ESAW Media for Marine Phytoplankton Version 3

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Abstract

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Before start

Be sure to mix and autoclave **solution I** and **solution II** separately before combining and adding trace metal solutions and vitamin solutions. Store media in 4ºC. Note, Vitamin stock solutions amounts are per mL Trace Metal stock solution amounts are per one liter. Adjust amounts, as needed, according to desired stock amount.

Protocol

SOLUTION I

Step 1.

Na_2SO_4

AMOUNT
3 g Additional info:

NOTES
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Make Solutions I and II separately.

SOLUTION I

Step 2.

NaCl

AMOUNT
21 g Additional info:

SOLUTION I

Step 3.

KCL

AMOUNT

1 g Additional info:

SOLUTION I

Step 4.

$NaHCO_3$

AMOUNT

0 g Additional info:

SOLUTION I

Step 5.

KBr

AMOUNT

0 g Additional info:

SOLUTION I

Step 6.

H_3BO

AMOUNT

0 g Additional info:

SOLUTION I

Step 7.

NaF (2.7 g/L stock)

AMOUNT

1 ml Additional info:

SOLUTION I

Step 8.

Bring to 500 mL MilliQ water

SOLUTION II

Step 9.

$MgCl_2$-$6H_2O$

AMOUNT

9 g Additional info:

NOTES

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Make Solutions I and II separately.

SOLUTION II

Step 10.

$CaCl_2$-$2H_2O$

AMOUNT
1 g Additional info:

SOLUTION II

Step 11.

$SrCl_2$-$6H_2O$

AMOUNT
0 g Additional info:

SOLUTION II

Step 12.

Tris-HCL (pH 7.8) (1.0 M stock)

AMOUNT
5 ml Additional info:

SOLUTION II

Step 13.

Fe-EDTA

AMOUNT
1 ml Additional info:

PROTOCOL

. Fe-EDTA Stock solution for ESAW Media for Marine Phytoplankton

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Fe-EDTA Stock solution, amounts per one Liter (1000 mL)

Step 13.1.

Na_2EDTA

AMOUNT
4 g Additional info:

Fe-EDTA Stock solution, amounts per one Liter (1000 mL)

Step 13.2.

$FeCl_3$

AMOUNT
3 g Additional info:

Fe-EDTA Stock solution, amounts per one Liter (1000 mL)

Step 13.3.

Bring solution to 1000 mL with MilliQ H_2O and filter sterilize with a 0.2µm filter. Store in the dark at 4ºC

SOLUTION II

Step 14.

K_2HPO_4 (10g/L stock)

AMOUNT

1 ml Additional info:

SOLUTION II

Step 15.

$NaNO_3$ (550 mM stock)

AMOUNT

1 ml Additional info:

SOLUTION II

Step 16.

Selenite (10 µM stock)

AMOUNT

1 ml Additional info:

SOLUTION II

Step 17.

Bring to 500 mL MilliQ water

Autoclave

Step 18.

Autoclave **Solution I** and **Solution II** separately

After Cooling

Step 19.

Combine **Solution I** and **Solution II**

Trace Metals

Step 20.

Add trace Metals Solutions

AMOUNT

1 ml Additional info:

PROTOCOL

. **Trace Metal Solution for ESAW Media**

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NOTES

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See protocol, amounts are per one liter.

TM Solution, amounts per one Liter (1000 mL)
Step 20.1.

$CuSO_4$

AMOUNT
10 mg Additional info:
TM Solution, amounts per one Liter (1000 mL)
Step 20.2.

$ZnSO_4$

AMOUNT
22 mg Additional info:
TM Solution, amounts per one Liter (1000 mL)
Step 20.3.

$CoCl_2$

AMOUNT
10 mg Additional info:
TM Solution, amounts per one Liter (1000 mL)
Step 20.4.

$MnCl_2$-$4H_2O$

AMOUNT
180 mg Additional info:
TM Solution, amounts per one Liter (1000 mL)
Step 20.5.

Na_2MoO_4-$2H_2O$

AMOUNT
6 mg Additional info:
TM Solution
Step 20.6.

After mixing, filter sterilize with 0.2 µm filter, and store in dark at 4ºC

Vitamin
Step 21.

Add Vitamin Solution

AMOUNT

0 ml Additional info:

PROTOCOL

. Vitamin Solution for ESAW Media for Marine Phytoplankton

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NOTES
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See protocol, amounts are per one mL

Vitamin solution, amounts per one mL
Step 21.1.

Thiamine

AMOUNT
100 mg Additional info:
Vitamin solution, amounts per one mL
Step 21.2.

Vitamin B_{12}

AMOUNT
2 mg Additional info:
Vitamin solution, amounts per one mL
Step 21.3.

Biotin

AMOUNT
1 mg Additional info:
Vitamin solution
Step 21.4.

After mixing, filter sterilize with 0.2 µm filter and store in dark at -20ºC. Divide into small aliquots if desired.