Operating datasheet PHOTOPOD : numerical photometer

INSTRUCTIONS FOR PHOTOPOD LS or SP VERSION
FOR OTHER PHOTOMETERS PHOTOPOD or ORCHI1
PLEASE REFER TO THE INSTRUCTIONS DELIVERED WITH THE DEVICE

V5-06-15

INSTRUCTIONS LIST

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Photopod

LS

I-010 - CYANURIC ACID : 10 - 200 mg/l

Reagent kit : 1MT130
Preparation time : ~ 5 min

REAGENTS

Cyanuric Acid Reagent

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated **plastic tube**.
Add 30 drops of cyanuric acid reagent
Close and shake vigoroursly.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **010 Cya.Ac. : 10 - 200 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-011 - CYANURIC ACID: 10 - 200 mg/l

Reagent kit : 1MT048
Preparation time : ~ 5 min

REAGENTS

Cyanuric Acid Tablets

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Cyanuric Acid Tablet then wait 2 minutes dissolution
Close the tube and shake vigoroursly for 2 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 1 minute.
Proceed to the measurement

MEASUREMENT

Select the analysis **011 Cya.Ac. : 10 - 200 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

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SP

I-020 - p-Alkalinity TA : 2.0 - 50.0° F

Reagent kit : 1MT134
Preparation time : ~ 6 min

REAGENTS

Alkaphot P Tablets

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Alkaphot P tablet, crush it with the crushing rod and shake till it is dissolved.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 4 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **020 TA : 2.00 - 50.0 °F**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

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SP

I-030 - m-Alkalinity TAC : 2.0 - 50.0 °F

Reagent kit : 1MT135
Preparation time : ~ 5 min

REAGENTS

Alkaphot M Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Alkaphot M tablet, crush it with the crushing rod and shake till it is dissolved.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Tap the tube to remove the bubbles.
Wait 3 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **030 TAC : 2.0 - 50.0 °F**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-040 - Aluminum : 0.05 - 3.00 mg/l

Reagent kit: 1MT136
Preparation time: ~ 5 min

REAGENTS

Aluminum buffer Reagent
Aluminum 1 Reagent
Alumimum 2 Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in a glass tube
Add 6 drops of Aluminum buffer Reagent
Close and shake.
Add 6 drops of Aluminum 1 Reagent
Close and shake.
Add 12 drops of Aluminum 2 Reagent
Close and shake.
Wait 4 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **040 Al : 0.05 - 3.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-041 - Aluminum : 0.20 - 3.00 mg/L Al

Reagent kit : 1MT001
Preparation time : ~ 9 min

REAGENTS

Aluminum Tablets n°1 and n°2
Demineralized water

EQUIPMENT

Graduated Plastic Tube	*14TP00 *2*
Glass Tube	*1CR099*
Crushing Rod	*1AP018*
Syringe 1 ml	*1SU010*

TEST INSTRUCTIONS

Take a 1 ml sample of water to analyze using the syringe, put it in the graduated plastic tube.
Fill the Tube with demineralized water up to the 10 ml mark.
Put the cap and shake.
Add 1 Aluminum n°1 tablet, crush it with the crushing rod for 2 min and shake till it is dissolved.
After complete dissolution of the tablet N°1, add 1 Aluminum n°2 tablet, crush it with the crushing rod and mix gently to dissolve by turning the tube. Mix by means of the rod to dissolve well the tablet and degas completely the mixture.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes after crushing the Aluminum n°2 tablet (All the bubbles stemming from the effervescence must have disappeared).
Proceed to the measurement.

MEASUREMENT

Select the analysis **041 Al : 0.20 - 3.00 mg/L**
In an other graduated plastic tube introduce 1 ml sample of water to analyze
Fill the Tube to the 10 ml mark with demineralized water.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA - Interference : Fluoruride and Polyphosphates

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SP

I-042 - Aluminum : 0.02 - 0.30 mg/L Al

Reagent kit : 1MT001
Preparation time: ~ 8 min

REAGENTS

Aluminum Tablets n°1 and n°2

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Glass Tube	*1CR099*
Crushing Rod	*1AP018*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Aluminum n°1 tablet, crush it with the crushing rod for 2 min and shake till it is dissolved.
After complete dissolution of the pill N°1, add 1 Aluminum n°2 tablet, crush it with the crushing rod and mix gently to dissolve by turning the tube. Mix by means of the rod to dissolve well the tablet and completely degas the mixture.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes after crushing the aluminum n°2 tablet (All the bubbles stemming from the effervescence must have disappeared).
Proceed to the measurement.

NOTA - Interference : Fluoruride and Polyphosphates

MEASUREMENT

Select the analysis **042 Al : 0.02 - 0.30 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

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LS

I-052 - Ammonium: 1.00 - 30.0 mg/l NH_4^+
I-062 - Ammonium: 0.80 - 24.0 mg/l $N\text{-}NH_4$

Reagent kit : 1MT002
Preparation time : ~ 6 min

REAGENTS

Seignette Salt Reagent
Nessler Reagent

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 12,5 ml sample of water to analyze in the graduated plastic tube.
Add 8 drops of Seignette Salt
Close the tube and shake.
Add 8 drops of Nessler Reagent
Close the tube and shake.
Wait 5 minutes
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **052 NH_4 : 1.00 - 30.0 mg/L**
or **062 NH_4-N : 1.0 - 24 mg/L** *(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

I-051 - Ammonium : 0.30 - 6.00mg/L NH_4^+
I-061 - Ammonium : 0.20 - 4.80 mg/L N-NH_4

Photopod
LS

Reagent kit : 1MT002
Preparation time : ~ 6 min

REAGENTS

Seignette Salt Reagent
Nessler Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the glass tube
Add 6 drops of Seignette Salt Reagent
Close and shake.
Add 6 drops of Nessler Reagent
Close and shake.
Wait 5 minutes
Proceed to the measurement

MEASUREMENT

Select the analysis **051 NH_4 : 0.30 - 6.00 mg/L**
or **061 NH_4-N : 0.30 - 4.80 mg/L** *(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

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LS / SP

I-050 - Ammonium: 0.10 - 2.00 mg/l NH_4^+
I-060 - Ammonium: 0.08 - 1.60 mg/l NH_4-N
METHOD COMPATIBLE WITH SEA WATER

Reagent kit: 1MT193 (or 1MT003 for sea water)

Preparation time: ~ 11 min

REAGENTS

Ammonia tablets 1 and 2
Ammonia Conditionning Reagent

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Glass Tube	*1CR099*
Crushing Rod	*1AP018*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.

***If sample is sea water,** add 1 spoonful of Ammonia Conditionning Reagent, shake to dissolve ~1 min.*
If turbidity appears, add 2 other spoonful of Ammonia Conditionning Reagent, shake to dissolve ~2 min.

Add the ammonia tablets 1 and 2, crush them with the crushing rod and shake to dissolve.

Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 10 minutes.
Proceed to measurement

MEASUREMENT

Select the analysis **050 NH_4 : 0.10 - 2.00 mg/L**
or **060 NH_4-N : 0.08 - 1.60 mg/L** *(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NB : If concentration is higher than 2 mg/l, the green color will be too strong and measurement won't be done. In this case, proceed to a dilution of the sample before adding reagents.

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LS / SP

I-070 - Total Nitrogen : 5.0 - 100 mg/L N

Reagent kit : 1MT052
Preparation time : ~ 85 min

REAGENTS

Total Nitrogen digestion tube (93767B)
Potassium Persulfate
Sodium Metabisulfite
Total Nitrogen Reagent (93767-0)
Demineralized water

EQUIPMENT

Automatic Pipette 0,1 - 1,0 ml	*1PA022*
Pipette Tipq 0,1 - 1,0 ml	*1EU002*
Macropipette	*1T0007*
Graduated pipette 1/10 2 ml	*1PG001*
COD reactor 25 tubes	*1RD011*
24 tubes stand Ø16	*1PT013*
Test tube wooden clamp	*1PT007*

TEST INSTRUCTIONS

Turn on the heating reactor. Preheat to 105 °C.
Take 2 Total Nitrogen digestion tube (ref: 93767B), one for the blank, the other for the sample.
Add the content of a Potassium Persulfate powder pillow in each tube.
With the automatic pipette, pour 0,5 ml of demineralized water in the tube for the blank holding the tube at 45 degrees.
The same way, pour 0,5 ml of water to analyze in the tube for the sample.
Shake the tubes vigoroulsy for 30 seconds.
Wipe the outside of the tubes and place them in the heating reactor at 105°C for 30 minutes.
After the 30 minutes, remove the tubes with the clamp and place them in the stand (caution, tubes are hot).
Wait until the tubes have cooled to room temperature (~20 min)
Add the content of a Sodium Metabisulfite powder pillow in each tube.
Put the cap and gently shake by turning the tubes for 15 seconds then wait 3 minutes.
Add the content of a Total Nitrogen Reagent powder pillow (93767-0) in each tube. Put the cap and gently shake by turning the tubes for 15 seconds then wait 2 minutes.

Take 2 Total Nitrogen Reagent tube (93766V-0 HR) one for the blank, the other for the sample.
With the pipette, take 2 ml from the 2 digestion tubes and pour them in the 2 Total Nitrogen Reagent tubes holding the tube at 45 degrees (caution, they get hot).
Put the cap and gently shake by turning the tubes for 10 times.
Wait 5 minutes.
Proceed to the measurement.

MEASUREMENT

Select the analysis **070 Ntotal : 5.0 - 100 mg/L**
Take the tube for the blank and insert it in the photometer.
Put the black cover on top of the tube and press the key « zero ».
Remove the tube and put the sample tube to analyze.
Put the black cover on top of the tube and press the key « measure ».

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LS / SP

I-071 - Total Nitrogen : 1.0 - 25.0 mg/l N

Reagent kit : 1MT051
Preparation time : ~ 85 min

REAGENTS

Tube digestion (93767A)
Potassium Persulfate
Sodium Metabisulfite
Reagent Azote Total (93767-0)
Demineralized water

EQUIPMENT

Automatic Pipette 0,1 - 1,0 ml	*1PA022*
Pipette Tipq 0,1 - 1,0 ml	*1EU002*
Macropipette	*1T0007*
Graduated pipette 1/10 2 ml	*1PG001*
COD reactor 25 tubes	*1RD011*
24 tubes stand Ø16	*1PT013*
Test tube clamp	*1PT007*

TEST INSTRUCTIONS

Turn on the heating reactor. Preheat to 105 °C.
Take 2 Total Nitrogen digestion tube (ref: 93767A), one for the blank, the other for the sample.
Add the content of a Potassium Persulfate powder pillow in each tube.
With the pipette, pour 2 ml of demineralized water in the tube for the blank holding the tube at 45 degrees.
The same way, pour 2 ml of water to analyze in the tube for the sample.
Shake the tubes vigoroulsy for 30 seconds.
Wipe the outside of the tubes and place them in the heating reactor at 105°C for 30 minutes.
After the 30 minutes, remove the tubes with the clamp and place them in the stand (caution, tubes are hot).
Wait until the tubes have cooled to room temperature (~20 min)
Add the content of a Sodium Metabisulfite powder pillow in each tube.
Put the cap and gently shake by turning the tubes for 15 seconds then wait 3 minutes.
Add the content of a Total Nitrogen Reagent powder pillow (93767-0) in each tube. Put the cap and gently shake by turning the tubes for 15 seconds then wait 2 minutes.

Take 2 Total Nitrogen Reagent tube (93767-0 LR) one for the blank, the other for the sample.
With the pipette, take 2 ml from the 2 digestion tubes and pour them in the 2 Total Nitrogen Reagent tubes holding the tube at 45 degrees (caution, they get hot).
Put the cap and gently shake by turning the tubes for 10 times.
Wait 5 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **071 Ntotal : 1.0 - 25.0 mg/L**
Take the tube for the blank and insert it in the photometer.
Put the black cover on top of the tube and press the key « zero ».
Remove the tube and put the sample tube to analyze.
Put the black cover on top of the tube and press the key « measure ».

Photopod

LS

I-080 - Benzotriazole : 1.00 - 16.0 mg/L

Reagent kit: 1MT078
Preparation time: ~ 5.5 min

REAGENTS

Triazole Reagent

EQUIPMENT

Graduated Glass Flask 125 ml	*1FG000*
UV Lamp+ UV Protection Googles	*14LU01*
UV Protection Googles	*FHA2113400*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Caution : the lamp produces UV rays hazardous to eyes and skin.
Wear UV protection googles when the light is on.

Avoid touching the surface of the quartz of the lamp. Wipe the lamp after each use.
Take a 25 ml sample of water to analyze in the graduated glass flask.
Add 20 drops of Triazole Reagent (1RT018) and shake.
Put the UV glasses on.
Introduce the UV lamp in the flask and put it on for 5 minutes then turn it off.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement.

MEASUREMENT

Select the analysis **080 BZT : 1.00- 16.0 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA
To check that the lamp works correctly, take a solution at 5,0 mg/l of benzotriazole and make an analysis. If the result is below 5,0 mg/l, then change the lamp.

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LS / SP

I-090 - Boron : 0.50 - 100 mg/L B

Reagent kit: 1MT137
Preparation time: ~ 11.5 min

REAGENTS

Boron Tablets n°1 and n°2

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 boron n°1 tablet crush it and shake to dissolve.~ 1min
Add 1 boron n°2 tablet crush it and shake to dissolve.~ 30s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 10 minutes
Proceed to the measurement.

MEASUREMENT

Select the analysis **090 B : 0.10- 100 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-100 - Bromine: 0.90 - 13.5 mg /L Br_2

Reagent kit : 1MT188
Preparation time : ~ 1 min

REAGENTS

DPD L 1 Reagent
DPD L 2 Reagent
L Glycine Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

Total bromine test

Take a 10 ml sample of water to analyze in the glass tube
In the presence of chlorine: *Add 10 drops of L Glycine reagent then close the tube and shake.*
Add 10 drops of DPD L 1 Reagent
Close the tube and shake.
Add 10 drops of DPD L 2 Reagent
Close the tube and shake.

Proceed to the measurement

MEASUREMENT

Select the analysis **100 Br_2 : 0.90 - 13.5 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-101 - Bromine : 1.00 - 13.5 mg/L Br_2

Reagent kit : 1MT138
Preparation time : ~ 7 min

REAGENTS

DPD 1 Tablet
DPD Glycine Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Total bromine test

Take a 12,5 ml sample of water to analyze in the graduated plastic tube.
In the presence of chlorine: *Add 1 DPD Glycine tablet, crush it with the crushing rod and stir with the rod to dissolve.*
Add 1 DPD 1 tablet, crush it with the crushing rod and stir with the rod to dissolve.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes after crushing the tablet.
Proceed to the measurement

MEASUREMENT

Select the analysis **101 Br_2 : 1.00 - 13.5 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

I-102 - Bromine : 0.10 - 2.25 mg /L Br_2

Photopod

SP

Reagent kit : 1MT138
Preparation time : ~ 4 min

REAGENTS

DPD 1 Tablet
DPD Glycine Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Total bromine test

Take a 20 ml sample of water to analyze in the graduated plastic tube.
In the presence of chlorine: *Add 1 DPD Glycine tablet, crush it with the crushing rod and stir with the rod to dissolve .*
Add 1 DPD 1 tablet, crush it and stir with the rod to dissolve.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 2 minutes after crushing the tablet.
Proceed to the measurement

MEASUREMENT

Select the analysis **102 Br_2 : 0.10 - 2.25 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-110 - Calcium : 20 - 200 mg/l $CaCO_3$

Reagent kit : 1MT139
Preparation time : ~ 4 min

REAGENTS

Calcicol 1 Tablet
Calcicol 2 Tablet
Demineralized water

EQUIPMENT

Graduated Plastic Tube	*14TP00 x 2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
pH indicator 0 - 14	*1PI030*
Syringe 1 ml	*1SU010*

TEST INSTRUCTIONS

Take 1 ml sample of water to analyze using the syringe, put it in the graduated plastic tube.
Fill the Tube to the 10 ml mark with Demineralized water.
Put the cap and shake.
Check with the pH indicator test strip that the pH is between 4 and 10 otherwise ajust it.
Add 1 Calcicol 1 tablet, crush it with crushing rod and stir until dissolved ~ 30s
Add 1 Calcicol 2 tablet, crush it with crushing rod and stir until dissolved ~ 30s
Wait 2 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT
Select the analysis **110 Ca : 20 - 200 mg/L $CaCO_3$**
In a graduated plastic tube, introduce a 1 ml sample of water to analyze
Fill the tube to the 10 ml mark with Demineralized water.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA : Concentration Ca mg/L= reading x 0.4

Interference : Mg < 200 mg/L : nothing
Iron > 10 mg/L : concentration lower
Zinc > 5 mg/L : concentration higher

I-111 - Calcium : 2.0 - 20.0 mg/l $CaCO_3$

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SP

Reagent kit : 1MT139
Preparation time : ~ 3 min

REAGENTS

Calcicol 1 Tablet
Calcicol 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
pH indicator pH 0 - 14	*1PI030*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Check with the pH indicator test strip that the pH is between 4 and 10 otherwise ajust it.
Add 1 Calcicol 1 tablet, crush it with crushing rod and stir until dissolved ~ 30s
Add 1 Calcicol 2 tablet, crush it with crushing rod and stir until dissolved ~ 30s
Wait 2 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **111 Ca. : 2.0 - 20.0 mg/L $CaCO_3$**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA : Concentration Ca mg/L= reading x 0.4

Interference : Mg < 200 mg/L : nothing
Iron > 10 mg/L : concentration lower
Zinc > 5 mg/L : concentration higher

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LS

I-120 - Free chlorine and total chlorine : 0,40 - 6,00 mg/L Cl_2

Reagent kit : 1MT174 and 1MT191
Preparation time : ~ 1 min

REAGENTS

DPD L 1 Reagent	*(*Free chlorine*)*
DPD L 2 Reagent	*(*Free chlorine*)*
DPD L 3 Reagent	*(*total chlorine*)*

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

Free chlorine test

Take a 10 ml sample of water to analyze in the glass tube
Add 10 drops of DPD L 1 Reagent
Close and shake.
Add 10 drops of DPD L 2 Reagent
Close and shake.
Proceed to the measurement

Total chlorine test

Take a 10 ml sample of water to analyze in the glass tube
Add 10 drops of DPD L 1 Reagent
Close and shake.
Add 10 drops of DPD L 2 Reagent
Close and shake.
Add 6 drops of DPD L 3 Reagent
Close and shake.
Proceed to the measurement

MEASUREMENT

Select the analysis **120 Cl_2 : 0.40 - 6.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA : Chlorine combined = total chlorine - free chlorine

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LS / SP

I-121 - Free chlorine and total chlorine : 0.50 - 6.00 mg/L Cl_2

Reagent kit : 1MT140 and 1MT192
Preparation time : ~ 7 min

REAGENTS

*DPD 1 Tablet (*Free chlorine*)*
*DPD 4 Tabet (*total chlorine*)*

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Free chlorine test

Take a 12,5 ml sample of water to analyze in the graduated plastic tube.
Add 1 DPD 1 tablet, crush it and shake to dissolve
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes.
Proceed to the measurement.

Total chlorine test

Take a 12,5 ml sample of water to analyze in the graduated plastic tube.
Add 1 DPD 4 tablet, crush it and shake to dissolve
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes.
Proceed to the measurement.

MEASUREMENT

Select the analysis **121 Cl_2 : 0.50 - 6.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod
LS / SP

I-122 - Free chlorine and total chlorine of DPD: 0.05 - 1.00 mg /L

Reagent kit : 1MT140 and 1MT192
Preparation time : ~ 4 min

REAGENTS

DPD 1 Tablets (free chlorine)
DPD 4 Tablets (total chlorine)

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Free chlorine test

Take a 20 ml sample of water to analyze in the graduated plastic tube.
Add 1 DPD 1 tablet, crush it and shake to dissolve
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 2 minutes.
Proceed to the measurement.

Total chlorine test

Take a 20 ml sample of water to analyze in the graduated plastic tube.
Add 1 DPD 4 tablet, crush it and shake to dissolve
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 2 minutes.
Proceed to the measurement.

MEASUREMENT

Select the analysis **122 Cl_2 : 0.05 - 1.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-130 - Chloride : 10 - 500 mg/L Cl^-

Reagent kit : 1MT044
Preparation time : ~ 5 min

REAGENTS

Chloride Reagent 1
Chloride Reagent 2
Demineralized water

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*
Syringe 1 ml	*1SU010*

TEST INSTRUCTIONS

With the 10 ml syringe, introduce 9 ml of demineralized water in a glass tube
With a 1 ml syringe, introduce a 1 ml sample of water to analyze in the glass tube
Close the tube and shake.
Add 16 drops of Chloride Reagent 1
Close the tube and shake.
Add 16 drops of Chloride Reagent 2
Close the tube and shake.
Wait 3 minutes, invert the tube once every minute to homogenize.
Proceed to the measurement.

MEASUREMENT

Select the analysis **130 Cl^- : 10 - 500 mg/L**
With the 10 ml syringe, introduce 9 ml of demineralized water in another glass tube
With the 1 ml syringe, introduce a 1 ml sample of water to analyze in the glass tube, put the cap, shake it and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA : Concentration in French degrees (°F) = reading x 0.14

Photopod

LS

I-131 - Chloride : 1.0 - 50.0 mg/L Cl^-

Reagent kit : 1MT044
Preparation time : ~ 4 min

REAGENTS

Chloride Reagent 1
Chloride Reagent 2

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the glass tube
Close glass tube and shake.
Add 16 drops of Chloride Reagent 1
Close glass tube and shake.
Add 16 drops of Chloride Reagent 2
Close glass tube and shake.
Wait 3 minutes, invert the tube once every minute to homogenize.
Proceed to the measurement.

MEASUREMENT

Select the analysis **131 Cl^- : 1.0 - 50.0 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA : Concentration in French degrees (°F) = reading x 0.14

Photopod

SP

I-132 - Chloride : 5 - 200 mg/L Cl^-

Reagent kit : 1MT141
Preparation time : ~ 5 min

REAGENTS

acidifying CD tablet
Chloridol tablet
Demineralized water

EQUIPMENT

Graduated Plastic Tube	*14TP00 *2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
Syringe 1 ml	*1SU010*

TEST INSTRUCTIONS

Take a 1 ml sample of water to analyze using the 1ml syringe, put it in the graduated plastic tube. Fill the Tube up to the 10 ml mark with Demineralized water.
Close the tube and shake.
Add 1 acidifying CD tablet, crush it with the crushing rod and shake till it is dissolved ~ 1 min
Add 1 Chloridol tablet, wait 2 minutes, then crush it with the crushing rod and shake till it is dissolved ~ 30 s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **132 Cl^- : 5 - 200 mg/L**
In the graduated plastic tube introduce 1 ml sample of water to analyze
Fill the Tube to the 10 ml mark with Demineralized water.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA : Concentration in French degrees (°F) = reading x 0.14

Photopod

SP

I-133 - Chloride : 0.50 - 20.0 mg/L Cl^-

Reagent kit : 1MT141
Preparation time : ~ 4 min

REAGENTS
acidifying CD tablet
Chloridol tablet
Demineralized water

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 acidifying CD tablet, crush it with the crushing rod and shake till it is dissolved ~ 1 min
Add 1 Chloridol tablet, wait 2 minutes, then crush it with the crushing rod and shake till it is dissolved ~ 30 s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **133 Cl^- : 0.50 - 20.0 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA : Concentration in French degrees (°F) = reading x 0.14

Photopod

LS

I-140 - Chromium VI: 0.10 - 4.00 mg/L Cr ^{6}

Reagent kit : 1MT180
Preparation time : ~ 1.5 min

REAGENTS

Chromium 1 Reagent
Chromium 2 Reagent
Sodium Fluoride Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 5 ml	*1SU012*

TEST INSTRUCTIONS

With the syringue, take a 5 ml sample of water to analyze in the glass tube.
If water contains more than 1 mg/L of iron, eliminate it adding 3 drops of Sodium Fluoride
Add 4 drops of Chromium reagent 1 and shake.
Add 5 drops of Chromium reagent 2 and shake.
Wait 1 minute.
Proceed to the measurement.

MEASUREMENT

Select the analysis **140 Cr6 : 0.10 - 4.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA *Chromium VI in mg/l* CrO_4^{2-} *= reading x 2,23*

Photopod

SP

I-141 - Chromium VI: 0.05 - 2.00 mg/L Cr^6

Reagent kit : 1MT142
Preparation time : ~ 6 min

REAGENTS

Chromicol 1 tablet
Chromicol 2 tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Chromicol 1 tablet, crush it with the crushing rod and shake till it is dissolved ~ 30s
Add 1 Chromicol 2 tablet, crush it with the crushing rod and shake till it is dissolved ~ 30s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **141 Cr6 : 0,05 - 2,00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

INTERFERENCES

Dissolved iron concentration greater than 1 mg / L will give lower results in chrome.
To increase sensitivity then add 2 chromicol 1 tablet and 1 chromicol 2 tablet.
The TEST INSTRUCTIONS may not be applied if the sample matrix contains tannin.

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LS

I-150 - Free Copper : 0.05 - 5.0 mg/L Cu

Reagent kit: 1MT181
Preparation time: ~ 3.5 min

REAGENTS

Copper 1 Reagent
Copper 2 Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

MEASUREMENT

With the syringe, take a 10 ml sample of water to analyze and introduce in a glass tube
Add 5 drops of Copper 1 Reagent
Close and shake
Add 5 drops of Copper 2 Reagent
Close and shake
Wait 3 minutes
Proceed to the measurement

MEASUREMENT

Select the analysis **150 Cu : 0.05 - 5.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-151 - Free Copper, Total Copper and Copper chelated : 0,20 - 5,00 mg/L Cu

Reagent kit : 1MT011
Preparation time : ~ 6 min

REAGENTS

Copper n°1 Tablet
Copper n°2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Free Copper

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Copper n°1 tablet. Crush it with the crushing rod and shake to dissolve. ~30 s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes after crushing the tablet.
Proceed to the measurement.

Total Copper

Transfer the content of the glass tube in the graduated plastic tube.
Add 1 Copper n°2 tablet. Crush it with the crushing rod and shake to dissolve.~15 s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement.

Chelated Copper

Chelated Copper = Total Copper - Free Copper

MEASUREMENT

Select the analysis **151 Cu : 0.20 - 5.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-160 - Cyanide : 0,02 - 0,50 mg/L CN^-

Reagent kit : 1MT012
Preparation time : ~ 11 min

REAGENTS

Cyanide n°1 Reagent
Cyanide n°2 Reagent
Cyanide n°3 Reagent
Cyanide buffer Reagent

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Plastic spoon	*1J0000*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyse in the graduated plastic tube.
Add 4 drops of Cyanide buffer Reagent and shake
Add 4 drops of Cyanide n°1 Reagent and shake
Wait 1 minute.
Add 1 plastic spoon to the brim of Cyanide n°2 Reagent and shake
Wait 2 minutes.
Add 16 drops of Cyanide n°3 Reagent and shake
Wait 7 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement.

MEASUREMENT

Select the analysis **160 CN- : 0,02 - 0,50 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

I-170 - COD HR : 1.0 - 15,0 g/L O_2

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Reagent kit : 1MT055
Preparation time : ~ 2h30

CAUTION : Tubes contain sulphuric acid <90%, potassium dichromate <0,5% and mercuric sulfate <2%. Before beginning any measurement, please read the safety data sheets.

REAGENTS

COD test tubes HR (HI93754C)	*1MT055*
Demineralized water	*1ED016*

EQUIPMENT

Automatic Pipette	*1PA022*
Pipette Tip 0,1 - 1,0 ml	*1EU002*
Heating COD reactor 25 tubes	*1RD011*
24 tubes stand Ø16	*1PT013*
Test tube wooden clamp	*1PT007*

TEST INSTRUCTIONS

Preparation of the blank

Always use the same bunch of reagents for the blank and for the samples.
The tube used to do the blank can be used several times. It is stable during several months, if kept in a dark place at room-temperature.
Gently open a COD HR tube (HI93754C) and keep it tilted at 45°.
With the automatic pipette, slowly pour 0,2 ml of demineralized water.
Cover the tube, and gently shake by delicately inverting it several times. (CAUTION tubes become hot !)

Preparation of the sample

Take a sample of water to analyze.
Samples containing too much suspended matter must be filtered.
Gently open a COD HR tube (93754E-25) and keep it tilted at 45°.
With the automatic pipette, slowly pour 0,2 ml of the sample.
Cover the tube, and gently shake by delicately inverting it several times. (CAUTION tubes become hot !)

Mineralization

Pre-heat the COD reactor at 150 °C.
Neatly wipe of the tubes, then place them in the COD reactor during 2 hours.
Remove the tubes and gently invert them several times.
Place them in the stand for cooling down (more than 20 minutes).

When the tubes have cooled enough, proceed to measurement.

MEASUREMENT

Select the analysis **170 COD : 1.0 - 15.0 g/L**
Insert the blank tube in the photometer, put the black cover and press the key « zero ».
Remove the tube and put the sample tube to analyze.
Put the black cover on top of the tube and press the key « measure ».

INTERFERENCES

Samples containing more than 1500 mg/l of chloride must be diluted.
After the reaction in the heating block, the solution should not present turbidity. (in this case, let the turbidity settle before measurement)

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LS / SP

I-171 - COD MR : 0.10 - 1.50 g/L O_2

Reagent kit: 1MT054
Preparation time: ~ 2h30

CAUTION : Tubes contain sulphuric acid <90% and potassium dichromate < 0,5%
Before beginning any measurement, please read the safety data sheets.

REAGENTS

COD test tubes MR (93754E-25)	*1MT054*
Demineralized water	*1ED016*

EQUIPMENT

Macropipette	*1T0007*
Graduated pipette 1/10 2 ml	*1PG001*
Heating COD reactor 25 tubes	*1RD011*
24 tubes stand Ø16	*1PT013*
Test tube wooden clamp	*1PT007*

TEST INSTRUCTIONS

Preparation of the blank

Always use the same bunch of reagents for the blank and for the samples.
The tube used to do the blank can be used several times. It is stable during several months, if kept in a dark place at room-temperature.
Gently open a COD MR tube (93754E-25) and keep it tilted at 45°.
With the graduated pipette, slowly pour 2 ml of demineralized water.
Cover the tube, and gently shake by delicately inverting it several times. (CAUTION tubes become hot !)

Preparation of the sample

Take a sample of water to analyze.
Samples containing too much suspended matter must be filtered.
Gently open a COD MR tube (93754E-25) and keep it tilted at 45°.
With the graduated pipette, slowly pour 2 ml of the sample.
Cover the tube, and gently shake by delicately inverting it several times. (CAUTION tubes become hot !)

Mineralization

Pre-heat the COD reactor at 150 °C.
Neatly wipe of the tubes, then place them in the COD reactor during 2 hours.
Remove the tubes and gently invert them several times.
Place them in the stand for cooling down (more than 20 minutes).

When the tubes have cooled enough, proceed to measurement.

MEASUREMENT

Select the analysis **171 COD : 0.10 - 1.50 g/L**

Insert the blank tube in the photometer, put the black cover and press the key « zero ».
Remove the tube and put the sample tube to analyze.
Put the black cover on top of the tube and press the key « measure ».

INTERFERENCES

Samples containing more than 1500 mg/l of chloride must be diluted.
After the reaction in the heating block, the solution should not present turbidity. (in this case, let the turbidity settle before measurement)

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LS / SP

I-174 - COD LR : 10 - 150 mg/L O_2

Reagent kit: 1MT053
Preparation time: ~ 2h30

CAUTION : Tubes contain sulphuric acid <90% and potassium dichromate < 0,5%
Before beginning any measurement, please read the safety data sheets.

REAGENTS

Tubes DCO LR
Demineralized water

EQUIPMENT

Macropipette	*1T0007*
Graduated pipette 1/10 10 ml	*1PG003*
Heating COD reactor 25 tubes	*1RD011*
24 tubes stand Ø16	*1PT013*
Test tube clamp	*1PT007*

TEST INSTRUCTIONS

Preparation of the blank

Always use the same bunch of reagents for the blank and for the samples.
The tube used to do the blank can be used several times. It is stable during several months, if kept in a dark place at room-temperature.
Gently open a COD LR tube and keep it tilted at 45°.
With the graduated pipette, slowly pour 7 ml of demineralized water.
Cover the tube, and gently shake by delicately inverting it several times. (CAUTION tubes become hot !)

Preparation of the sample

Take a sample of water to analyze.
Samples containing too much suspended matter must be filtered.
Gently open a COD LR tube and keep it tilted at 45°.
With the graduated pipette, slowly pour 7 ml of the sample.
Cover the tube, and gently shake by delicately inverting it several times. (CAUTION tubes become hot !)

Mineralization

Pre-heat the COD reactor at 150 °C.
Neatly wipe of the tubes, then place them in the COD reactor during 2 hours.
Remove the tubes and gently invert them several times.
Place them in the stand for cooling down (more than 20 minutes).

When the tubes have cooled enough, proceed to measurement.
Les placer dans le support porr refroidissement (> 20 minutes).

MEASUREMENT

Select the analysis **174 COD LR : 10 - 150 mg/***L*

Insert **the sample tube** *in the photometer, put the black cover and press the key « zero ».*
Remove the tube and put **the blank tube**
Put the black cover on top of the tube and press the key « measure ».

INTERFERENCES

Samples containing more than 1500 mg/l of chloride must be diluted.
After the reaction in the heating block, the solution should not present turbidity. (in this case, let the turbidity settle before measurement)

Photopod

LS

I-180 - DEHA : 0.02 - 1.00 mg/L

Reagent kit : 1MT182
Preparation time : ~ 11.5 min

REAGENTS

DEHA n°1 Reagent
DEHA n°2 Reagent

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Glass Tube	*1CR099*
Spoon	*1J0000*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 spoonful of DEHA n°1 reagent and shake strongly ~30 s
Add 5 drops of DEHA n°2 Reagent, ans shake
Wait 10 minutes, inverting the tube every minute to homogenize.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **180 DEHA : 0,02 - 1,00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Note : Avoid exposure to sunlight.
Make the measurement at a temperature between 22°C and 28°C .

INTERFERENCES

Reagents react with iron. Presence of Iron will give overstimated results

substance	concentration	substance	concentration
Borate	*500 mg/l*	*Nickel*	*0,8 mg/l*
Cobalt	*0,025 mg/l*	*Phosphate*	*10 mg/l*
Copper	*8,0 mg/l*	*Phosphonates*	*10 mg/l*
Hardness	*1000 mg/l*	*Sulfate*	*1000 mg/l*
Lignosulfonates	*0,05 mg/l*	*Zinc*	*50 mg/l*
Manganese	*0,8 mg/l*		
Molybdene	*80 mg/l*		

I-181 - DEHA : 0.02 - 2.00 mg/L

Reagent kit : 1MT189
Preparation time : ~ 6 min

REAGENTS

DEHA Tablet
DEHA Solution

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass tube	*1CR099*
Syringes 1 ml	*1SU010 * 2*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 DEHA Tablet, crush it with the crushing rod and shake to dissolve ~ 30 s.
Add 0.5 ml of DEHA solution With the syringe 1 ml and shake
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **181 DEHA. : 0.02 - 2.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze

Put the black cover on top of the tube and press the key « measure »

Note : Avoid exposure to sunlight.
Make the measurement at a temperature between 22°C and 28°C .

INTERFERENCES

Reagents react with iron. Presence of Iron will give overstimated results

substance	**concentration**	**substance**	**concentration**
Borate	*500 mg/l*	*Nickel*	*0,8 mg/l*
Cobalt	*0,025 mg/l*	*Phosphate*	*10 mg/l*
Copper	*8,0 mg/l*	*Phosphonates*	*10 mg/l*
Hardness	*1000 mg/l*	*Sulfate*	*1000 mg/l*
Lignosulfonates	*0,05 mg/l*	*Zinc*	*50 mg/l*
Manganese	*0,8 mg/l*		
Molybdene	*80 mg/l*		

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LS

I-190 - Chlorine Dioxide : 2.0 - 28.5 mg/L ClO_2

Reagent kit : 1MT175
Preparation time : ~ 1 min

REAGENTS

DPD L 1 Reagent
DPD L 2 Reagent
L Glycine Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

With the syringue, take a 10 ml sample of water to analyze in a glass tube
Add 4 drops of L Glycine Reagent.
Close the tube and shake.
Add 10 drops of DPD L 1 Reagent
Close the tube and shake.
Add 10 drops of DPD L 2 Reagent
Close the tube and shake.

Proceed to the measurement

MEASUREMENT

Select the analysis **190 ClO_2 : 2.0 - 28.5 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

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LS / SP

I-191 - Chlorine Dioxide: 2.4 - 28.5mg/L ClO_2

Reagent kit : 1MT177
Preparation time : ~ 7 min

REAGENTS

DPD 1 Tablet
Glycine Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 12.5 ml sample of water to analyze in the graduated plastic tube.
Add 1 Glycine tablet and shake to obtain total dissolution ~ 1 min
Add 1 DPD 1 tablet and shake to obtain total dissolution ~ 1 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement 5 min after crushing the DPD 1 tablet.

MEASUREMENT

Select the analysis **191 ClO2 : 2.40 - 28.5 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

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I-192 - Chlorine Dioxide: 0.20 - 4.75 mg/L ClO_2

Reagent kit: 1MT177
Preparation time : ~ 4 min

REAGENTS

DPD 1 Tablet
Glycine Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 20 ml sample of water to analyze in the graduated plastic tube.
Add 1 Glycine tablet and shake to obtain total dissolution ~ 1 min
Add 1 DPD 1 tablet and shake to obtain total dissolution ~ 1 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement 2 min after crushing the DPD 1 tablet.

MEASUREMENT

Select the analysis **192 ClO2 : 0.20 - 4.75 mg/***L*
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-200 - Total Hardness : 5.0 - 50.0°F

Reagent kit : 1MT143
Preparation time : ~ 5 min

REAGENTS

Hardicol n°1 Tablet
Hardicol n°2 Tablet
Demineralized water

EQUIPMENT

Graduated Plastic Tube	*14TP00 * 2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
Syringe 5 ml	*1SU012*

TEST INSTRUCTIONS

With the syringue, take 4 ml of water to analyze, introduce it in the graduated plastic tube and complete with demineralized water up to 10 ml
Close the tube and shake.
Add 1 Hardicol n°1 tablet, crush it with the crushing rod and shake to dissolve ~ 1 min
Add 1 Hardicol n°2 tablet, crush it with the crushing rod and shake to dissolve ~ 30 s
Ensure that the tablet are well dissolved
Wait 2 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **200 TH : 5.0 - 50.0 °F**
With the syringue, take 4 ml of water to analyze, introduce it in the graduated plastic tube and complete with demineralized water up to 10 ml
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Nota :
For water containing Iron in concentrations higher than 10 mg/l, results will be underestimated.
The pH of the water should be between 4 and 10.

Photopod

SP

I-201 - Total Hardness : 2.0 - 20.0°F

Reagent kit: 1MT143
Preparation time: ~ 4 min

REAGENTS

Hardicol n°1 Tablet
Hardicol n°2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Hardicol n°1 tablet, crush it with the crushing rod and shake to dissolve ~ 1 min
Add 1 Hardicol n°2 tablet, crush it with the crushing rod and shake to dissolve ~ 30 s
Ensure tha the tablet are well dissolved
Wait 2 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **201 TH : 2.0 - 20.0 °F**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Nota :
For water containing Iron in concentrations higher than 10 mg/l, results will be underestimated.
The pH of the water should be between 4 and 10.

Photopod
LS

I-210 - Iron : 0,05 - 5.00 mg/L Fe^{2+} Fe^{3+}

Reagent kit : 1MT144
Preparation time : ~ 3 min

REAGENTS

Ferrordis Reagent	
Chlorhydric Acid ½ (optional)	*1AC000*
Sodium Hydroxide 1N (optional)	*1SH055*

EQUIPMENT

pH indicator test strips 0-14	*1PI030*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Check with the pH indicator test strip that the pH of the water to analyze is between 3 and 9 (T° ideally between 15 and 25°C), if not, adjust with Chlorhydric Acid or Sodium Hydroxide.
Take a 10 ml sample of water to analyze in a glass tube
Add 6 drops of Ferrordis reagent, shake.
Wait 2 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement.

MEASUREMENT

Select the analysis **210 Fe : 0,05- 5.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-211 - Iron: 0.2 - 20,0 mg/L Fe^{2+} Fe^{3+}

Reagent kit : 1MT145
Preparation time : ~ 4 min

REAGENTS

Iron 1 HR Tablet	
Chlorhydric Acid ½ (optional)	*1AC000*
Sodium Hydroxide 1N (optional)	*1SH055*

EQUIPMENT

pH indicator test strips 0-14	*1PI030*
Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Check with the pH indicator test strip that the pH of the water to analyze is between 3 and 9 (T° ideally between 15 and 25°C)), if not, adjust with Chlorhydric Acid or Sodium Hydroxide.
Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Iron 1 HR tablet, crush it with the crushing rod.
Close the tube and shake strongly to dissolve ~ 3 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 1 min
Proceed to the measurement.

MEASUREMENT

Select the analysis **211 Fe : 0,2 - 20.0 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-212 - Iron : 0.05 - 5.00 mg/L Fe^{2+} Fe^{3+}

Reagent kit : 1MT146
Preparation time : ~ 7 min

REAGENTS

Iron MR 1 Tablet
Iron MR 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Iron MR 1 tablet, crush it with the crushing rod and shake to dissolve ~ 30 s
Add 1 Iron MR 2 tablet crush it with the crushing rod and shake to dissolve ~ 1min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 min
Proceed to the measurement.

MEASUREMENT

Select the analysis **212 Fe : 0.05 - 5.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-220 - Fluoride : 0.10 - 2.00 mg/L F^-

Reagent kit : 1MT110
Preparation time : ~ 5.5 min

REAGENTS

Fluoride test tubes

EQUIPMENT

Syringe 2 ml	*1SU001*
Glass Tube	*1CR099*

Option for more accurate analysis

Automatic Pipette 1 - 5 ml	*1PA023*
+Pipette Tips 1 - 5 ml	*1EU003*
or	
Graduated Pipette 2 ml	*1PG001*
+Macropipette	*1T0007*

TEST INSTRUCTIONS

Take a 2 ml sample of water to analyze and insert it in a Fluoride test tube, cover the tube and invert it 3 times to homogenize.
Wait 5 minutes.
Proceed to the measurement.

MEASUREMENT

Select the analysis **220 F^- : 0,10 - 2.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer.
Put the black cover on top of the tube and press the key « zero ».
Remove the tube and put the sample tube to analyze.
Put the black cover on top of the tube and press the key « measure ».

Nota : Aluminum, calcium and iron disturb the reaction and lead to underestimated results.
Nitrates interfere when superior to 100 mg/l.

Photopod

SP

I-221 - Fluoride : 0.20 - 2.00 mg/L F^-

Reagent kit : 1MT147
Preparation time : ~ 7 min

REAGENTS

Fluoride 1 Tablet
Fluoride 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Fluoride 1 tablet, crush it with the crushing rod and stir with the rod to dissolve ~ 30 s
Don't shake the plastic tube
Add 1 Fluoride 2 tablet, crush it with the crushing rod and stir with the rod to dissolve ~ 90 s
Don't shake the plastic tube
Wait 5 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement.

MEASUREMENT

Select the analysis **221 F^- : 0,20 - 2.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-230 - Hydrazine : 0,10 - 1,00 mg/L N_2H_4

Reagent kit : 1MT019
Preparation time : ~ 3 min

REAGENTS

DAB Indicator

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 5 ml sample of water to analyze in the graduated plastic tube.
Add DAB indicator to 10 ml and shake
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 2 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **230 N_2H_4 : 0,10 - 1,00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-231 - Hydrazine : 0.02 - 1.00 mg/L N_2H_4

Reagent kit : 1MT160
Preparation time : ~ 3.5 min

REAGENTS

Hydrazine powder

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Glass Tube	*1CR099*
Spoon	

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 spoon of hydrazine powder
Close the tube and shake strongly 1 min 30 s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 2 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **231 N_2H_4 : 0.02 - 1.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod
LS / SP

I-240 - Magnesium : 5.0 - 50.0 mg/L Mg

Reagent kit : 1MT161
Preparation time : ~ 5 min

REAGENTS

Magnecol Tablet
Demineralized water

EQUIPMENT

Graduated Plastic Tube	*14TP00*2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
Syringe 1 ml	*1SU010*

TEST INSTRUCTIONS

With the syringe, take a 1 ml sample of water to analyze, introduce it in the graduated tube then complete up to 10 ml with demineralized water.
Close and shake
Add 1 Magnecol tablet, crush it with the crushing rod and shake to dissolve ~ 1 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 3 min
Proceed to the measurement

MEASUREMENT

Select the analysis **240 Mg: 5.00 - 50.0 mg/L**
In the graduated plastic tube introduce 1 ml sample of water to analyze
Fill the Tube to the 10 ml mark with Demineralized water.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod
LS / SP

I-241 - Magnesium : 0.50 - 5.00 mg/L Mg

Reagent kit : 1MT161
Preparation time : ~ 4 min

REAGENTS

Magnecol Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Magnecol tablet, crush it with the crushing rod and shake to dissolve ~ 1 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 3 min
Proceed to the measurement

MEASUREMENT

Select the analysis **241 Mg: 0.05 - 5.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-250 - Manganese : 0.20 - 5.00 mg/L Mn

Reagent kit : 1MT050
Preparation time : ~ 6 min

REAGENTS

Manganese 1 Reagent
Manganese 2 Reagent
Manganese 3 Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the glass tube
Add 8 drops of Manganese 1 Reagent
Close and shake.
Add 8 drops of Manganese 2 Reagent
Close and shake.
Wait 2 minutes.
Add 8 drops of Manganese 3 Reagent
Close and shake.
Wait 5 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **250 Mn : 0,20 - 5,00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

INTERFERENCES
Concentrations in Ca^{2+} and Mg^{2+} higher than 300 mg/l lead to over-estimated results.
In the presence of Ca^{2+}, concentration in phosphates higher than 5 mg/l lead to underestimated results.
pH of the sample should be between 3 and 10. Temperature of the sample should be between 15 and 25°C.

Photopod

SP

I-251 - Manganese : 0.10 - 8.00 mg/L Mn

Reagent kit : 1MT162
Preparation time : ~ 6 min

REAGENTS

Manganese HR 1 Tablet
Manganese HR 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Manganese HR 1 tablet, crush it with the crushing rod and shake to dissolve ~ 45 s
Add 1 Manganèse HR 2 tablet, crush it with the crushing rod and shake to dissolve ~ 45 s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes
Proceed to the measurement

MEASUREMENT

Select the analysis **251 Mn : 0.10 - 8.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-262 - Molybdates : 30 - 330 mg/L MoO_4

I-272 - Molybdates : 20 - 200 mg/L Mo

Reagent kit : 1MT183
Preparation time : ~ 1.5 min

REAGENTS

Molybdate Reagent compensator
Molybdate reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU007*

TEST INSTRUCTIONS

With the syringue, take a 10 ml sample of water to analyze in the glass tube
Add 5 drops of Molybdate Reagent compensator
Close and shake
Add 5 drops of Molybdate Reagent.
Close and shake
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 1 minute.
Proceed to the measurement

MEASUREMENT

Select the analysis **262 MoO4 : 30 - 330 mg/L**
or **272 MoO4-Mo : 20 - 200 mg/L** *(Result in mg/l of Mo)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Concentration Na_2MoO_4 mg/l = Concentration MoO_4 mg/l x 1,3

Photopod

LS

I-260 - Molybdates : 0.8 - 30.0 mg/L MoO_4

I-270 - Molybdates : 0.5 - 20.0 mg/L Mo

Reagent kit : 1MT183
Preparation time : ~ 1 min

REAGENTS

Molybdate Reagent compensator
Molybdate reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU007*

TEST INSTRUCTIONS

With syringue, take a 10 ml sample of water to analyze in the glass tube
Add 5 drops of Molybdate Reagent compensator
Close and shake
Add 5 drops of Molybdate Reagent.
Close and shake
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 1 minute.
Proceed to the measurement

MEASUREMENT

Select the analysis **260 MoO_4 : 0.8 - 30.0 mg/L**
or **270 MoO4-Mo: 0.5 - 20.0 mg/L** *(Result in mg/lde Mo)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Concentration Na_2MoO_4 mg/l = Concentration MoO_4 mg/l x 1,3

Photopod

SP

I-261 - Molybdates : 5.0 - 100 mg/L MoO_4

I-271 - Molybdates : 3.0 - 60.0 mg/L Mo

Reagent kit : 1MT024
Preparation time : ~ 2 min

REAGENTS

Molybdate n°1 Tablet
Molybdate n°2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 molybdate n°1 tablet, crush it with the crushing rod and shake to dissolve ~ 1 min
Add 1 molybdate n°2 tablet, crush it with the crushing rod and shake to dissolve ~ 1 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **261 MoO4 : 5.0 - 100 mg/L**
or **271 MoO4-Mo : 3.0 - 60.0 mg/L** *(Result in mg/l of Mo)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Concentration Na_2MoO_4 mg/l = Concentration MoO_4 mg/l x 1,3

Photopod

LS

I-280 - Nickel : 0,10 - 5,00 mg/L Ni

Reagent kit : 1MT164
Preparation time : ~ 4 min

REAGENTS

Nickel 1 Reagent
Nickel 2 Reagent

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Plastic Spoon	*1J0000*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 spoonfull to the brim of of Nickel 1 Reagent and shake
Add 10 drops of Nickel 2 Reagent, and shake (color changes to orange).
Wait 3 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **280 Ni : 0,10 - 5,0 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA :

Interferences happens when :

Mn2+	>	*1 mg/l*
Co2+ Cu2+ Fe3+	>	*5 mg/l*
Cr3+ Zn2+	>	*10 mg/l*

Photopod

SP

I-281 - Nickel : 0.50 - 10 mg/L Ni

Reagent kit : 1MT079
Preparation time : ~ 3 min

REAGENTS

Nickeltest 1 tablet
Nickeltest PR POWDER
Nickeltest 2 tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Plastic spoon	*1J0000*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Nickeltest 1 tablet, crush it with the crushing rod and shake to dissolve. ~ 30 s
Only if the sample contains iron *Add 1 spoonfull of Nickeltest PR POWDER and shake*
Add 1 Nickeltest 2 tablet, crush it with the crushing rod and shake to dissolve ~ 30 s
Wait 2 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **281 Ni : 0.50 - 10 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

NOTA :
Interferences happens when

Mn^{2+}	>	*1 mg/l*
Co^{2+} Cu^{2+} Fe^{3+}	>	*5 mg/l*
Cr^{3+} Zn^{2+}	>	*10 mg/l*

Photopod

LS

I-292 - Nitrates : 2.5 - 100 mg/L NO_3^-
I-303 - Nitrates : 0.6 - 23.0 mg/L NO_3^--N

Reagent kit : 1MT184
Preparation time : ~ 10 min

REAGENTS

Nitrates 1 Reagent
Powder nitrate Reagent
Demineralized water

EQUIPMENT

Graduated Plastic Tube	*14TP00 x 2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
Syringe 10ml	*1SU013*
Syringe 1 ml	*1SU010*
Filter holder	*14PF09*
Filter Paper	*14PF05*
Clamp	*1PM010*
Plastic spoon	*1J000*

TEST INSTRUCTIONS

Take the filter holder, unscrew it and introduce the filter paper, screw the bracket.
In the first graduated plastic tube take, with the syringe introduce a 1 ml sample of water to analyse and complete with Demineralized water up to 10 ml
Shake
Add 1 spoonfull of Powder nitrate Reagent
Close and skake 1 minute
With the syringe 10ml take totally the sample (water+zinc)
Fit the 10 ml syringe containing the sample on the filter holder and gently squeeze out a few drops of (=rinsing the filter).
Filter the sample and introduce it in the second plastic tube up to 5 ml graduation.
Add nitrate 1 Reagent up to 10 ml and shake.
Wait 3 minutes.
Proceed to the measurement

Unscrew the filter holder, remove the soiled filter and clean all the water.

MEASUREMENT

Select the analysis **292 NO_3 : 2.5 - 100 mg/L**
or **303 NO_3-N : 0.6 - 23.0 mg/L** *(Result in mg/L of N)*

In the graduated plastic tube introduce 1 ml sample of water to analyze
Fill the Tube to the 10 ml mark with Demineralized water.

INSTRUCTIONS FOR PHOTOPOD LS or SP VERSION
FOR OTHER PHOTOMETERS PHOTOPOD or ORCHI1
PLEASE REFER TO THE INSTRUCTIONS DELIVERED WITH THE DEVICE

Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Nitrite correction

The method optionally reacts with the nitrite present in the sample. Nitrite content is low compared to that of nitrate in most of the water, but can determine the concentration (mg / l N) of nitrite and then deduct the value of the content (in mg / l N) nitrate.

Photopod

LS

I-291 - Nitrates : 0,25 - 10 mg/L NO_3^-
I-301 - Nitrates : 0,06 - 2,30 mg/L NO_3^--N

Reagent kit : 1MT184
Preparation time : ~ 10 min

REAGENTS

Nitrates 1 Reagent
Powder nitrate Reagent

EQUIPMENT

Graduated Plastic Tube	*14TP00 x 2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
Syringe 10ml	*1SU013*
Filter holder	*14PF09*
Filter paper	*14PF05*
Clamp	*1PM010*
Plastic spoon	*1J0000*

TEST INSTRUCTIONS

Take the filter holder, unscrew it and introduce it with the clamp, screw the bracket.
In the first graduated plastic tube, take a 10 ml sample of water to analyze
Add 1 spoonfull of Powder nitrate Reagent
Close and skake 1 minute
With the syringe 10ml take totaly sample (water+zinc)
Fit the 10 ml syringe containing the sample on the filter holder and gently squeeze out a few drops of (=rinsing the filter).
Filter the sample and introduce it in the second plastic tube graduated to 5 ml graduation.
Add nitrate 1 Reagent to 10 ml and shake.
Wait 3 minutes.
Proceed to the measurement

Unscrew the filter holder, remove the soiled filter and clean all the water.

MEASUREMENT

Select the analysis **291 NO_3 : 0.25 - 10 mg/L**
or **301 NO_3-N : 0,06 - 2.30 mg/L** *(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Nitrite correction

The method optionally reacts with the nitrite present in the sample. Nitrite content is low compared to that of nitrate in most of the water, but can determine the concentration (mg / l N) of nitrite and then deduct the value of the content (in mg / l N) nitrate.

I-295 - Nitrates : 0,25 - 8 mg/L NO_3^-
I-305 - Nitrates : 0,06 - 1,80 mg/L NO_3^--N
METHOD FOR SEA WATER ONLY

Photopod
LS

Reagent kit : 1MT184
Preparation time : ~ 10 min

REAGENTS

Nitrates 1 Reagent
Powder nitrate Reagent

EQUIPMENT

Graduated Plastic Tube	*14TP00 x 2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
Syringe 10ml	*1SU013*
Filter holder	*14PF09*
Filter paper	*14PF05*
Clamp	*1PM010*
Plastic spoon	*1J0000*

TEST INSTRUCTIONS

Take the filter holder, unscrew it and introduce it with the clamp, screw the bracket.
In the first graduated plastic tube, take a 10 ml sample of water to analyze
Add 1 spoonfull of Powder nitrate Reagent
Close and skake 1 minute
With the syringe 10ml take totaly sample (water+zinc)
Fit the 10 ml syringe containing the sample on the filter holder and gently squeeze out a few drops of (=rinsing the filter).
Filter the sample and introduce it in the second plastic tube graduated to 5 ml graduation.
Add nitrate 1 Reagent to 10 ml and shake.
Wait 3 minutes.
Proceed to the measurement

Unscrew the filter holder, remove the soiled filter and clean all the water.

MEASUREMENT

Select the analysis **295 NO_3 : 0.25 - 8 mg/L**
or **305 NO_3-N : 0,06 - 1.80 mg/L** *(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Nitrite correction

The method optionally reacts with the nitrite present in the sample. Nitrite content is low compared to that of nitrate in most of the water, but can determine the concentration (mg / l N) of nitrite and then deduct the value of the content (in mg / l N) nitrate.

Photopod

SP

I-293 - Nitrates : 4.0 - 100 mg/L NO_3^-
I-302 - Nitrates : 1.0 - 22.5 mg/L NO_3^--N
I-294 - Nitrates : 20 - 200 mg/L NO_3^-
I-304 - Nitrates : 4,5 - 45.0 mg/L NO_3^-N

Reagent kit : 1MT101
Preparation time : ~ 17 min

REAGENTS

Nitrate Reagents :
Nitratest Powder
Nitratest Tablets (contained in a white flask)
Nitricol Tablets
Demineralized water

EQUIPMENT

Graduated Plastic Tube	*14TP00 x 3*
Crushing Rod	*1AP018*
Syringe 1 ml	*1SU010*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

With the syringe take a 1 ml sample of water to analyze, introduce it in the graduated plastic tube then complete up to 20 ml with Demineralized water
Close and shake
Add 1 spoonful of Nitratest Powder and 1 Nitratest tablet (from the white flask). Don't crush the tablet.
Cover the tube and shake for 1 minute.
Wait 1 minute, then invert the tube 4 times to allow the floculation. Wait until the liquid is clear (~2 minutes).
Remove the cap and wipe around the top of the tube with a clean tissue.
Pour carefully 10 ml of the clear solution in another graduated plastic tube.
Add 1 Nitricol tablet, crush it with the crushing rod and shake to dissolve.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 10 minutes (after crushing the Nitricol tablet)
Proceed to the measurement.

MEASUREMENT

Select the analysis	**293 NO3 : 4,50 - 100 mg/L**	
or	**302 NO3 : 1,0 - 22,5 mg/L**	*(Result in mg/L of N)*
	294 NO_3 : 20 - 200 mg/L	
or	**304 NO_3-N : 4,5 - 45.0 mg/L**	*(Result in mg/L of N)*

In the graduated plastic tube introduce 1 ml sample of water to analyze
Fill the Tube to the 20 ml mark with Demineralized water.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Nitrite correction
The method optionally reacts with the nitrite present in the sample. Nitrite content is low compared to that of nitrate in most of the water, but can determine the concentration (mg / l N) of nitrite and then deduct the value of the content (in mg / l N) nitrate.

INSTRUCTIONS FOR PHOTOPOD LS or SP VERSION
FOR OTHER PHOTOMETERS PHOTOPOD or ORCHI1
PLEASE REFER TO THE INSTRUCTIONS DELIVERED WITH THE DEVICE

I-290 - Nitrates : 0.50 - 5.00 mg/L NO_3^-
I-300 - Nitrates : 0.10 - 1.00 mg/L NO_3^--N

Photopod
SP

Reagent kit : 1MT101
Preparation time : ~ 17 min

REAGENTS

Nitrate Reagents :
Nitratest Powder
Nitratest Tablets (contained in a white flask)
Nitricol Tablets

EQUIPMENT

Graduated Plastic Tube	*14TP00 x 2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 20 ml sample of water to analyze in the graduated plastic tube.
Add 1 spoonful of Nitratest Powder and 1 Nitratest tablet (from the white flask). Don't crush the tablet. Cover the tube and shake for 1 minute.
Wait 1 minute, then invert the tube 4 times to allow the flocculation. Wait until the liquid is clear (~2 minutes).
Remove the cap and wipe around the top of the tube with a clean tissue.
Pour carefully 10 ml of the clear solution in another graduated plastic tube.
Add 1 Nitricol tablet, crush it with the crushing rod and shake to dissolve.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 10 minutes (after crushing the Nitricol tablet)
Proceed to the measurement.

MEASUREMENT

Select the analysis	**290 NO_3 : 0.50 - 5.00 mg/L**	
or	**300 NO_3-N : 0.10 - 1.00 mg/L**	*(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer.
Put the black cover on top of the tube and press the key « zero ».
Remove the tube and put the sample tube to analyze.
Put the black cover on top of the tube and press the key « measure ».

Nitrite Correction
The reagent also reacts with Nitrite. Most of the time, concentration in Nitrite is low compared to concentration in nitrate. But concentration in nitrite can be measured (in mg/l) and deduced from the concentration measured with this method.

I-310 - Nitrites : 0.05 - 2.00 mg/L NO_2
I-320 - Nitrites : 0.01 - 0.60 mg/L NO_2-N
METHOD COMPATIBLE WITH SEA WATER

Photopod
LS

Reagent kit : 1MT027
Preparation time : ~ 6 min

REAGENTS

Concentrated Ammoniac
Z Indicator

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the glass tube
Add 7 drops of Z Indicator
Close the tube and shake.
Wait 5 minutes.
Add 7 drops of Concentrated Ammoniac
Close the tube et shake : a yellow color appears instantaneously
Proceed to the measurement

MEASUREMENT

Select the analysis **310 NO_2 : 0,05 - 2,00 mg/L**
or **320 NO_2 -N : 0,01 - 0,60 mg/L** *(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

I-311 - Nitrites : 0.05 - 2.00 mg/L NO_2
I-321 - Nitrites : 0.01 - 0.60 mg/L NO_2 -N

Photopod
SP

Reagent kit : 1MT165
Preparation time : ~ 11 min

REAGENTS

Nitricol 1 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 nitricol tablet crush it with the crushing rod and shake to dissolve ~ 1 min
Wait 10 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **311 NO_2 : 0,05 - 2,00 mg/L**
or **321 NO_2 -N : 0,01 - 0,60 mg/L** *(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-312 - Nitrites : 1.3 - 130 mg/L NO_2
I-322 - Nitrites : 0.4- 41 mg/L NO_2 -N

Reagent kit : 1MT166
Preparation time : ~ 3 min

REAGENTS

Nitriphot 1 Tablet
Nitriphot 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Nitriphot 1 tablet crush it with the crushing rod.
Close the tube and shake strongly to dissolve ~ 1-2 min
Add 1 Nitriphot 2 tablet crush it with the crushing rod and shake to dissolve ~ 15s
Wait 1 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **312 NO_2 : 1.3 - 130 mg/L**
or **322 NO_2 -N : 0.4 - 41 mg/L** *(Result in mg/L of N)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

PONSEL GROUPE AQUALABO

ORCHIDIS GROUPE AQUALABO

Photopod

SP

I-313 - Nitrites : 13 - 1330 mg/L
I-323 - Nitrites : 4- 410 mg/L N

Reagent kit : 1MT166
Preparation time : ~ 3 min

REAGENTS

Nitriphot 1 Tablet
Nitriphot 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00 x2*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*
Syringe 1 ml	*1SU010*

TEST INSTRUCTIONS

With the syringe, take a 1 ml sample of water to analyze, introduce it in the graduated tube then complete up to 10 ml with demineralized water.
Close and shake
Add 1 Nitriphot 1 tablet, crush it with the crushing rod.
Close the tube and shake strongly to dissolve ~ 1-2 min
Add 1 Nitriphot 2 tablet, crush it with the crushing rod and shake to dissolve ~ 15s
Wait 1 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **313 NO_2 : 13 - 1330 mg/L**
or **323 NO_2 -N : 4 - 410 mg/L** *(Result in mg/L of N)*

In the graduated plastic tube introduce 1 ml sample of water to analyze
Fill the Tube to the 10 ml mark with Demineralized water.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-330 - Ozone : 0.30 - 4.00 mg/L O_3

Reagent kit : 1MT176
Preparation time : ~ 4 min

REAGENTS

DPD L 1 Reagent
DPD L 2 Reagent
DPD L 3 Reagent
L Glycine Reagent

Reagent Glycine

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

1- TOTAL CHLORINE + OZONE
With the syringe, take a 10 ml sample of water to analyze and introduce it in the glass tube
Add 10 drops of DPD L 1 Reagent
Close and shake.
Add 10 drops of DPD L 2 Reagent
Close and shake.
Add 6 drops of DPD L 3 Reagent
Close and shake.
Proceed to the measurement
This gives the value 1 : total chlorine + ozone in mg/l of O_3

2- TOTAL CHLORINE ONLY

With the syringe, take a 10 ml sample of water to analyze and introduce it in the glass tube
Add 10 drops of DPD L 1 Reagent
Close and shake.
Add 10 drops of DPD L 2 Reagent
Close and shake.
Add 6 drops of DPD L 3 Reagent
Close and shake.
Add 4 drops of L Glycine Reagent
Close and shake.
Proceed to the measurement

This gives the value 2 : total chlorine in mg/l of O_3

3- OZONE
Concentration in mg/l of O_3 = value 1 - value 2

MEASUREMENT

Select the analysis **330 O3 : 0.30 - 4.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-331 - Ozone : 0.30 - 4.00 mg/L O_3

Reagent kit : 1MT029
Preparation time : ~ 6 min

REAGENTS

DPD 4 Tablet
Glycine Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

1- TOTAL CHLORINE + OZONE
Take a 12,5 ml sample of water to analyze in the graduated plastic tube.
Add 1 DPD 4 tablet and shake to dissolve.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes.
Proceed to the measurement.
This gives the value 1 : total chlorine + ozone in mg/l of O_3

2- TOTAL CHLORINE ONLY
Take a 12,5 ml sample of water to analyze in the graduated plastic tube.
Add 1 DPD 4 tablet and shake to dissolve.
Add 1 DPD Glycine tablet and shake to dissolve.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes.
Proceed to the measurement.
This gives the value 2 : total chlorine in mg/l of O_3

3- OZONE
Concentration in mg/l of O_3 = value 1 - value 2

MEASUREMENT

Select the analysis **331 O3 : 0.30 - 4.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-332 - Ozone : 0.03 - 0.65 mg/L O_3

Reagent kit : 1MT029
Preparation time : ~ 4 min

REAGENTS

DPD 4 tablet
DPD Glycine tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

1- TOTAL CHLORINE + OZONE

Take a 20 ml sample of water to analyze in the graduated plastic tube.
Add 1 DPD 4 tablet and shake to dissolve.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement
This gives the value 1 : total chlorine + ozone in mg/l of O_3

2- TOTAL CHLORINE ONLY

Take a 20 ml sample of water to analyze in the graduated plastic tube.
Add 1 DPD 4 tablet and shake to dissolve.
Add 1 DPD Glycine tablet and shake to dissolve.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 2 minutes.
Proceed to the measurement
This gives the value 2 : total chlorine in mg/l of O_3

3- OZONE
Concentration in mg/l of O_3 = value 1 - value 2

MEASUREMENT

Select the analysis **332 O3 : 0.03 - 0.65 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod
LS / SP

I-340 - Hydrogen Peroxide: 2 - 200 mg/l H_2O_2

Reagent kit : 1MT148
Preparation time : ~ 1.5 min

REAGENTS

Acidifying PT Tablet
Hydrogen Peroxyde HR Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Acidifying PT tablet, crush it with the crushing rod and shake to dissolve ~ 30s
Add 1 Hydrogen Peroxyde HR tablet, crush it with the crushing rod and shake to dissolve ~ 30s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT
Select the analysis **340 H_2O_2. : 2 - 200 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod
LS / SP

I-341 - Hydrogen Peroxyde : 0.05 - 2.00 mg/l H_2O_2

Reagent kit : 1MT149
Preparation time : ~ 2.5 min

REAGENTS

Hydrogen Peroxyde LR Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Hydrogen Peroxyde LR tablet, crush it with the crushing rod and shake to dissolve ~ 30s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 2 minutes
Proceed to the measurement

MEASUREMENT
Select the analysis **341 H_2O_2. : 0.05 - 2.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-350 - pH 6.8 - 8.6

Reagent kit : 1MT036
Preparation time : ~ 2 min

pH 6,8 - 8,6

REAGENTS

Phenol red

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

With the syringe, take a 10 ml sample of water to analyze in the glass tube.
Add 16 drops of Phenol red.
Close and shake.
Proceed to the measurement

MEASUREMENT

Select the analysis **350 pH : 6.8 - 8.6 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod
LS / SP

I-360 - Phenol : 0.05 - 10 mg/L Φ-OH

Reagent kit : 1MT167
Preparation time : ~ 6.5 min

REAGENTS

Phenoltest PR Tablet
Phenoltest 1 Tablet
Phenoltest 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.

For sample containing Zinc, Copper, Iron, Manganese :
Add 1 Phenoltest PR Tablet, crush it with the crushing rod and shake to dissolve.

Add 1 Phenoltest 1 tablet, crush it with the crushing rod and shake to dissolve ~ 30s
Add 1 Phenoltest 2 tablet, crush it with the crushing rod and shake to dissolve ~ 1min

Wait 5 minutes.

Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT
Select the analysis **360 Phenol. : 0.05 - 10 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Interferences :
Lower results can be obtained if the sample contains more than 150 mg/L of alkaline agents, 10 mg/L of sulphite or 2mg/L sulfide.
Free chlorine does not affect the results for a concentration below 10 mg/L
Stronger results are obtained in the presence of Keto-enol
In the case of known or suspected interference, the sample should be pre-treated to be in agreement with the TEST INSTRUCTIONS.
The use of phenoltest PR tablet prevents the interference of metal ions to a concentration of 350 mg/L.

Photopod

LS

I-374 - Phosphates : 3.00 - 125 mg/L PO_4^{3-}
I-394 - Phosphates : 1.00 - 40.0 mg/L PO_4^{3-}-P

Reagent kit : 1MT031
Preparation time : ~ 6 min

REAGENTS

Vanadomolybdique Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

With the syringe, take a 10 ml of water to analyze in a glass tube
Add 16 drops of Vanadomolybdique Reagent.
Close and shake.
Wait 5 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **374 PO4 : 3.00 - 125 mg/L**
or **394 PO4 -P : 1.00 - 40.0 mg/L** *(Result in mg/L of P)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-372 - Phosphates: 1.00- 40.0 mg/L PO_4^{3-}
I-392 - Phosphates: 0,50 - 13,0 mg/L $PO_4^{3-}P$
I-380 - Phosphates: 1.00 - 36.00 mg/L P_2O_5

Reagent kit : 1MT030
Preparation time : ~ 12 min

REAGENTS N

Phosphate 1 Reagent
Phosphate 2 Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

With the syringe, take a 10 ml of water to analyze in a glass tube
Add 8 drops of Phosphate 1 Reagent
Close and shake.
Add 8 drops of Phosphate 2 Reagent
Close and shake.
Wait 10 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis	**372 PO4 : 1.00 - 40.0 mg/L**	
or	**392 PO4 -P : 0.50 - 13.0 mg/L**	*(Result in mg/L of P)*
or	**380 P_2O_5 : 1.00- 36.0 mg/L**	*(Result in mg/L of P_2O_5)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-371 - Phosphates : 0.20 - 5.00 mg/L PO_4^{3-}
I-391 - Phosphates : 0.06 - 1.60 mg/L PO_4^{3-}-P

Reagent kit : 1MT030
Preparation time : ~ 12 min

REAGENTS

Phosphate 1 Reagent
Phosphate 2 Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

With the syringe, take a 10 ml of water to analyze in a glass tube
Add 2 drops of Phosphate 1 Reagent
Close and shake.
Add 2 drops of Phosphate 2 Reagent
Close and shake.
Wait 10 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **371 PO4 : 0.20 - 5.00 mg/L**
or **391 PO4-P : 0.06 - 1.60 mg/L** *(Result in mg/L of P)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-373 - Phosphates : 2 - 100 mg/L PO_4^{3-}
I-393 - Phosphates : 0.6 - 32.6 mg/L PO_4^{3-}-P

Reagent kit : 1MT185
Preparation time : ~ 2.5 min

REAGENTS

Phosphate HR 1 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Phosphate HR 1 Tablet, crush it with the crushing rod
Close the tube and shake to dissolve ~ 1.5 min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 1 minute.

Proceed to the measurement

MEASUREMENT
Select the analysis **373 PO4: 2.0 - 100 mg/L**
or **393 PO4 -P 0.6 - 32.6 mg/L** *(Result in mg/L of P)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-370 - Phosphates : 0.20 - 4.00 mg/L PO_4^{3-}
I-390 - Phosphates : 0.06 - 1.30 mg/L PO_4^{3-}-P

Reagent kit: 1MT186
Preparation time: ~ 5 min

REAGENTS

Phosphate 1 Tablet
Phosphate 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyse in the graduated plastic tube.
Add 1 Phosphate 1 Tablet, crush it with the crushing rod.
Close the tube and shake to dissolve ~ 3 min
Add 1 Phosphate 2 Tablet, crush it with the crushing rod and shake to dissolve ~ 1min
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 1 minute.

Proceed to the measurement

MEASUREMENT
Select the analysis **370 PO4 : 0.20- 4.00 mg/L**
or **390 PO4-P 0.65 - 1.30 mg/L** *(Result in mg/L of P)*

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

I-400 - Total phosphorus : 1.00 - 15.0 mg/L P

Photopod
LS / SP

Reagent kit: 1MT075
Preparation time: ~ 1h

Caution !
Tubes contain sulphuric acid <15% and are irritant.
Sodium Hydroxyde 1,54N is very corrosive and may cause severe burns.

REAGENTS

Total Phosphorus Reagents MR
Total Phosphorus Tubes
Potassium Persulfate
Sodium Hydroxyde 1,54N
Molybdovanadate
Demineralized water

EQUIPMENT

Macropipette	*1T0007*
Graduated pipette 1/10 1 ml	*1PG000*
Graduated pipette 1/10 5 ml	*1PG002*
Heating reactor 25 tubes	*1RD011*
24 tubes stand Ø16	*1PT013*
Test tube clamp	*1PT007*

TEST INSTRUCTIONS

PREPARATION OF THE BLANK AND THE SAMPLE

Pre-heat the reactor at 150 °C.
Take 2 tubes Total Phosphorus tubes, one for the blank, one for the sample.
Caution, tubes for the zero and the sample have to come from the same box (the same batch).
Add with the pipette, 5 ml of Demineralized water in the tube for the blank holding the tube at 45°.
Add with the pipette, 5 ml of water to analyze in the tube for the sample holding the tube at 45°.
Add the content of Potassium Persulfate powder pillow in each tube by means of the funnel, cover the tubes and shake them to dissolve.
Wipe the outside of the tubes and place them in the heating reactor at 150°C for 30 minutes.
After the 30 minutes, remove the tubes with the clamp, invert them a few times to homogenize and place them in the stand (caution, tubes are hot).
Wait until the tubes have cooled to room temperature (~20 min)
Add 2 ml of Sodium Hydroxyde 1,54N holding the tube at 45 degrees.
Cover the tube and shake by gently inverting the tube several times
Add 0,5 ml of Molybdovanadate in each tube holding the tube at 45°.
Cover the tube and shake by gently inverting the tube several times.
Wait 7 minutes after adding Molybdovanadate.
Proceed to the measurement

MEASUREMENT

Select the analysis **400 Ptotal : 1.00 - 15.0 mg/L**
Insert the tube for the blank in the photometer.
Put the black cover on top of the tube and press the key « zero ».
Remove the tube.

Measurement of the sample.
Insert the tube of the sample to analyze in the photometer.
Put the black cover on top of the tube and press the key « measure ».

Results are given in mg/l of P
Results in PO4 = reading x 3,07
Results in P2O5 = reading x 2,29

INTERFERENCES
Arsenate
Silice > 50 ppm
Sulfite > 90 ppm
Turbidity and suspended matter cause interferences. Filtration is needed for turbid water.

Photopod
LS / SP

I-401 - Total phosphorus : 0.10 - 1.50 mg/L P

Reagent kit: 1MT076
Preparation time: ~ 1h

Caution !
Tubes contain sulphuric acid <15% and are irritant.
Sodium Hydroxyde 1,54N is very corrosive and may cause severe burns.

REAGENTS N

Total Phosphorus Reagents HR
Phosphorus Reagent HI93758-0
Total Phosphorus Tubes
Potassium Persulfate
Sodium Hydroxyde 1,54N

EQUIPMENT

Macropipette	*1T0007*
Graduated pipette 1/10 5 ml	*1PG002*
Heating reactor 25 tubes	*1RD011*
24 tubes stand Ø16	*1PT013*
Test tube clamp	*1PT007*
Funnel PP 40 MM height 65 MM	*1EP021*

TEST INSTRUCTIONS

Preparation of the blank

Pre-heat the reactor at 150 °C.
Take 1 Total Phosphorus tube, open it and with the pipette, pour inside 5 ml of water to analyze
Add the content of a Potassium Persulfate powder pillow by means of the funnel, cover the tube and shake gently until complete dissolution.
Wipe the outside of the tubes and place them in the heating reactor at 150°C for 30 minutes.
After the 30 minutes, remove the tubes with the clamp, invert them a few times to homogenize and place them in the stand (caution, tubes are hot).
Wait until the tubes have cooled to room temperature (~20 min)
Add 2 ml of Sodium Hydroxyde 1,54N holding the tube at 45 degrees.
Cover the tube and shake by gently inverting the tube several times.
Proceed to the measurement of the blank with this tube (read the part MEASUREMENT below).

Preparation of the sample

Open the tube used to measure the blank and add the content of a Phosphorus Reagent HI93758-0 powder pillow, cover the tube and shake 2 minutes.
Wait 3 minutes.
Proceed to the measurement of the sample.

MEASUREMENT

Measurement of the blank.
Select the analysis **401 Ptotal : 0.10 - 1.50 mg/L**
Insert the tube for the blank in the photometer.
Put the black cover on top of the tube and press the key « zero ».
Remove the tube.

Measurement of the sample.
Insert the tube of the sample to analyze in the photometer.
Put the black cover on top of the tube and press the key « measure ».

Results are given in mg/l of P

Results in PO_4 = reading x 3,07
Results in P_2O_5 = reading x 2,29

INTERFERENCES
Arsenate
Silice > 50 ppm
Sulfite > 90 ppm
Turbidity and suspended matter cause interferences. Filtration is needed for turbid water.

I-410 - Potassium : 2.00 - 15.0 mg/L K

Photopod
LS / SP

Reagent kit : 1MT168
Preparation time : ~ 4 min

REAGENTS

Potassium Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Potassium tablet, crush it with the crushing rod and shake to dissolve ~ 45s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 3 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **410 K : 2.00 - 15.0 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-420 - Silica : 10 - 300 mg/L SiO_2
I-421 - Silica : 0,20 - 10 mg/L SiO_2

Reagent kit : 1MT040
Preparation time : ~8 min

REAGENTS

Ammonium Molybdate
Acide Sulfurique ¼
Acide Oxalique 10%

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Plastic spoon	*1J0000*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 20 ml sample of water to analyze in the graduated plastic tube.
Add 1 spoonful to the brim of Ammonium Molybdate shake to dissolve 30 s
Add 7 drops of Sulphuric acid ¼ and shake.
Wait 5 minutes.
Add 15 drops of Oxalic acid 10% and shake.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT

Select the analysis **420 SiO_2 : 10 - 300 mg/L**
or **421 SiO_2 : 0.20 - 10 mg/L**

Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

I-422 - Silica : 5 - 150 mg/L SiO_2

Photopod
SP

Reagent kit : 1MT173
Preparation time : ~ 12 min

REAGENTS

Silica HR 1 Tablet
Silica PR Tablet
Silica HR 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyzein the graduated plastic tube.

Add 1 Silica HR 1 Tablet, crush it with the crushing rod. Close the tube and shake strongly to dissolve. ~ 2 min
Add 1 Silica HR 2 Tablet, crush it with the crushing rod. Close the tube and shake strongly to dissolve. ~ 2 min
Add 1 Silica PR Tablet, crush it with the crushing rod. Close the tube and shake strongly to dissolve ~ 6 min

Wait 2 minutes.

Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT
Select the analysis **422 SiO_2. : 5 - 150 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-423 - Silica : 0.05 - 10 mg/L SiO_2

Reagent kit : 1MT170
Preparation time : ~ 12 min

REAGENTS

Silica 1 Tablet
Silica PR Tablet
Silica 2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.

Add 1 Silica 1 Tablet, crush it with the crushing rod. Close the tube and shake strongly to dissolve. ~ 2 min
Add 1 Silica PR Tablet, crush it with the crushing rod. Close the tube and shake strongly to dissolve. ~ 6 min
Add 1 Silica 2 Tablet, crush it with the crushing rod. Close the tube and shake strongly to dissolve. ~ 2 min
Wait 2 minutes.

Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement

MEASUREMENT
Select the analysis **423 SiO_2. : 0.05 - 10 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-430 - Sulfates : 10 - 400 mg/L SO_4^{2-}

Reagent kit : 1MT080
Preparation time : ~ 11 min

REAGENTS

Sulfates n°1 Reagent
Sulfates n°2 Reagent

EQUIPMENT

Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

With the syringe, take a 10 ml sample of water to analyze in the glass tube
Add 5 drops of Sulfates n°1 Reagent, close the tube and shake strongly to 15 s
Add 10 drops of Sulfates n°2 Reagent, close the tube and shake strongly to 15 s.
Wait 10 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **430 SO_4 : 10 - 400 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-431 - Sulfates: 10 - 200 mg/L SO_4^{2-}

Reagent kit : 1MT171
Preparation time : ~ 6 min

REAGENTS

Sulfate Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Sulfate Tablet, crush it with the crushing rod and shake to dissolve~ 45s
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Wait 5 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **431 SO_4 : 10 - 200 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

LS

I-440 - Sulfide : 0.05 - 0.60 mg/L S

Reagent kit : 1MT172
Preparation time : ~ 6 min

REAGENTS

Sulfide n°1 Tablet
Sulfide n°2 Tablet

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Sulfide n°1 Tablet and 1 Sulfide n°2 Tablet, Crush it with the crushing rod and shake to dissolve.~ 1 min
Wait 5 minutes.
Proceed to the measurement

MEASUREMENT

Select the analysis **440 S : 0.05- 0.60 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod
LS / SP

I-450 - Turbidity : 100 - 4000 NTU

EQUIPMENT

Glass Tube *1CR099*

MEASUREMENT

Select the analysis **TURBI : 450 Turbi : 10-4000 NTU**
Fill a glass tube with Demineralized water, put the cap and insert it in the photometer.
Put the black cover on top of the tube and press the key « zero ».

Remove the glass tube, empty it and fill lit with water to analyze.
Insert the tube in the photometer.
Put the black cover on top of the tube and press the key « measure ».

Photopod
LS / SP

I-451 - Turbidity : 10 - 100 NTU

EQUIPMENT

Glass Tube *1CR099*

MEASUREMENT

Select the analysis **TURBI : 451 Turbi : 10-100 NTU**
Fill a glass tube with Demineralized water, put the cap and insert it in the photometer.
Put the black cover on top of the tube and press the key « zero ».

Remove the glass tube, empty it and fill lit with water to analyze.
Insert the tube in the photometer.
Put the black cover on top of the tube and press the key « measure ».

Photopod

LS

I-460 - Zinc : 0.05 - 4.00 mg/l Zn

Reagent kit : 1MT190
Preparation time : ~ 2 min

REAGENTS

Zinc 1 Reagent
Zinc 2 Reagent

EQUIPMENT

Crushing Rod	*1AP018*
Glass Tube	*1CR099*
Syringe 10 ml	*1SU013*

TEST INSTRUCTIONS

With the syringe, take a 10 ml sample of water to analyze and intoduce in the glass tube
Add 5 drops of Zinc 1Reagent
Shake
Wait 1 minute
Add 10 drops of Zinc 2 Reagent
Shake
Proceed to the measurement

MEASUREMENT

Select the analysis **460 Zn : 0.05 - 4.00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer
Put the black cover on top of the tube and press the key « zero »
Remove the tube and put the sample tube to analyze
Put the black cover on top of the tube and press the key « measure »

Photopod

SP

I-461 - Zinc : 0.10 - 4.00 mg/l Zn

Reagent kit : 1MT043
Preparation time : ~ 6 min

REAGENTS

Pack Zinc
Zinc Tablets
Dechlor Tablets
EDTA Tablets

EQUIPMENT

Graduated Plastic Tube	*14TP00*
Crushing Rod	*1AP018*
Glass Tube	*1CR099*

TEST INSTRUCTIONS

Water not containing copper or chlorine

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Zinc tablet, crush it with the crushing rod and shake to dissolve.
Wait 5 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement.

Water containing copper

Follow the instructions for « Water not containing copper or chlorine» above and proceed to the measurement.
The result is the concentration in zinc and copper Conc(Zn + Cu)
Transfer the content of the glass tube in the graduated plastic tube.
Add 1 EDTA tablet, Add 1 Zinc tablet, crush it with the crushing rod and shake to dissolve. (the color due to zinc disappear, the color due to copper remains).
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement
The result is the concentration in copper Conc(Cu)

Concentration zinc is :
Conc(Zn) = Conc(Zn + Cu) - Conc(Cu)

Water containing chlorine

Take a 10 ml sample of water to analyze in the graduated plastic tube.
Add 1 Dechlor tablet, crush it with the crushing rod and shake to dissolve.
Add 1 Zinc tablet, crush it with the crushing rod and shake to dissolve.
Wait 5 minutes.
Fill a glass tube with this preparation using the plastic funnel then cover the tube.
Proceed to the measurement.

MEASUREMENT

Select the analysis **461 Zn : 0,10 - 4,00 mg/L**
Fill a glass tube with water to analyze without reagent, put the cap and insert it in the photometer.
Put the black cover on top of the tube and press the key « zero ».
Remove the tube and put the sample tube to analyze.
Put the black cover on top of the tube and press the key « measure »

INSTRUCTIONS FOR PHOTOPOD LS or SP VERSION
FOR OTHER PHOTOMETERS PHOTOPOD or ORCHI1
PLEASE REFER TO THE INSTRUCTIONS DELIVERED WITH THE DEVICE