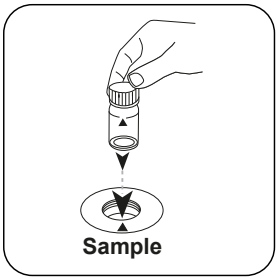


Versez **1 mL d'échantillon** dans la cuvette.

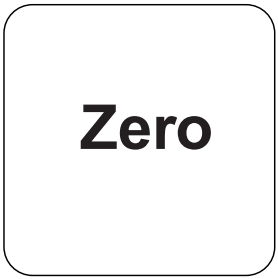
Remplissez la cuvette jusqu'au **repère de 10 mL** en y versant l'**eau déminéralisée**.



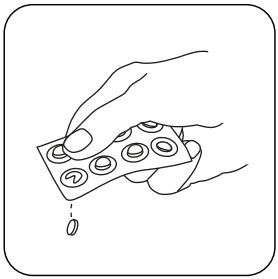
Fermez la(les) cuvette(s).



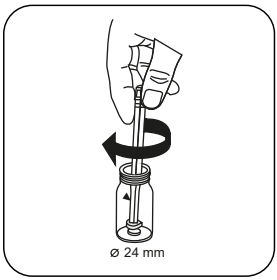
Placez la **cuvette réservée à l'échantillon** dans la chambre de mesure. Attention à la positionner correctement.



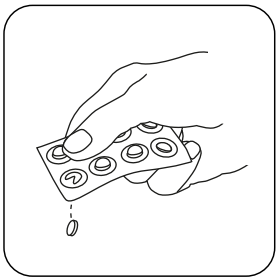
Appuyez sur la touche **ZERO**.



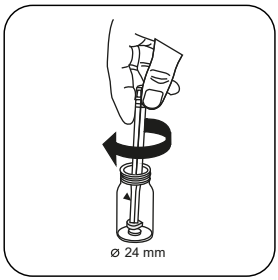
Ajoutez une **pastille de CHLORIDE T1**.



Écrasez et dissolvez la(les) pastille(s) en la(les) tournant un peu.

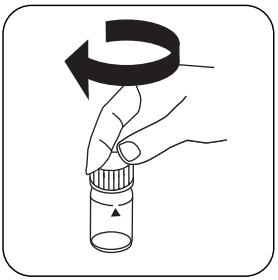


Ajoutez une **pastille de CHLORIDE T2**.

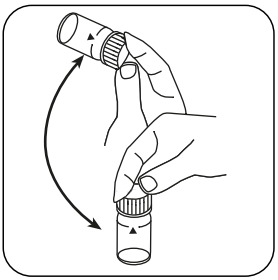


Écrasez la(les) pastille(s) en la(les) tournant un peu.

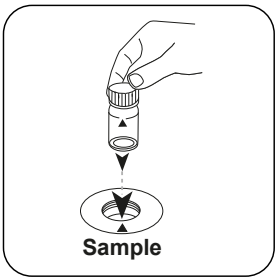
FR



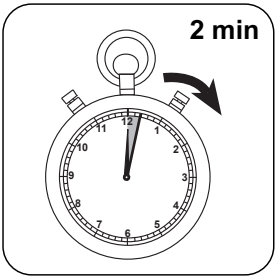
Fermez la(les) cuvette(s).



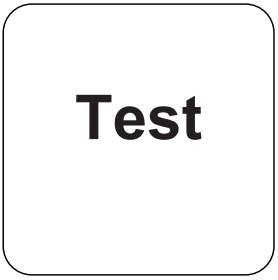
Dissolvez la(les) pastille(s) en mettant le tube plusieurs fois à l'envers.



Placez la **cuvette réservée à l'échantillon** dans la chambre de mesure. Attention à la positionner correctement.



Attendez la fin du **temps de réaction de 2 minute(s)** .



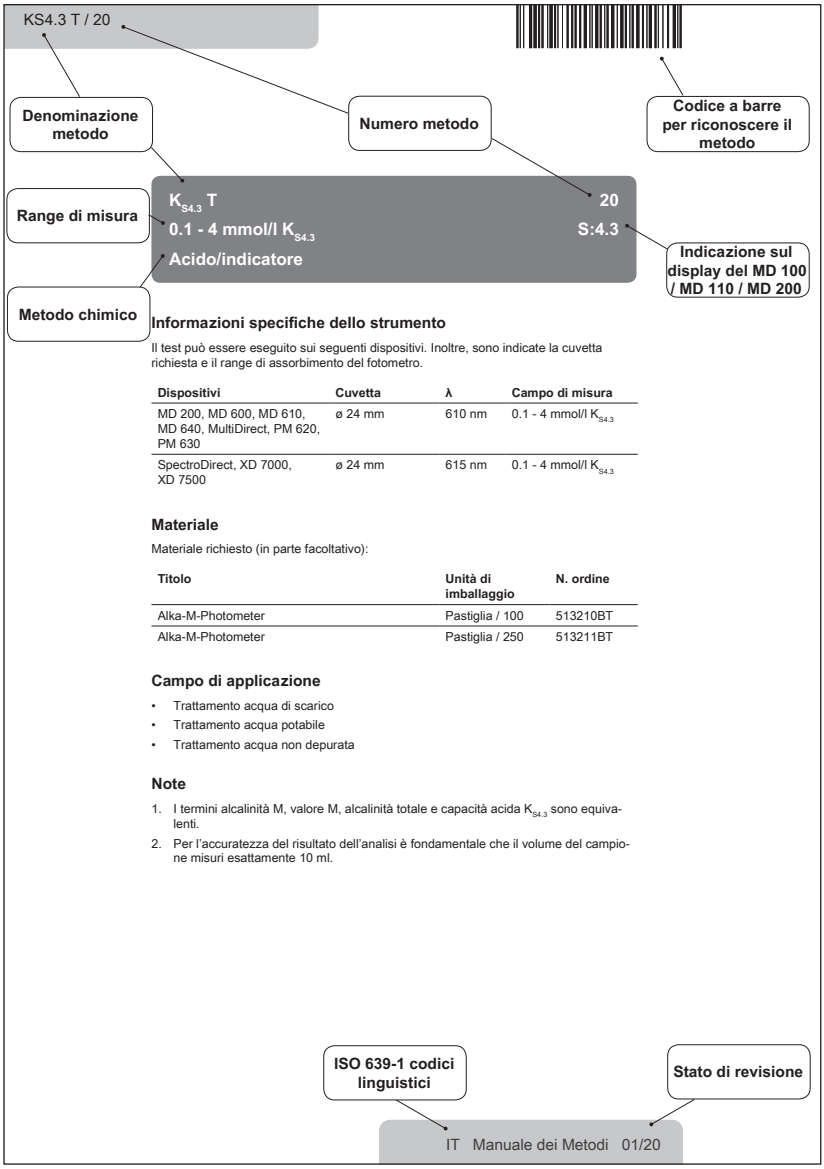
Appuyez sur la touche **TEST** (XD: **START**).

Le résultat s'affiche à l'écran en mg/L chlorure.

Méthode chimique

Nitrate d’argent/turbidité

[j] Gamme haute par dilution | [j]* agitateur inclus



Informazioni specifiche dello strumento

Il test può essere eseguito sui seguenti dispositivi. Inoltre, sono indicate la cuvetta richiesta e il range di assorbimento del fotometro.

Dispositivi	Cuvetta	λ	Campo di misura
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0.1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l $K_{S4.3}$

Materiale

Materiale richiesto (in parte facoltativo):

Titolo	Unità di imballaggio	N. ordine
Alka-M-Photometer	Pastiglia / 100	513210BT
Alka-M-Photometer	Pastiglia / 250	513211BT

Campo di applicazione

- Trattamento acqua di scarico
- Trattamento acqua potabile
- Trattamento acqua non depurata

Note

1. I termini alcalinità M, valore M, alcalinità totale e capacità acida $K_{S4.3}$ sono equivalenti.
2. Per l'accuratezza del risultato dell'analisi è fondamentale che il volume del campione misuri esattamente 10 ml.

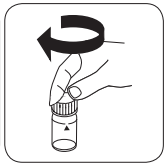
Svolgimento della misurazione

Esecuzione della rilevazione Capacità acida $K_{S4.3}$ con pastiglia

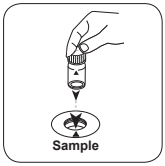
Selezionare il metodo nel dispositivo.

Con i seguenti dispositivi, per questo metodo non è necessario eseguire una misurazione ZERO: XD 7000, XD 7500

Riempire una cuvetta da 24 mm con **10 ml di campione**.



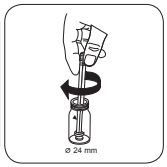
Chiudere la/e cuvetta/e.



Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.

• • •

Aggiungere **una pastiglia ALKA-M-PHOTOMETER**.



Frantumare la/e pastiglia/e con una leggera rotazione.

Chiudere la/e cuvetta/e.

Cloruro T M90

0.5 - 25 mg/L Cl^- CL-1

Nitrato d'argento / torbidità

IT

Materiale

Materiale richiesto (in parte facoltativo):

Reagenti	Unità di imballaggio	N. ordine
Cloruro T1	Pastiglia / 100	515910BT
Cloruro T1	Pastiglia / 250	515911BT
Cloruro T2	Pastiglia / 100	515920BT
Cloruro T2	Pastiglia / 250	515921BT
Set Cloruro T1/T2 #	ciascuna 100	517741BT
Set Cloruro T1/T2 #	ciascuna 250	517742BT

Preparazione

1. Le acque fortemente alcaline dovrebbero essere neutralizzate prima dell'analisi, eventualmente con acido nitrico.

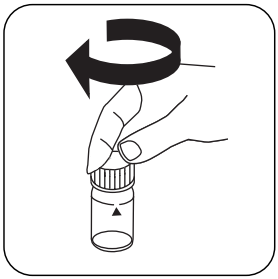
Note

1. Concentrazioni particolarmente elevate di elettroliti e composti organici hanno effetti diversi sulla reazione di precipitazione.

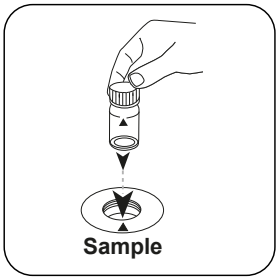
Esecuzione della rilevazione Cloruro con pastiglia

Selezionare il metodo nel dispositivo.

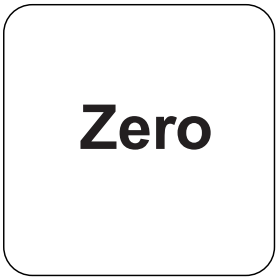
Riempire una cuvetta da 24 mm con **10 mL di campione**.



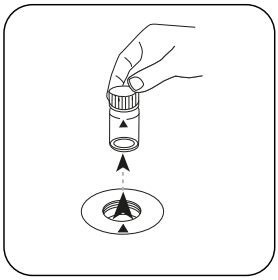
Chiudere la/e cuvetta/e.



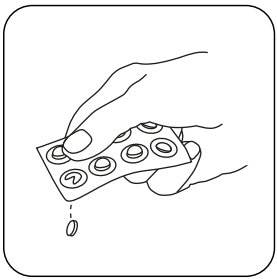
Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.



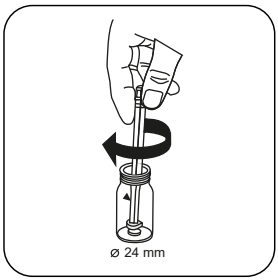
Premere il tasto **ZERO**.



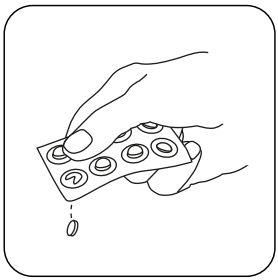
Prelevare la cuvetta dal vano di misurazione.



Aggiungere **una pastiglia CHOLORIDE T1**.

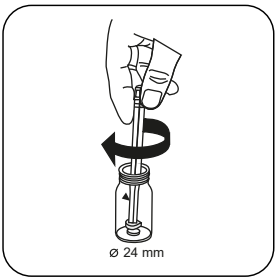


Frantumare e far sciogliere la/e pastiglia/e con una leggera rotazione.

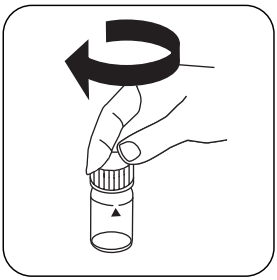


Aggiungere **una pastiglia CHLORIDE T2**.

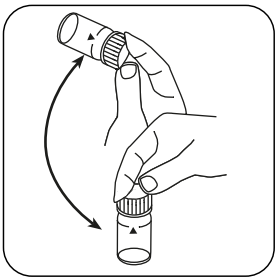
IT



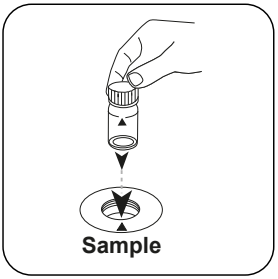
Frantumare la/e pastiglia/e con una leggera rotazione.



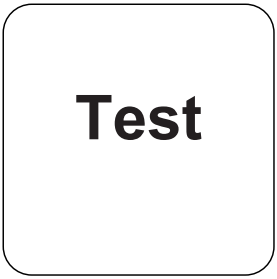
Chiudere la/e cuvetta/e.



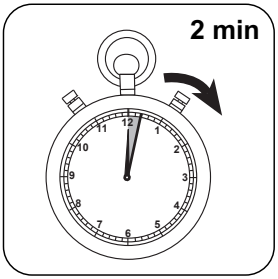
Far sciogliere la/e pastiglia/e agitando.



Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.



Premere il tasto **TEST** (XD: **START**).



Attendere un **tempo di reazione di 2 minuto/i** .

Allo scadere del tempo di reazione viene effettuata automaticamente la misurazione.

Sul display compare il risultato in mg/L di Cloruro.

Valutazione

La seguente tabella identifica i valori di output che possono essere convertiti in altre forme di citazione.

Unità di misura	Forma di citazione	Fattore di conversione
mg/l	Cl^-	1
mg/l	NaCl	1.65

Metodo chimico

Nitrato d'argento / torbidità

Appendice

Interferenze

Interferenze permanenti

1. Gli ioni che in ambiente acido formano precipitati con il nitrato d'argento, ad es. bromuro, ioduro e tiocianato, provocano interferenze.
2. Singole particelle non sono imputabili alla presenza di cloruro. Il cloruro provoca un intorbidimento distribuito finemente dall'aspetto lattiginoso. **Miscelando o agitando eccessivamente si producono forti turbolenze che provocano la formazione di fiocchi di grandi dimensioni, la cui conseguenza potrebbero essere risultati troppo bassi.**
3. Il cianuro, lo iodio e il bromo vengono determinati anch'essi come cloruro. Il cromato e il bicromato interferiscono e devono essere ridotti allo stato cromico o rimossi.

Derivato di

DIN 38405

[1] *Bacchetta compresa

Cloruro T M93

5 - 250 mg/L Cl^- [i] CL-2

Nitrato d'argento / torbidità

IT

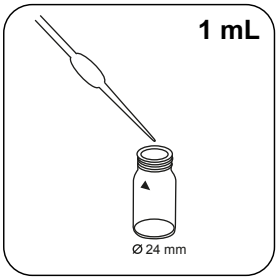
Materiale

Materiale richiesto (in parte facoltativo):

Reagenti	Unità di imballaggio	N. ordine
Cloruro T1	Pastiglia / 100	515910BT
Cloruro T1	Pastiglia / 250	515911BT
Cloruro T2	Pastiglia / 100	515920BT
Cloruro T2	Pastiglia / 250	515921BT
Set Cloruro T1/T2 #	ciascuna 100	517741BT
Set Cloruro T1/T2 #	ciascuna 250	517742BT

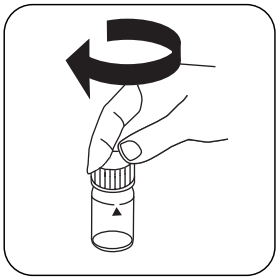
Esecuzione della rilevazione Cloruro con pastiglia

Selezionare il metodo nel dispositivo.

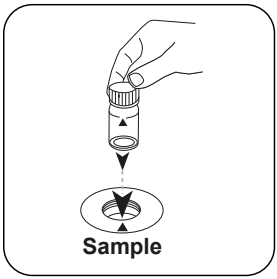


Immettere **1 mL di campione** nella cuvetta.

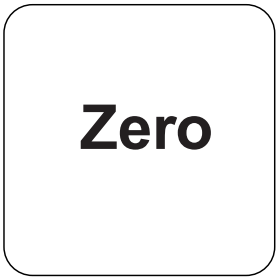
Immettere **acqua demineralizzata** nella cuvetta fino a raggiungere **la tacca dei 10 mL** .



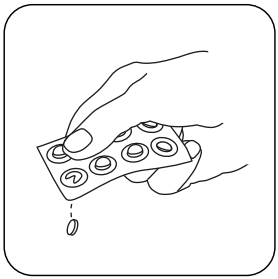
Chiudere la/e cuvetta/e.



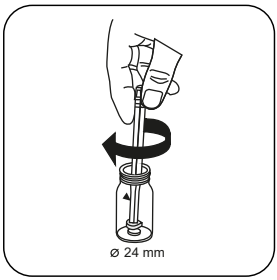
Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.



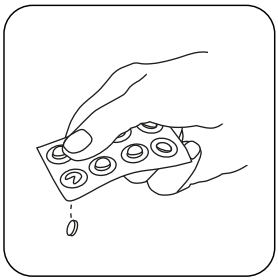
Premere il tasto **ZERO**.



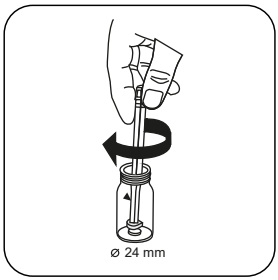
Aggiungere **una pastiglia CHLORIDE T1**.



Frantumare e far sciogliere la/e pastiglia/e con una leggera rotazione.

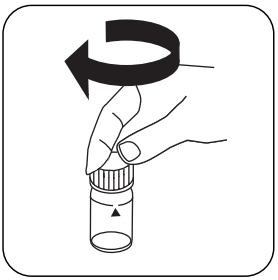


Aggiungere **una pastiglia CHLORIDE T2**.

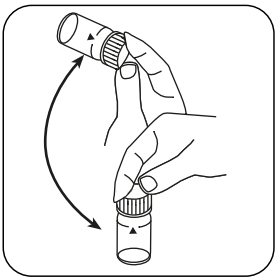


Frantumare la/e pastiglia/e con una leggera rotazione.

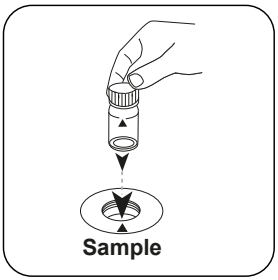
IT



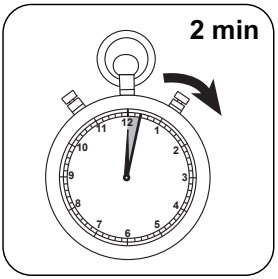
Chiudere la/e cuvetta/e.



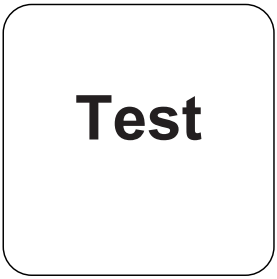
Far sciogliere la/e pastiglia/e agitando.



Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.



Attendere un **tempo di reazione di 2 minuto/i** .



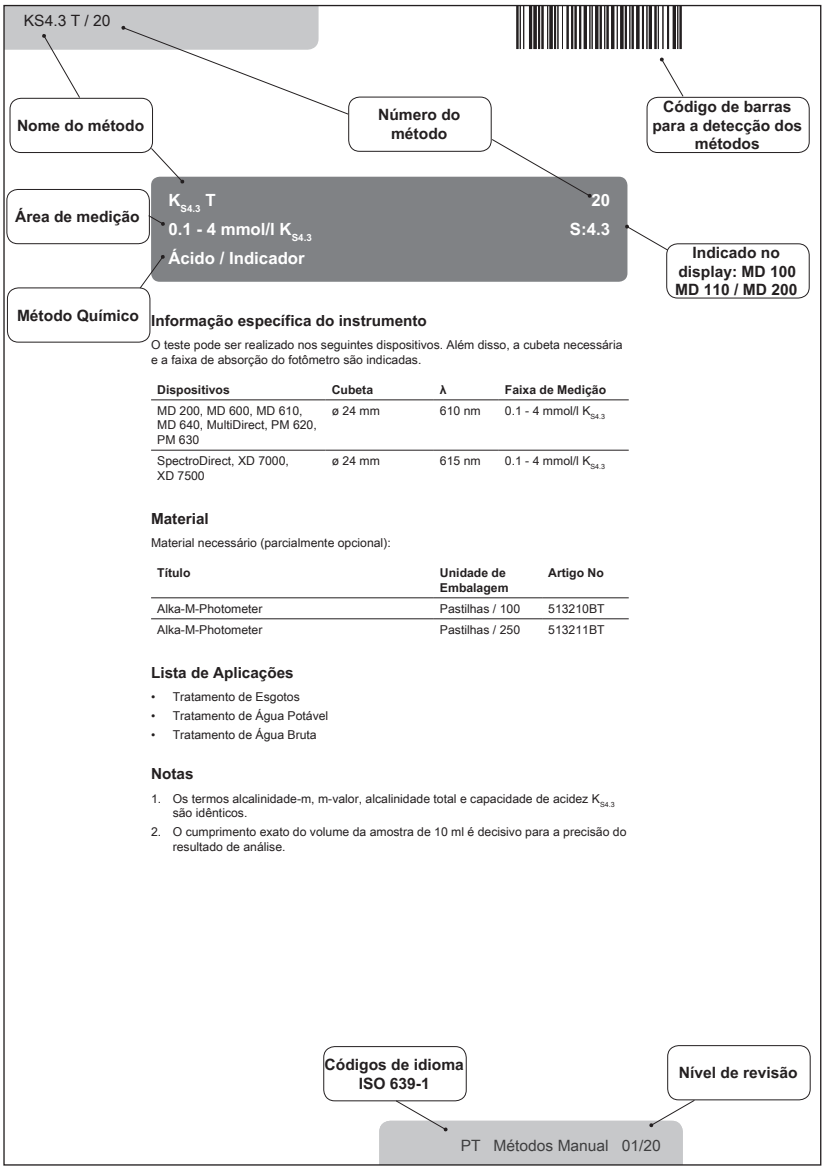
Premere il tasto **TEST** (XD: **START**).

Sul display compare il risultato in mg/L di Cloruro.

Metodo chimico

Nitrato d'argento / torbidità

[1] Elevato intervallo di misurazione grazie alla diluizione | [2] #Bacchetta compresa


KS4.3 T / 20
Nome do método
Número do método
Código de barras para a detecção dos métodos
Área de medição
$K_{S4.3}$ T
20
0.1 - 4 mmol/l $K_{S4.3}$
S:4.3
Ácido / Indicador
Indicado no display: MD 100 MD 110 / MD 200
Método Químico
Informação específica do instrumento
O teste pode ser realizado nos seguintes dispositivos. Além disso, a cubeta necessária e a faixa de absorção do fotômetro são indicadas.
Dispositivos | Cubeta | λ | Faixa de Medição
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S4.3}$
Material
Material necessário (parcialmente opcional):
Título | Unidade de Embalagem | Artigo No
Alka-M-Photometer | Pastilhas / 100 | 513210BT
Alka-M-Photometer | Pastilhas / 250 | 513211BT
Lista de Aplicações
• Tratamento de Esgotos
• Tratamento de Água Potável
• Tratamento de Água Bruta
Notas
1. Os termos alcalinidade-m, m-valor, alcalinidade total e capacidade de acidez $K_{S4.3}$ são idênticos.
2. O cumprimento exato do volume da amostra de 10 ml é decisivo para a precisão do resultado de análise.
Códigos de idioma ISO 639-1
Nível de revisão
PT Métodos Manual 01/20

Efetuar a medição

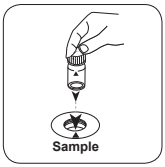
Realização da determinação Capacidade de acidez $K_{S4.3}$ com pastilha

Escolher o método no equipamento.

Para este método não tem de ser efetuada uma medição ZERO nos seguintes equipamentos: XD 7000, XD 7500

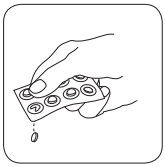
Encher a célula de 24 mm com **10 ml de amostra** .

Fechar a(s) célula(s).

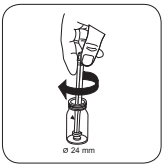


Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.

• • •



Pastilha ALKA-M-PHOTOMETER.



Esmagar a(s) pastilha(s) rodando ligeiramente.

Fechar a(s) célula(s).

Cloreto T M90

0.5 - 25 mg/L Cl^- CL-1

Silver Nitrate / Turbidity

PT

Material

Material necessário (parcialmente opcional):

Reagentes	Unidade de Embalagem	Código do Produto
Cloretos T1	Pastilhas / 100	515910BT
Cloretos T1	Pastilhas / 250	515911BT
Cloretos T2	Pastilhas / 100	515920BT
Cloretos T2	Pastilhas / 250	515921BT
Conjunto Cloreto T1/T2 #	cada 100	517741BT
Conjunto Cloreto T1/T2 #	cada 250	517742BT

Preparação

1. As águas fortemente alcalinas deviam ser eventualmente neutralizadas com ácido nítrico antes da análise.

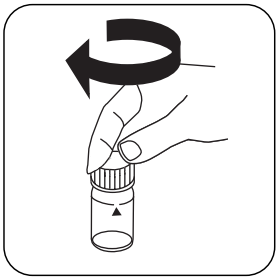
Notas

1. As concentrações maiores de eletrólitos e os composto orgânicos têm efeitos diferentes sobre a reação de precipitação.

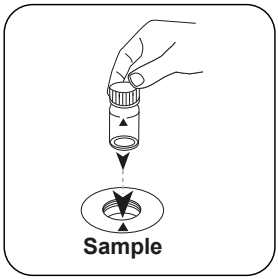
Realização da determinação Cloreto com pastilha

Escolher o método no equipamento.

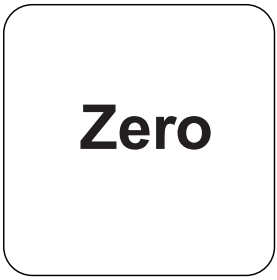
Encher a célula de 24 mm com **10 mL de amostra** .



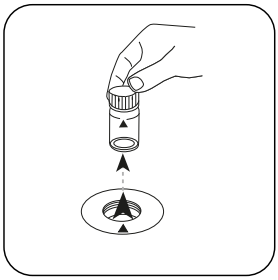
Fechar a(s) célula(s).



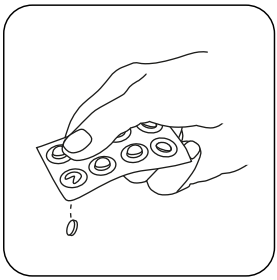
Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.



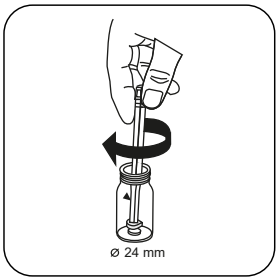
Premir a tecla **ZERO**.



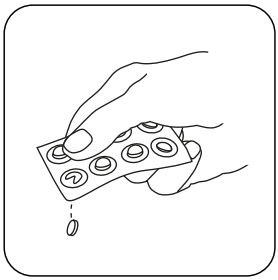
Retirar a célula do compartimento de medição.



Pastilha CHOLORIDE T1.

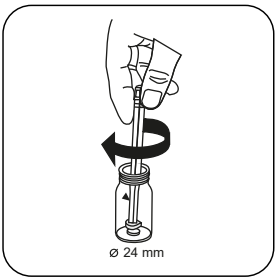


Esmagar a(s) pastilha(s) rodando ligeiramente e dissolver.

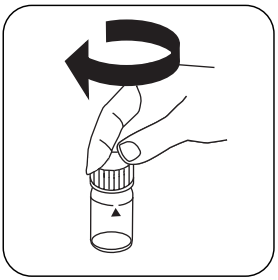


Pastilha CHLORIDE T2.

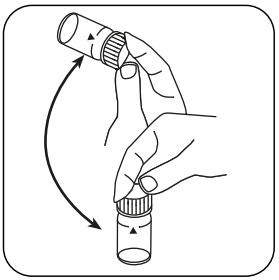
PT



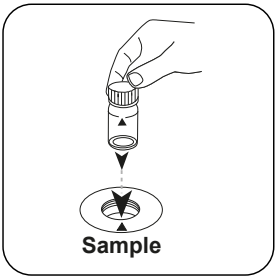
Esmagar a(s) pastilha(s) rodando ligeiramente.



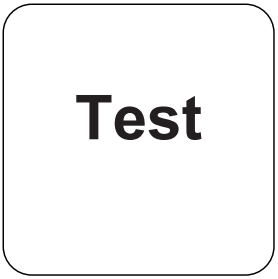
Fechar a(s) célula(s).



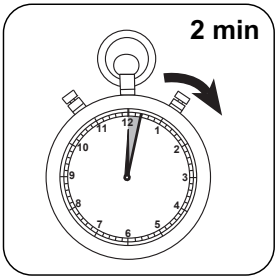
Dissolver a(s) pastilha(s) girando.



Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.



Premir a tecla **TEST** (XD: **START**).



Aguardar **2 minuto(s) de tempo de reação**.

Decorrido o tempo de reação, a medição é efetuada automaticamente.

No visor aparece o resultado em mg/L Cloreto.

Análises

A tabela a seguir identifica os valores de saída que podem ser convertidos em outras formas de citação.

Unidade	Forma de citação	Fator de conversão
mg/l	Cl^-	1
mg/l	NaCl	1.65

Método Químico

Silver Nitrate / Turbidity

Apêndice

Texto de Interferências

Interferências Pesistentes

1. Os iões que formam igualmente precipitações com nitrato de prata em meio ácido, como p. ex. brometo, iodeto, tiocianato, interferem.
2. A presença de algumas partículas não remete para a presença de cloreto. O cloreto causa uma turvação finamente distribuída com aspeto leitoso. **Fortes turbulências através de uma forte agitação ou vibração causam flocos maiores que podem levar a resultados demasiado baixos.**
3. Cianeto, iodo e bromo também são determinados como cloreto. O cromato e o dicromato interferem e devem ser reduzidos ao estado crómico ou removidos.

Derivado de

DIN 38405

#incluindo vareta de agitação

Cloreto T **M93**

5 - 250 mg/L Cl^- [i] **CL-2**

Silver Nitrate / Turbidity

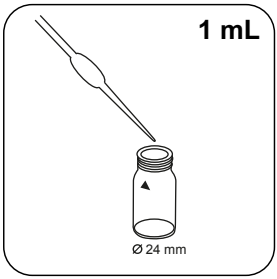
Material

Material necessário (parcialmente opcional):

Reagentes	Unidade de Embalagem	Código do Produto
Cloretos T1	Pastilhas / 100	515910BT
Cloretos T1	Pastilhas / 250	515911BT
Cloretos T2	Pastilhas / 100	515920BT
Cloretos T2	Pastilhas / 250	515921BT
Conjunto Cloreto T1/T2 #	cada 100	517741BT
Conjunto Cloreto T1/T2 #	cada 250	517742BT

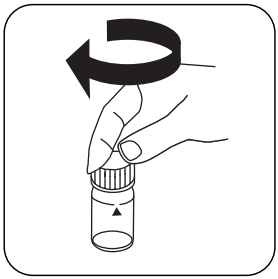
Realização da determinação Cloreto com pastilha

Escolher o método no equipamento.

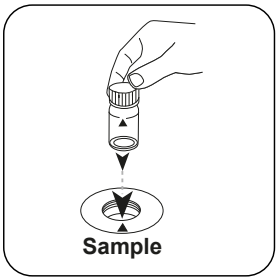


Adicionar **1 mL de amostra** à célula.

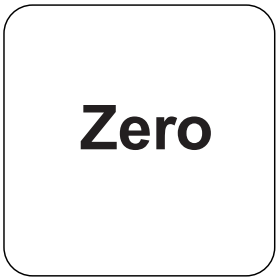
Encher a célula até à **marca de 10 mL** com **água desmineralizada** .



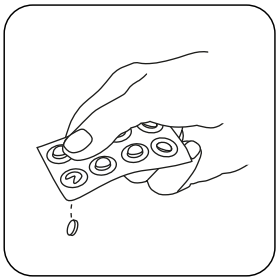
Fechar a(s) célula(s).



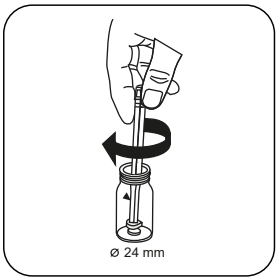
Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.



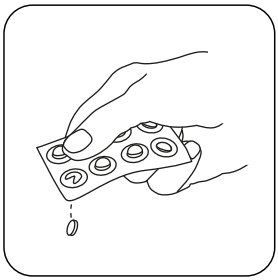
Premir a tecla **ZERO**.



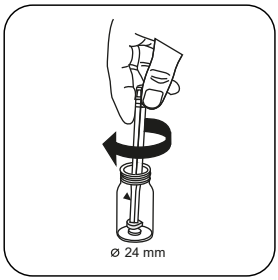
Pastilha CHLORIDE T1.



Esmagar a(s) pastilha(s) rodando ligeiramente e dissolver.

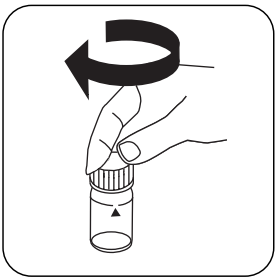


Pastilha CHLORIDE T2.

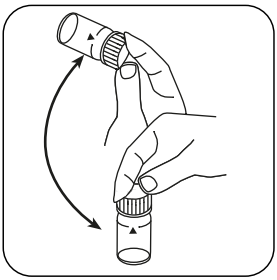


Esmagar a(s) pastilha(s) rodando ligeiramente.

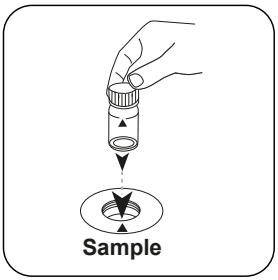
PT



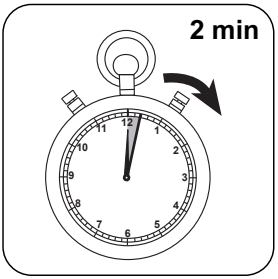
Fechar a(s) célula(s).



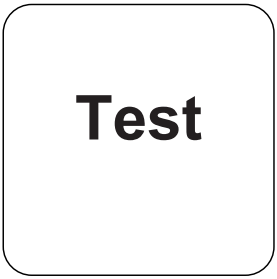
Dissolver a(s) pastilha(s) girando.



Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.



Aguardar **2 minuto(s) de tempo de reação**.



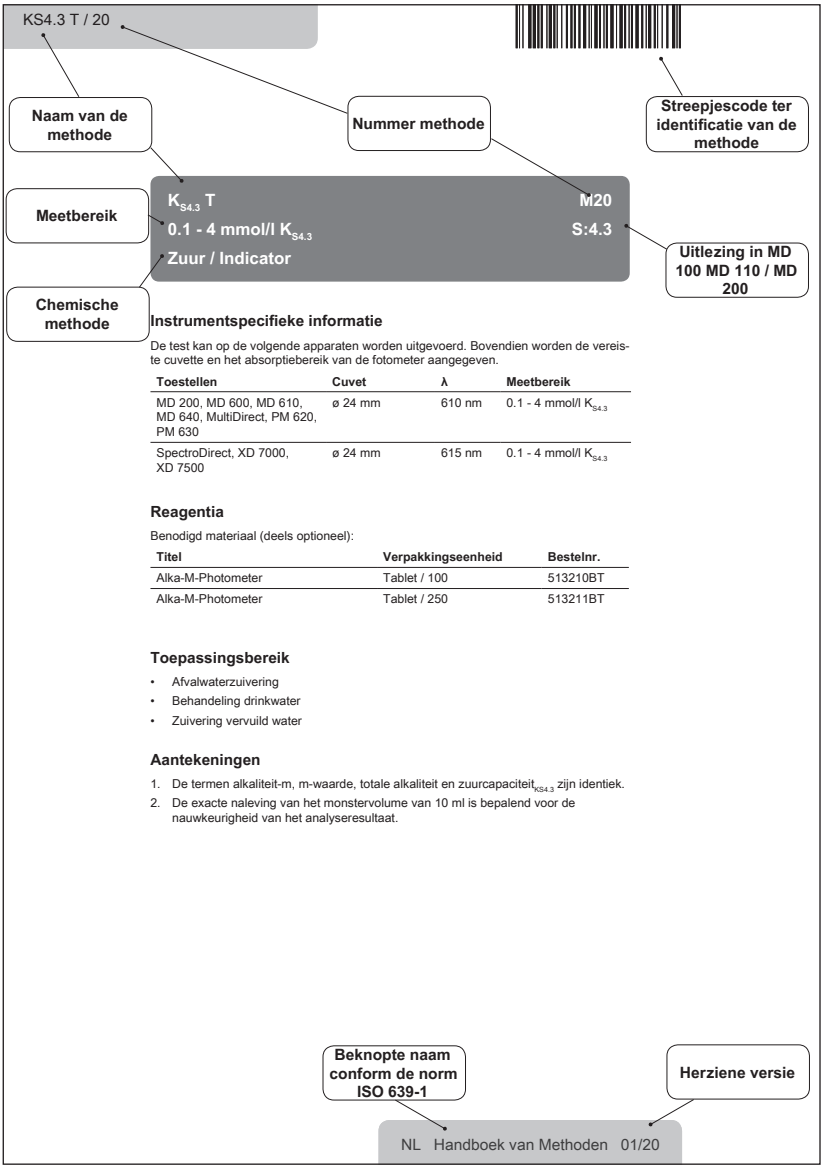
Premir a tecla **TEST** (XD: **START**).

No visor aparece o resultado em mg/L Cloreto.

Método Químico

Silver Nitrate / Turbidity

[9]Faixa de medição alta devido à diluição | #incluindo vareta de agitação



Instrumentspecifieke informatie

De test kan op de volgende apparaten worden uitgevoerd. Bovendien worden de vereiste cuvette en het absorptiebereik van de fotometer aangegeven.

Toestellen	Cuvet	λ	Meetbereik
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0.1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l $K_{S4.3}$

Reagentia

Benodigd materiaal (deels optioneel):

Titel	Verpakkingseenheid	Bestelnr.
Alka-M-Photometer	Tablet / 100	513210BT
Alka-M-Photometer	Tablet / 250	513211BT

Toepassingsbereik

- Afvalwaterzuivering
- Behandeling drinkwater
- Zuivering vervuild water

Aantekeningen

1. De termen alkaliteit-m, m-waarde, totale alkaliteit en zuurcapaciteit$_{KS4.3}$ zijn identiek.
2. De exacte naleving van het monstervolume van 10 ml is bepalend voor de nauwkeurigheid van het analyseresultaat.

Uitvoering van de meting

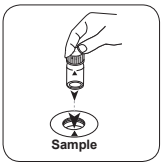
Uitvoering van de bepaling Zuurcapaciteit $K_{S4.3}$ met tablet

De methode in het apparaat selecteren.

Voor deze methode moet bij de volgende apparaten geen nulmeting worden uitgevoerd: XD 7000, XD 7500

Spoelbakje van 24 mm met **10 ml staal** vullen.

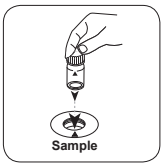
De spoelbakjes afsluiten.



Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.

• • •

Tabletten oplossen door om te draaien



Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.

De toets **TEST** (XD: **START**) indrukken.

De display toont het resultaat als Zuurcapaciteit $K_{S4.3}$.

Chloride T M90

0.5 - 25 mg/L Cl^- CL-1

Zilvernitraat / Troebelheid

NL

Reagentia

Benodigd materiaal (deels optioneel):

Reagentia	Verpakkingseenheid	Bestelnr.
Chloride T1	Tablet / 100	515910BT
Chloride T1	Tablet / 250	515911BT
Chloride T2	Tablet / 100	515920BT
Chloride T2	Tablet / 250	515921BT
Set chloride T1/T2 #	per 100	517741BT
Set chloride T1/T2 #	per 250	517742BT

Voorbereiding

1. Sterk alkalisch water moet vóór de analyse indien nodig met salpeterzuur worden geneutraliseerd.

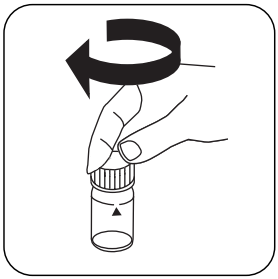
Aantekeningen

1. Hogere concentraties van elektrolyten en organische verbindingen hebben verschillende invloeden op de neerslagreactie.

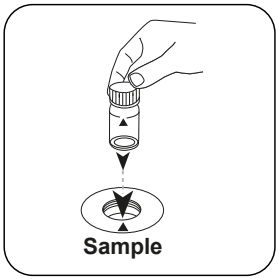
Uitvoering van de bepaling Chloride met tablet

De methode in het apparaat selecteren.

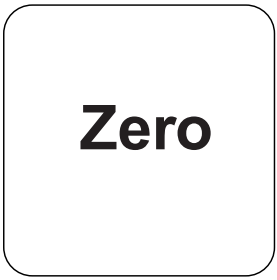
Spoelbakje van 24 mm met **10 mL staal** vullen.



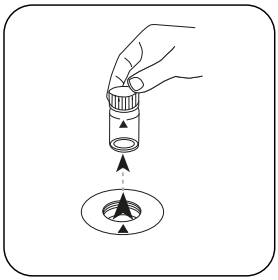
De spoelbakjes afsluiten.



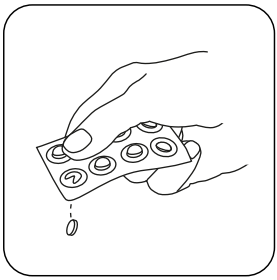
Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.



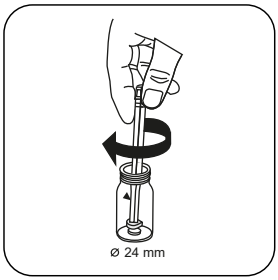
De toets **NUL** indrukken.



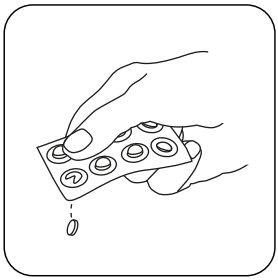
Het spoelbakje uit de meetschacht nemen.



Een CHLOOR T1 tablet toevoegen.

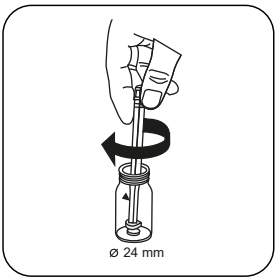


De tabletten onder lichte rotatie verpletteren en oplossen.

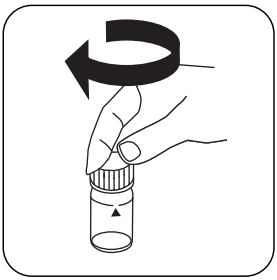


Een CHLOOR T2 tablet toevoegen.

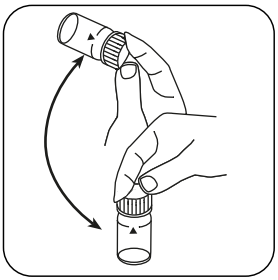
NL



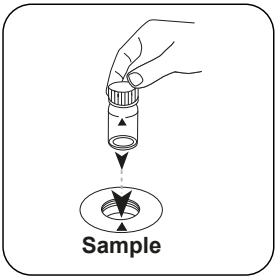
De tabletten onder lichte rotatie verpletteren.



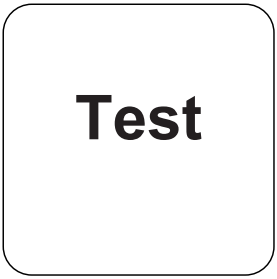
De spoelbakjes afsluiten.



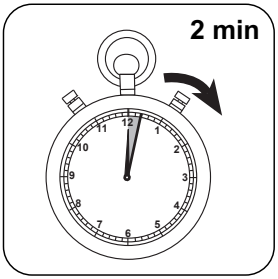
Tabletten oplossen door om te draaien



Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.



De toets **TEST** (XD: **START**) indrukken.



De reactietijd van 2 minuten afwachten.

Na afloop van de reactietijd wordt de meting automatisch uitgevoerd.

De display toont het resultaat in mg/L Chloride.

Evaluatie

De volgende tabel geeft aan dat de uitvoerwaarden kunnen worden geconverteerd naar andere citatievormen.

Eenheid	Dagvaardingsformulier	Omrekeningsfactor
mg/l	Cl^-	1
mg/l	NaCl	1.65

Chemische methode

Zilvernitraat / Troebelheid

Aanhangsel

Verstoringen

Permanente verstoringen

1. Ionen, die ook in een zure omgeving met zilvernitraat neerslaan, zoals bromide, jodide, thiocyanaat, storen.
2. Individuele deeltjes zijn niet te wijten aan de aanwezigheid van chloride. Chloride veroorzaakt een fijn verdeelde troebelheid met een melkachtig uiterlijk. **Sterke turbulenties door krachtig roeren of schudden veroorzaken grotere vlokken, die tot mindere bevindingen kunnen leiden.**
3. Cyanide, jodium en broom worden ook als chlorine bepaald. Chromaat en dichromaat storen en moeten worden verminderd of verwijderd.

Afgeleid van

DIN 38405

met inbegrip van de mengstaaf

Chloride T M93

5 - 250 mg/L Cl^- [i] CL-2

Zilvernitraat / Troebelheid

NL

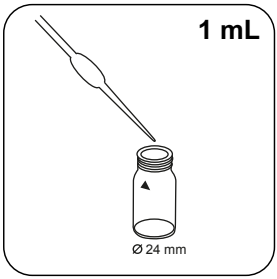
Reagentia

Benodigd materiaal (deels optioneel):

Reagentia	Verpakkingseenheid	Bestelnr.
Chloride T1	Tablet / 100	515910BT
Chloride T1	Tablet / 250	515911BT
Chloride T2	Tablet / 100	515920BT
Chloride T2	Tablet / 250	515921BT
Set chloride T1/T2 #	per 100	517741BT
Set chloride T1/T2 #	per 250	517742BT

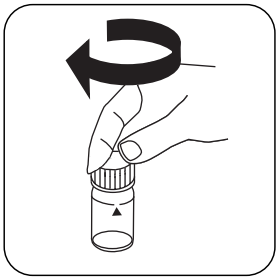
Uitvoering van de bepaling Chloride met tablet

De methode in het apparaat selecteren.

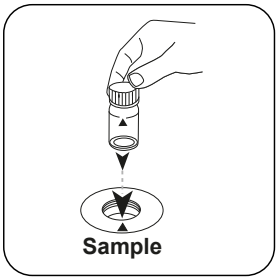


1 mL staal aan het spoelbakje toevoegen.

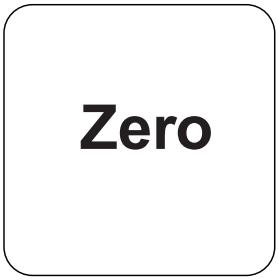
Het spoelbakje tot aan de **markering van 10 mL** met **gedeïoniseerd water** vullen.



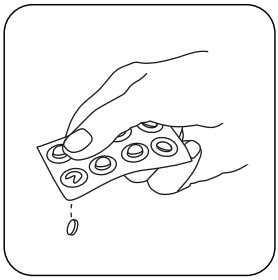
De spoelbakjes afsluiten.



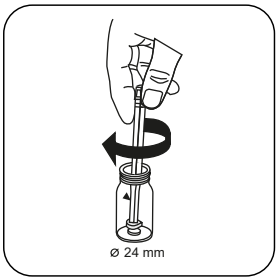
Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.



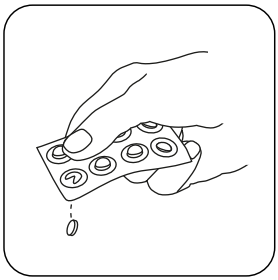
De toets **NUL** indrukken.



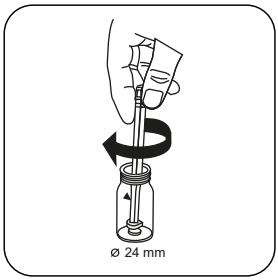
Een CHLOOR T1 tablet toevoegen.



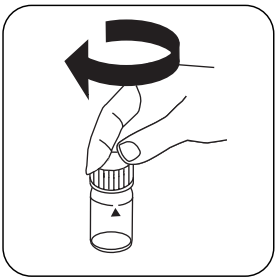
De tabletten onder lichte rotatie verpletteren en oplossen.



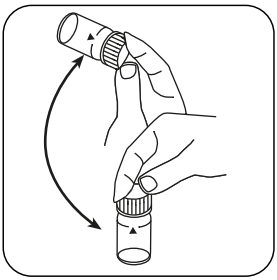
Een CHLOOR T2 tablet toevoegen.



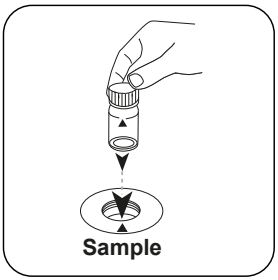
De tabletten onder lichte rotatie verpletteren.



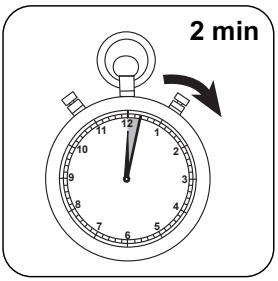
De spoelbakjes afsluiten.



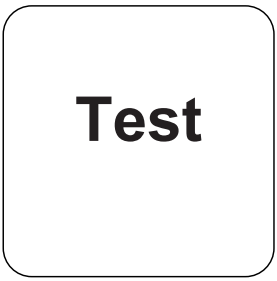
Tabletten oplossen door om te draaien



Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.



De reactietijd van 2 minuten afwachten.



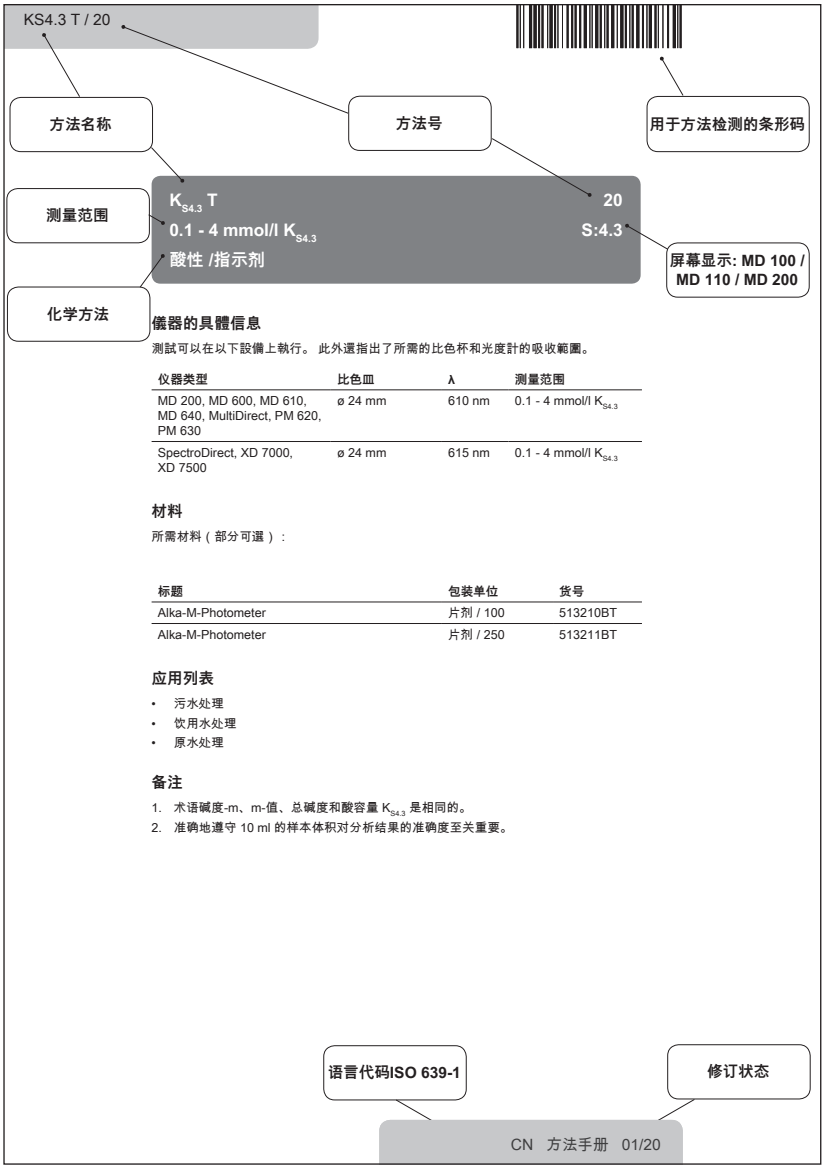
De toets **TEST** (XD: **START**) indrukken.

De display toont het resultaat in mg/L Chloride.

Chemische methode

Zilvernitraat / Troebelheid

[i] hoog meetbereik als gevolg van verdunning | [#] met inbegrip van de mengstaaf



儀器的具體信息

測試可以在以下設備上執行。 此外還指出了所需的比色杯和光度計的吸收範圍。

仪器类型	比色皿	λ	测量范围
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0.1 - 4 mmol/l $K_{S4.3}$
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l $K_{S4.3}$

材料

所需材料（部分可選）：

标题	包装单位	货号
Alka-M-Photometer	片剂 / 100	513210BT
Alka-M-Photometer	片剂 / 250	513211BT

应用列表

- 污水处理
- 饮用水处理
- 原水处理

备注

1. 术语碱度-m、m-值、总碱度和酸容量 $K_{S4.3}$ 是相同的。
2. 准确地遵守 10 ml 的样本体积对分析结果的准确度至关重要。

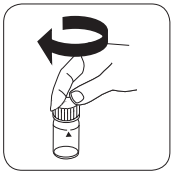
开始测量

进行测定 $K_{S4.3}$ 片剂酸容量

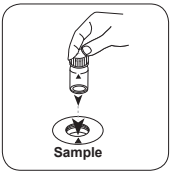
选择设备中的方法。

对于这种方法，在以下设备上不能进行 ZERO 测量：XD 7000, XD 7500

用 **10 ml** 样本填充 24 mm 比色杯。

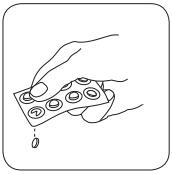


密封比色杯。

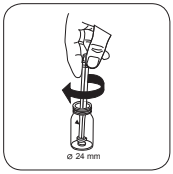


将样本比色杯放入测量轴中。注意定位。

• • •



加入 **ALKA-M-PHOTOMETER** 片剂。



用轻微的扭转压碎片剂。

密封比色杯。

CN 方法手册 01/20

T 氯化物 M90

0.5 - 25 mg/L Cl^- CL-1

硝酸银/浊度

材料
所需材料（部分可選）：

ZH

试剂	包装单位	货号
氯化物 T1	片剂 / 100	515910BT
氯化物 T1	片剂 / 250	515911BT
氯化物 T2	片剂 / 100	515920BT
氯化物 T2	片剂 / 250	515921BT
套件氯化物 T1/T2 #	各100次	517741BT
套件氯化物 T1/T2 #	各250次	517742BT

准备

1. 如有必要，强碱性水应在分析前用硝酸中和。

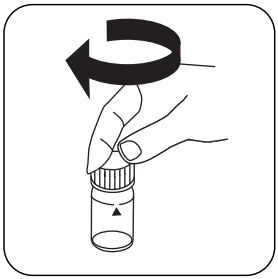
备注

1. 较高浓度的电解质和有机化合物对沉淀反应有不同的影响。

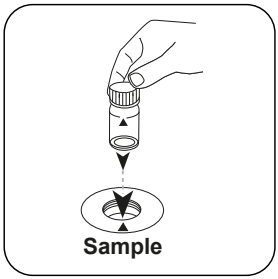
进行测定 氯化物片剂

选择设备中的方法。

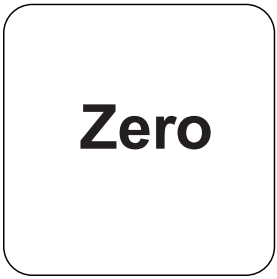
用 **10 mL 样本**填充 24 mm 比色杯。



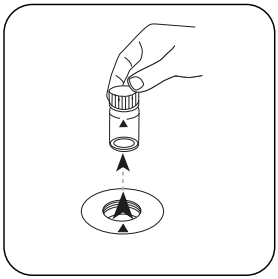
密封比色杯。



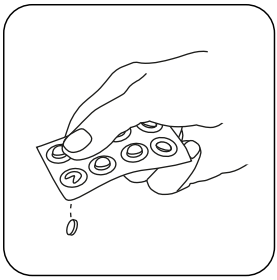
将**样本比色杯**放入测量轴中。注意定位。



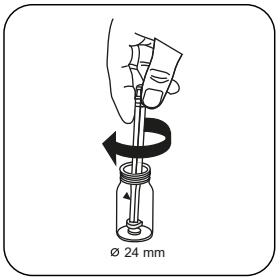
按下 **ZERO** 按钮。



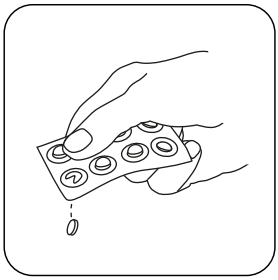
从测量轴上取下比色杯。



加入 **CHOLORIDE T1 片剂**。

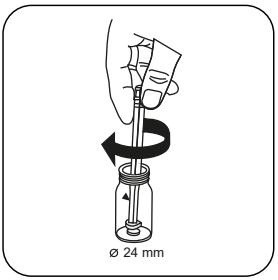


用轻微的扭转压碎片剂并溶解。

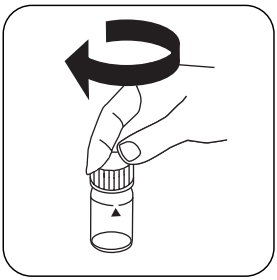


加入 **CHLORIDE T2 片剂** 。

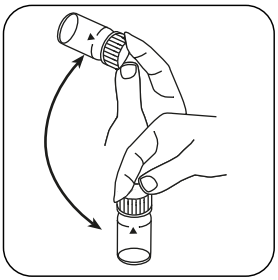
ZH



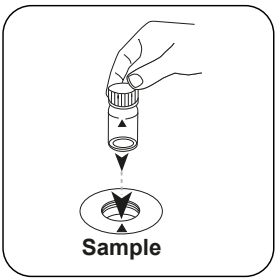
用轻微的扭转压碎片剂。



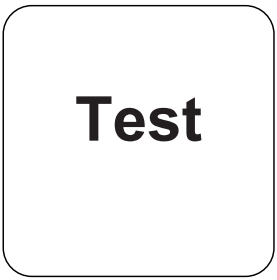
密封比色杯。



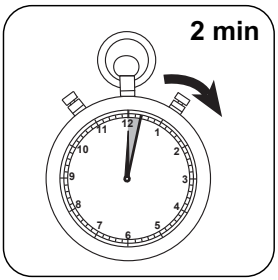
通过旋转溶解片剂。



将**样本比色杯**放入测量轴中。注意定位。



按下 **TEST** (XD: **START**) 按钮。



等待 **2 分钟反应时间** 。

反应时间结束后，自动进行测量。

结果在显示屏上显示为 mg / l 氯化物。

分析

下表中输出数据也可转换为其他格式表示.

单位	参考表格	因素
mg/l	Cl^-	1
mg/l	NaCl	1.65

化学方法

硝酸银/浊度

附錄

干扰说明

持续干扰

1. 在酸性介质中也可以与硝酸银形成沉淀的离子如溴化物、碘化物、硫氰酸盐会产生干扰。
2. 单个颗粒不是由于氯化物的存在造成的。氯化物引起细微的分散浑浊和乳白色的外观。**剧烈搅拌或晃动引起的强湍流导致较大的片状物，这可能导致较低的结果。**
3. 氰化物、碘和溴也被确定为氯化物。铬酸盐和重铬酸盐有干扰作用，应还原为三价铬状态或去除。

源于

DIN 38405

i含搅拌棒, 10cm

T 氯化物 M93

5 - 250 mg/L Cl^{-} [i] CL-2

硝酸银/浊度

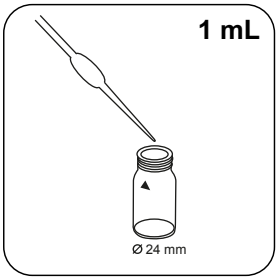
材料
所需材料（部分可選）：

ZH

试剂	包装单位	货号
氯化物 T1	片剂 / 100	515910BT
氯化物 T1	片剂 / 250	515911BT
氯化物 T2	片剂 / 100	515920BT
氯化物 T2	片剂 / 250	515921BT
套件氯化物 T1/T2 #	各100次	517741BT
套件氯化物 T1/T2 #	各250次	517742BT

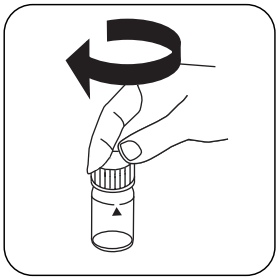
进行测定 氯化物片剂

选择设备中的方法。

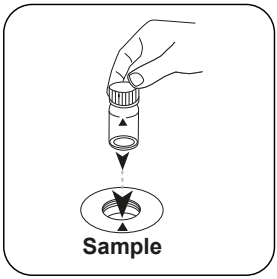


添加 **1 mL 样本**到比色杯中。

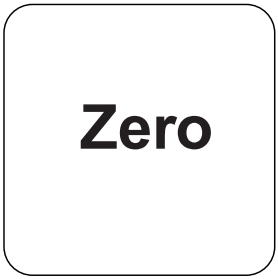
用**去离子水**将比色杯填充至**10 mL 刻度**处。



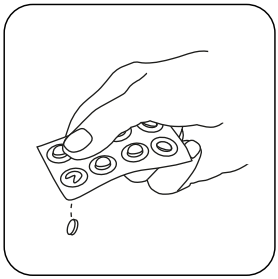
密封比色杯。



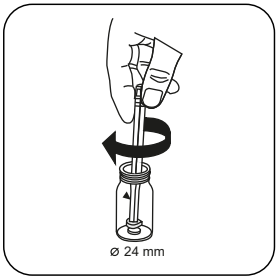
将**样本比色杯**放入测量轴中。注意定位。



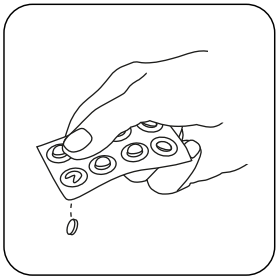
按下 **ZERO** 按钮。



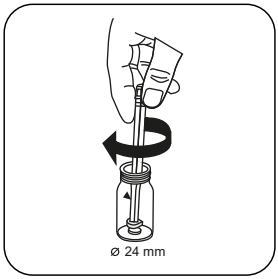
加入 **CHLORIDE T1 片剂** 。



用轻微的扭转压碎片剂并溶解。

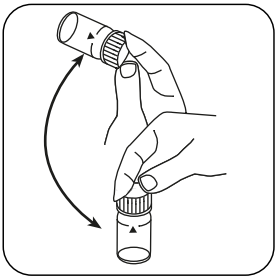


加入 **CHLORIDE T2 片剂** 。

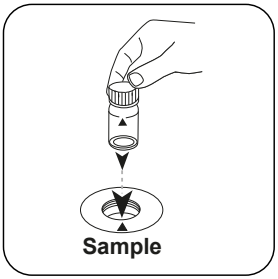


用轻微的扭转压碎片剂。

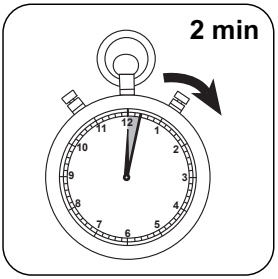
密封比色杯。



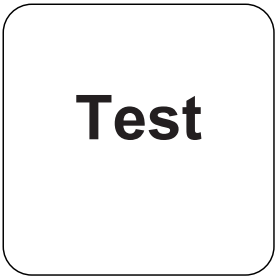
通过旋转溶解片剂。



将**样本比色杯**放入测量轴中。注意定位。



等待 **2 分钟反应时间** 。



按下 **TEST** (XD: **START**) 按钮。

结果在显示屏上显示为 mg / l 氯化物。

化学方法

硝酸银/浊度

[i] 通过稀释进行高量程测定 | # i含搅拌棒, 10cm

Tintometer GmbH
Lovibond® Water Testing
Schleefstraße 8-12
44287 Dortmund
Tel.: +49 (0)231/94510-0
sales@lovibond.com
www.lovibond.com
Germany

The Tintometer Limited
Lovibond House
Sun Rise Way
Amesbury, SP4 7GR
Tel.: +44 (0)1980 664800
Fax: +44 (0)1980 625412
sales@lovibond.uk
www.lovibond.com
UK

Tintometer China
9F, SOHO II C.
No.9 Guanghualu,
Chaoyang District,
Beijing, 100020
Customer Care China Tel.: 4009021628
Tel.: +86 10 85251111 Ext. 330
Fax: +86 10 85251001
chinaoffice@tintometer.com
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China

Tintometer South East Asia
Unit B-3-12, BBT One Boulevard,
Lebuh Nilam 2, Bandar Bukit Tinggi,
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