

visicolor® Powder Pillows

Free Chlorine

DPD-Reagent for the photometric determination of free chlorine in drinking water, swimming pools and water reservoirs

Measuring range:

0.03–6.00 mg/L Cl₂

Method:

At a pH value of 6.2 to 6.5 in a phosphate buffered system, free chlorine reacts with *N,N*-diethyl-1,4-phenylene diamine (DPD) and forms a red-violet dye. In order to obtain accurate results the sample must be analyzed immediately after collection and cannot be preserved for later analysis. Bubbles in the sample cell can cause higher chlorine contents and must be avoided. This may require an additional gentle shaking.

Hazard warning:

Information regarding safety can be found on the box' label and in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.

Procedure:

Requisite accessories: 2 test tubes 16 mm OD (REF 91680) or 2 test tubes 24 mm OD (REF 936101)

A . Rinse test tube several times with sample (*pH value of sample must be between pH 4 and 8*)

Blank (optional):

B . Fill one test tube with **5 mL*** of sample

C . Clean test tube

D . Place test tube in photometer as blank value and adjust for zero

Sample:

E . Fill another test tube with **5 mL*** of sample

F . Add content of **1 Powder Pillow free Chlorine**

G. Close test tube and shake well

H . Clean test tube

I . Wait for **1 min**

J . Measure

*Alternative procedure: Use 10 mL of sample.

Measurement:

See manual for all MACHEREY-NAGEL photometers.
After use, rinse out test tubes thoroughly and seal them.
Suitable for the analysis of sea water.

Interferences:

The temperature of the water sample should be between 10 °C and 50 °C.

Br₂ and I₂ interfere at all levels.

Bromamines and Chloramines interfere at all levels.

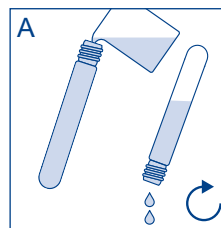
Manganese compounds in high oxidation states interfere at all levels.

Traces of remaining iodide from prior measurements might lead to higher amounts of free chlorine.

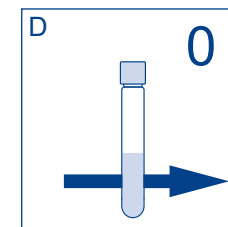
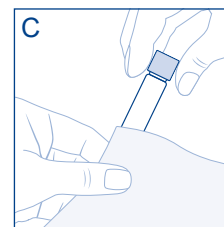
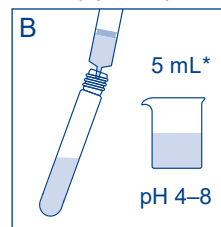
ClO₂ and other oxidizing agents interfere at all levels.

Disposal of samples:

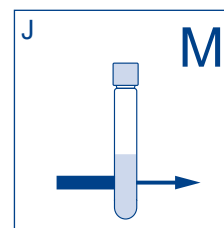
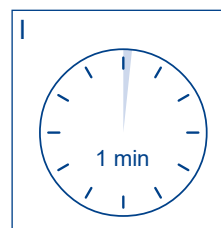
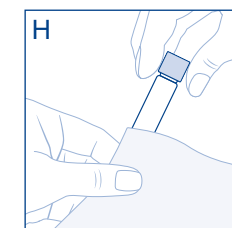
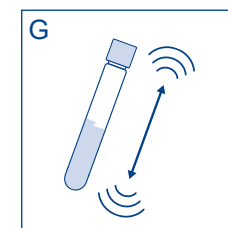
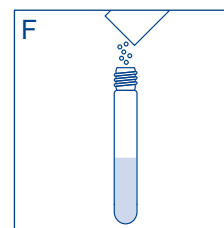
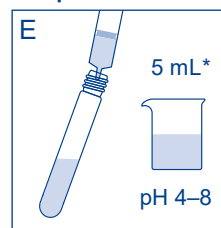
Information regarding disposal can be found in the safety data sheet. You can download the SDS from www.mn-net.com/SDS.



Blank (optional):



Sample:



Distributed By: Camlab Ltd

Unit 24, Norman Way Industrial Estate
Over, Cambridge, CB24 5WE, United Kingdom
T: +44 (0) 1954 233 110 E: sales@camlab.co.uk



MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6–8 · 52355 Düren · Germany
Tel.: +49 24 21 969-0 · info@mn-net.com · www.mn-net.com

visocolor® Powder Pillows

Freies Chlor

Reagenziensatz zur photometrischen Bestimmung von freiem Chlor Trinkwasser, Schwimmbadwasser und Wasserreservoirs

Messbereich:

0,03–6,00 mg/L Cl₂

Methode:

Freies Chlor reagiert bei einem pH-Wert von 6,2–6,5 in einem phosphatgepufferten System mit *N,N*-Diethyl-1,4-phenylendiamin (DPD) zu einem rotvioioletten Farbstoff. Um möglichst akkurate Werte zu erhalten muss die Probe direkt nach Entnahme analysiert werden. Eine Aufbewahrung der Probe für eine spätere Analyse ist nicht möglich. Luftblasen im Inneren der Küvette führen zu Überbefunden und müssen vermieden werden. Hierzu kann ein leichtes Schwenken der Küvette erforderlich sein.

Gefahrenhinweis:

Informationen zu Gefahren finden Sie auf dem Außenetikett und im Sicherheitsdatenblatt. Das Sicherheitsdatenblatt können Sie unter www.mn-net.com/SDS herunterladen.

Ausführung:

Benötigtes Zubehör: 2 Reaktionsgläser 16 mm AD (REF 91680) oder 2 Reaktionsgläser 24 mm (REF 936101)

A . Reaktionsglas mehrmals mit der Wasserprobe spülen (*der pH-Wert der Probe muss zwischen pH 4 und 8 liegen*)

Null (optional):

B . Eine Rundküvette mit 5 mL* Probe füllen

C . Rundküvette von Außen säubern

D . Rundküvette in das Photometer einsetzen und Null-Messung durchführen

Probe:

E . Eine weitere Rundküvette mit 5 mL* Probe füllen

F . Den Inhalt eines Powder Pillows freies Chlor zugeben

G. Rundküvette verschließen und kräftig schütteln

H . Rundküvette von Außen säubern

I . Reaktionszeit 1 min abwarten

J . Messen

* Alternative Durchführung: 10 mL Probe verwenden

Messung:

Siehe Handbuch für MACHEREY-NAGEL Photometer.

Nach Gebrauch Rundküvette gründlich spülen und verschließen.

Diese Methode ist auch für die Analyse von Meerwasser geeignet.

Störungen:

Die Temperatur der Wasserprobe soll zwischen 10 und 50 °C liegen.

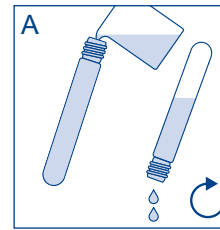
Br₂ und I₂ stören die Messung und führen zu Überbefunden.

Bromamine und Chloramine stören die Messung und führen zu Überbefunden.

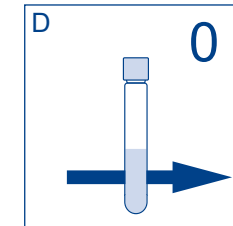
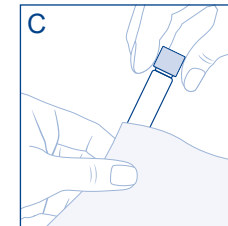
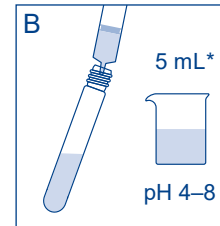
Manganverbindungen in hohen Oxidationsstufen stören die Messung und führen zu Überbefunden.

Entsorgung:

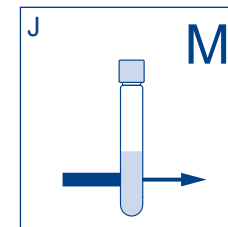
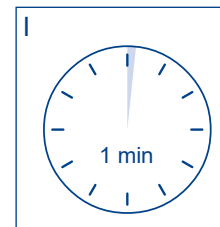
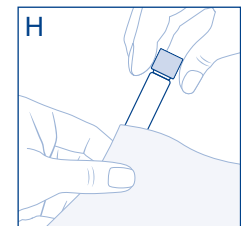
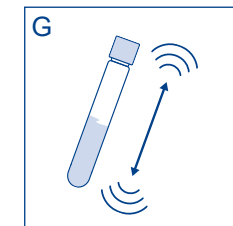
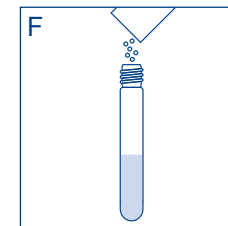
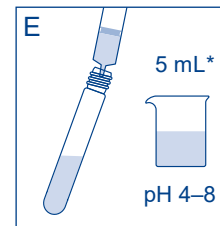
Informationen zur Entsorgung entnehmen Sie bitte dem Sicherheitsdatenblatt. Das Sicherheitsdatenblatt können Sie unter www.mn-net.com/SDS herunterladen.



Null (optional):



Probe:



MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6–8 · 52355 Düren · Deutschland

Tel.: +49 24 21 969-0 · info@mn-net.com · www.mn-net.com

Schweiz: MACHEREY-NAGEL AG · Hirsackerstr. 7 · 4702 Oensingen · Schweiz

Tel.: 062 388 55 00 · sales-ch@mn-net.com

visocolor® Powder Pillows

Chlore libre

Réactif DPD pour détermination photométrique du chlore libre dans l'eau potable, l'eau des piscines et les réservoirs d'eau

Domaine de mesure :

0.03–6.00 mg/L Cl₂

Méthode :

Le chlore libre réagit à un pH de 6,2–6,5 dans un système tamponné au phosphate avec la *N,N*-diéthyl-1,4-phénylènediamine (DPD) pour former un colorant rouge-violet. Afin d'obtenir des valeurs les plus précises possibles, l'échantillon doit être analysé immédiatement après le prélèvement. Il n'est pas possible de conserver l'échantillon pour une analyse ultérieure. Les bulles d'air dans l'échantillon sont susceptibles de donner des résultats trop élevés et doivent être évitées. Il convient alors de secouer légèrement la cuve ronde.

Indication de danger :

Vous trouverez des informations sur les risques sur l'étiquette de l'emballage et dans la fiche de données de sécurité. Vous trouverez la fiche de données de sécurité sur le site www.mn-net.com/SDS pour la télécharger.

Exécution :

Accessoires nécessaires : 2 cuves de réaction de 16 mm de diamètre extérieur (REF 96180) ou 2 cuves de réaction de 24 mm de diamètre extérieur (REF 936101)

A . Rincer plusieurs fois la cuve de réaction avec l'échantillon d'eau (diamètre extérieur) avec l'échantillon d'eau (*la valeur pH de l'échantillon doit se situer entre pH 4 et 8*)

Blanc (en option) :

B . Remplir une cuve ronde avec un échantillon de **5 mL***

C. Nettoyer l'extérieur de la cuve ronde

D. Placer la cuve ronde dans le photomètre et procéder à la mesure du point zéro

Echantillon :

E . Remplir une autre cuve ronde avec un échantillon de **5 mL***

F . Ajouter le contenu d'un **Powder Pillow Chlore libre**

G. Fermer la cuve ronde et secouer énergiquement

H. Nettoyer l'extérieur de la cuve ronde

I . Temps de réaction : attendre **1 min**

J . Mesurer

* Procédure alternative: Utiliser 10 mL d'échantillon.

Mesure :

Se reporter au manuel du photomètre de MACHEREY-NAGEL.

Après utilisation, rincer avec précision les cuves rondes et la fermer.

Cette méthode est également appropriée pour analyser l'eau de mer.

Interférences :

La température de l'échantillon d'eau doit se situer entre 10 et 50 °C.

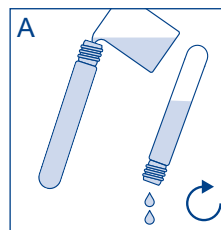
Br₂ et I₂ perturbent la mesure et donnent des résultats trop élevés.

Les bromamines et chloramines perturbent la mesure et donnent des résultats trop élevés.

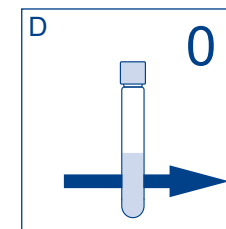
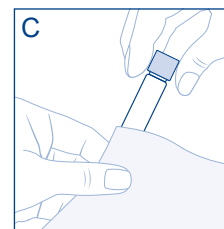
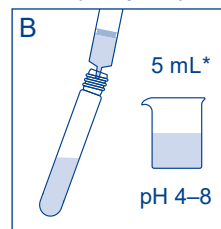
Le composé du manganèse à des états élevés d'oxydation perturbent la mesure et donnent des résultats trop élevés.

Élimination des échantillons :

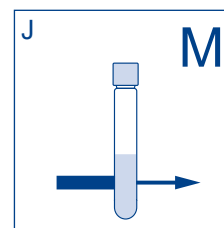
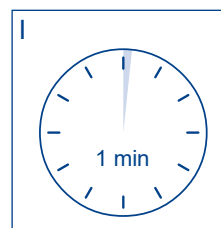
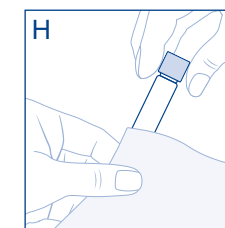
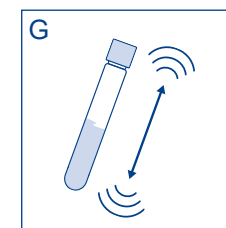
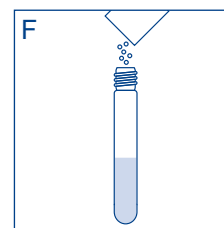
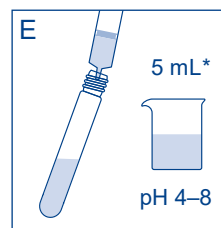
Vous trouverez des informations concernant l'élimination des produits dans la fiche de données de sécurité. Vous trouverez la fiche de données de sécurité sur le site www.mn-net.com/SDS pour la télécharger.



Blanc (en option) :



Echantillon :



MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6–8 · 52355 Düren · Allemagne
Tél : +49 24 21 969-0 · info@mn-net.com · www.mn-net.com

France : MACHEREY-NAGEL SARL à associé unique · 1, rue Gutenberg · 67722 Hoerdtsheim · France
Tél : 03 88 68 22 68 · sales-fr@mn-net.com

visicolor[®] Powder Pillows

Cloro libre

Kit de reactivos para la determinación fotométrica de agua potable, agua de piscinas y embalses libre de cloro

Rango de medida:

0,03–6,00 mg/L Cl₂

Método:

El cloro libre reacciona a un valor de pH de 6,2–6,5 en un sistema tampón fosfato con la *N,N*-dietil-1,4-fenilendiamina (DPD) formando un colorante rojo-violeta. Con el fin de obtener valores lo más precisos posible, la muestra debe analizarse inmediatamente tras su obtención. La muestra no puede guardarse para su posterior análisis. Las burbujas de aire en el interior de la cubeta provocan resultados exagerados y por este motivo deben evitarse. Para ello, puede resultar necesario girar ligeramente la cubeta.

Advertencia sobre peligro:

Encontrará la información sobre los riesgos en la etiqueta exterior y en la ficha de datos de seguridad. Puede descargar la ficha de datos de seguridad en www.mn-net.com/SDS.

Procedimiento:

Accesorios necesarios: tubos de ensayo de 16 mm DE (REF 91680) o 2 tubos de ensayo de 24 mm DE (REF 936101)

A . Lave el tubo de ensayo varias veces con la muestra de agua (*el valor pH de la muestra debe hallarse entre pH 4 y 8*)

Blanco (opcional):

- B . Llene una cubeta redonda con **5 mL*** de muestra
- C . Limpie la cubeta redonda desde el exterior
- D . Inserte la cubeta redonda en el fotómetro y mida el blanco

Muestra:

- E . Llene otra cubeta con otros **5 mL*** de muestra
- F . Añada el contenido de un **Powder Pillow de cloro libre**
- G. Cierre la cubeta redonda y agítela bien
- H . Limpie la cubeta redonda desde el exterior
- I . Espere un tiempo de reacción de **1 min**
- J . Realice la medición

* Procedimiento alternativo: use 10 mL de muestra.

Medición:

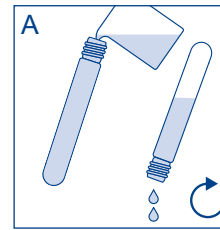
Consulte el manual del fotómetro MACHEREY-NAGEL.
Tras el uso, limpie a fondo los tubos de muestras, ciérrelos.
Este método también resulta adecuado para el análisis de agua de mar.

Interferencias:

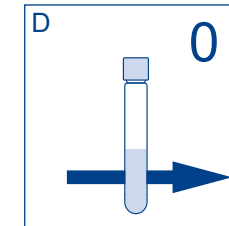
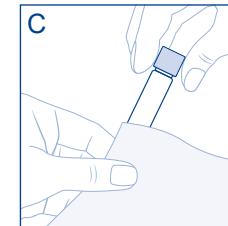
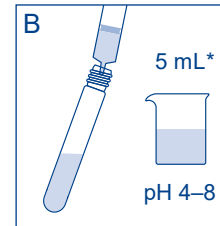
La temperatura de la muestra de agua debe hallarse entre 10 y 50 °C.
Br₂ e I₂ alteran la medición y provocan resultados exagerados.
La bromamina y cloramina alteran la medición y provocan resultados exagerados.
Los compuestos de manganeso en niveles de oxidación elevados alteran la medición y provocan resultados exagerados.

Eliminación:

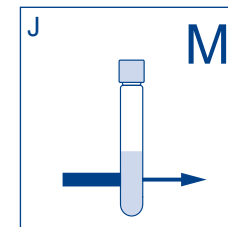
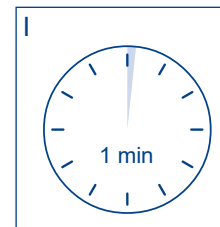
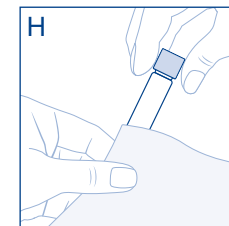
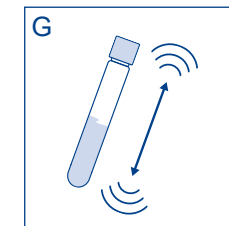
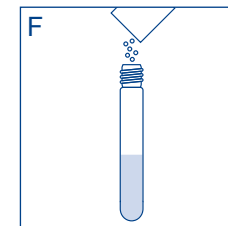
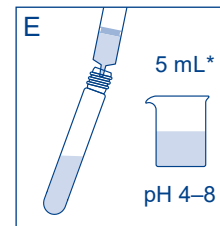
Consulte la información sobre la eliminación en la ficha de datos de seguridad. Puede descargar la ficha de



Blanco (opcional):



Muestra:



datos de seguridad en www.mn-net.com/SDS.



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visicolor® Powder Pillows

Vrij Chloor

DPD reagens voor de fotometrische bepaling van vrij chloor in drinkwater, zwembadwater en waterreservoirs

Meetgebied:

0.03–6.00 mg/L Cl₂

Methode:

Bij een pH-waarde van 6,2 tot 6,5 in een fosfaat-gebufferde systeem reageert vrij chloor met *N,N*-diethyl-1,4-fenyleen diamine (DPD) voor het vormen van een roodviolet kleurstof. Om nauwkeurige resultaten te verkrijgen, moet het monster onmiddellijk na de monsterversameling worden gemeten en kan niet worden bewaard. Luchtbelletjes in de reageerbuis leiden tot hogere resultaten en moeten vermeden worden. Hiertoe kan een zachte schudden van de cuvette nodig zijn.

Voorzorgsmaatregelen:

Informatie over de gevaren vindt u op het verpakkingsetiket en het veiligheidsinformatieblad. U kunt het veiligheidsinformatieblad downloaden van www.mn-net.com/SDS.

Procedure:

Benodigde hulpmiddelen: 2 reageerbuisen 16 mm BD (REF 91680) of 2 reageerbuisen 24 mm BD (REF 936101)

A . Reageerbuis meerdere malen met het watermonster spoelen (de pH-waarde van het monster moet tussen pH 4 en 8 liggen)

Nul (optioneel):

- B . Een reageerbuis met **5 mL*** monsteroplossing vullen
- C . Buitenkant van de reageerbuis schoonmaken
- D . Reageerbuis in de fotometer plaatsen en nulmeting uitvoeren

Meting:

- E . De tweede reageerbuis met **5 mL*** monsteroplossing vullen
- F . De inhoud van **1 Powder Pillow vrij Chloor** toevoegen
- G. Reageerbuis sluiten en krachtig schudden
- H . Buitenkant van de reageerbuis schoonmaken
- I . Reaktietijd van **1 min** afwachten
- J . Meten

* Alternatieve procedure: gebruik 10 mL monster.

Meting:

Zie handboek voor MACHERY-NAGEL fotometer.

Na gebruik reageerbuis grondig spoelen en sluiten.

Deze methode is ook bruikbaar voor de analyse van zeewater.

Storingen:

De temperatuur van het monster moet tussen 10 en 50 °C liggen.

Broomamines en chlooramines interfereren met de test.

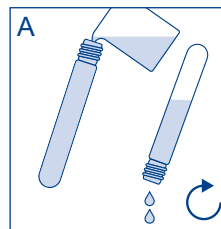
Br₂ en I₂ interfereren met de test en leiden tot hogere resultaten.

Mangaanverbindingen in hoge oxidatietoestanden interfereren met de test bij alle concentraties.

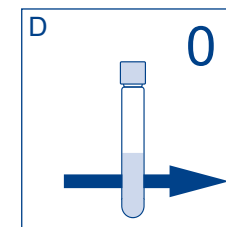
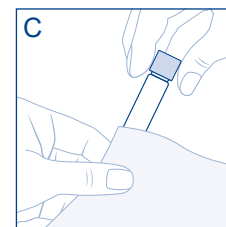
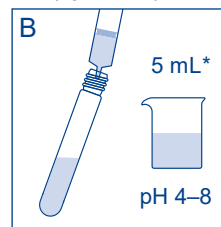
ClO₂ en andere oxiderende stoffen interfereren met de test bij alle concentraties.

Afvalverwerking:

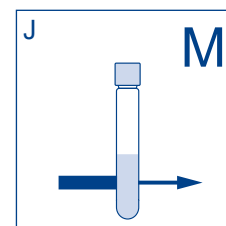
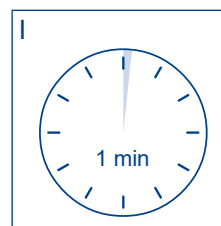
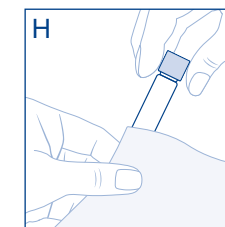
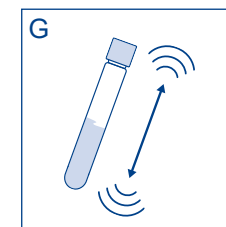
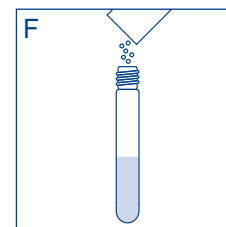
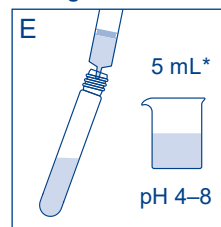
Raadpleeg het veiligheidsinformatieblad voor informatie over de afvoer. U kunt het veiligheidsinformatieblad downloaden van www.mn-net.com/SDS.



Nul (optioneel):



Meting:



visicolor® Powder Pillows

Cloro libero

Kit di reagenti per la determinazione fotometrica di cloro libero nelle acque potabili, nelle piscine e nei bacini idrici

Intervallo di valori:

0,03–6,00 mg/l Cl₂

Metodo:

In un sistema tamponato con fosfato, a un pH di 6,2–6,5 il cloro libero reagisce con la *N,N*-diethyl-1,4-fenilendi-ammina (DPD) formando un colorante rosso viola. Al fine di ottenere valori il più possibile accurati, il campione deve essere analizzato subito dopo essere stato prelevato. Non è possibile conservare il campione per un'analisi successiva. La presenza di bolle all'interno della cuvetta fa risultare più elevata la concentrazione di cloro deve essere evitata. Un'agitazione gentile della cuvetta potrebbe quindi rendersi necessaria.

Avvisi di pericolo:

Per informazioni sui pericoli, leggere l'etichetta esterna e consultare la scheda di sicurezza. La scheda di sicurezza può essere scaricata dal sito www.mn-net.com/SDS.

Procedimento:

Materiali necessari: 2 cuvette di reazione da 16 mm DE (diametro esterno) (REF 91680) o 2 cuvette di reazione da 24 mm DE (diametro esterno) (REF 936101)

A . Risciacquare più volte la cuvetta di reazione con il campione di acqua (*il valore del pH del campione deve essere compreso tra 4 e 8*)

Bianco (opzionale):

B . Riempire una cuvetta tonda con **5 mL*** di campione

C . Pulire l'esterno della cuvetta tonda

D . Inserire la cuvetta tonda nel fotometro ed effettuare la misurazione al fine di impostare lo zero

Campione:

E . Riempire un'ulteriore cuvetta tonda con **5 mL*** di campione

F . Aggiungere il contenuto di **1 Powder Pillow Cloro libero**

G. Sigillare la cuvetta tonda e agitare vigorosamente

H . Pulire l'esterno della cuvetta tonda

I . Attendere il tempo di reazione di **1 min**

J . Misurare

* Procedura alternativa: utilizzare 10 mL di campione.

Misura:

Fare riferimento al manuale relativo ai fotometri MACHEREY-NAGEL.

Dopo l'utilizzo, risciacquare accuratamente e sigillare le cuvette tonde.

Questo metodo è adatto anche per l'analisi di acque marine.

Interferenze:

La temperatura del campione di acqua dovrebbe essere compresa tra i 10 °C e i 50 °C.

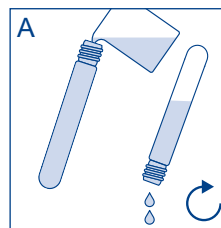
Br₂ e I₂ interferiscono nella misurazione e portano alla rilevazione di valori più elevati.

Bromo e clorammina interferiscono nella misurazione e portano alla rilevazione di valori più elevati.

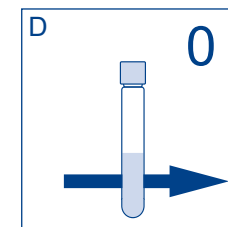
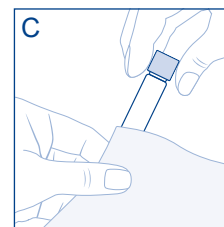
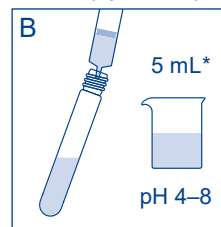
Composti di manganese ad alto stato di ossidazione interferiscono nella misurazione e portano alla rilevazione di valori più elevati.

Smaltimento dei campioni:

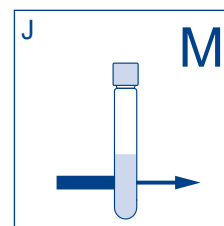
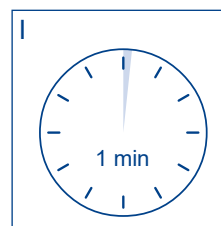
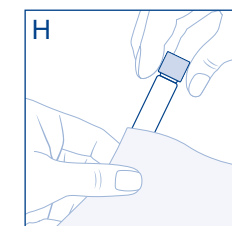
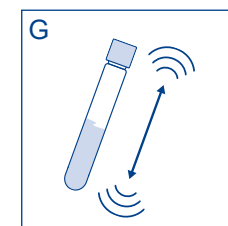
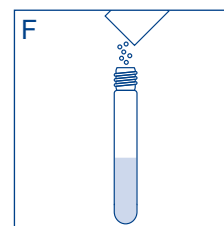
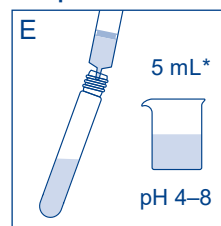
Per informazioni sullo smaltimento, consultare la scheda di sicurezza. La scheda di sicurezza può essere scari-



Bianco (opzionale):



Campione:



cata dal sito www.mn-net.com/SDS.



MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6–8 · 52355 Düren · Germania
Tel.: +49 24 21 969-0 · info@mn-net.com · www.mn-net.com

visicolor® Powder Pillows

Cloro Livre

Reagente DPD para determinação fotométrica de cloro livre em água potável, piscinas e reservatórios

Faixa de medição:

0.03–6.00 mg/L Cl₂

Método:

Com valor de pH entre 5 e 6 em sistema tamponado por fosfato, o cloro livre reage com *N,N*-dietil-1,4-fenileno diamina (DPD) para formar uma coloração vermelho-violeta. Para obter resultados exatos, a amostra deve ser analisada imediatamente após a coleta e não pode ser preservada para análise posterior. Bolhas de ar na amostra podem causar maior teor de cloro e devem ser evitadas. Isso pode exigir uma agitação suave.

Alerta de perigo:

Informações relativas à segurança podem ser encontradas na embalagem e na FISPQ. Você pode baixar a FISPQ em www.mn-net.com/SDS.

Procedimento:

Acessórios necessários: 2 tubos 16 mm DE (REF 91680) ou 2 tubos 24 mm DE (REF 936101)

A . Enxágue o tubo várias vezes com a amostra (*pH da amostra deve estar entre 4 e 8*)

Branco (opcional):

B . Transfira para o tubo **5 mL*** de amostra

C . Limpar o tubo teste

D . Colocar o tubo teste no fotômetro, como valor em branco e ajuste para zero

Amostra:

E . Transfira para o tubo **5 mL*** de amostra

F . Adicionar o conteúdo de **1 Powder Pillow Cloro Livre**

G. Fechar o tubo teste e agitar bem

H . Limpar o tubo teste

I . Esperar **1 min**

J . Medir

*Procedimento alternativo: Utilize 10 mL de amostra

Medição:

Consulte o manual para todos os fotômetros MACHEREY-NAGEL.

Após o uso, enxágue completamente os tubos de ensaio e feche-os.

Adequado para a análise da água do mar.

Interferências:

A temperatura da amostra de água deve estar entre 10 °C e 50 °C.

Br₂ e I₂ interferem em todos os níveis.

Bromaminas e cloraminas interferem em todos os níveis.

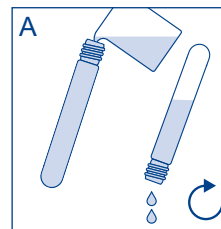
Os compostos de manganês em estados de alta oxidação interferem em todos os níveis.

Os traços do iodeto remanescente a partir de medições anteriores podem levar a maiores quantidades de cloro livre.

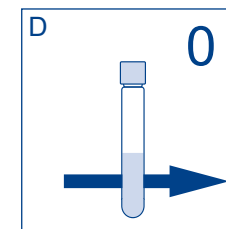
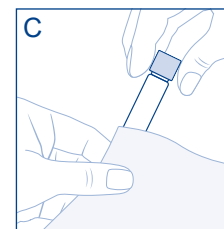
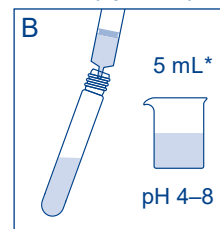
ClO₂ e outros agentes oxidantes interferem em todos os níveis.

Descarte de amostras:

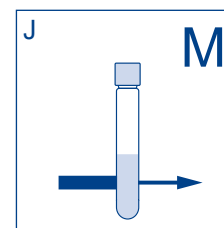
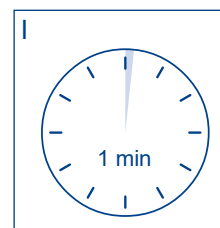
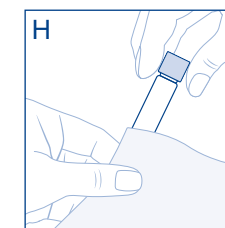
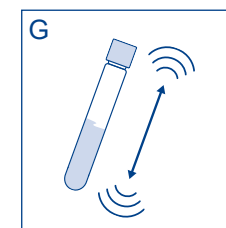
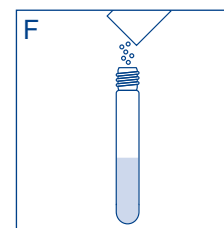
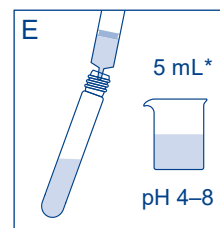
Informações sobre o descarte podem ser encontradas na FISPQ. Você pode baixar a FISPQ em www.mn-net.com/SDS.



Branco (opcional):



Amostra:



MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6–8 · 52355 Düren · Alemanha
Tel.: +49 24 21 969-0 · info@mn-net.com · www.mn-net.com