

Modified F/2 -medium (EG/CEL)

Final medium:

Add 1 ml each of stocks A, B and Trace metals to 1 liter aged natural seawater. Autoclave and let cool to below 60°C. Sterile filter (0.2 µm) vitamin stock solution and add 0.5 ml/L medium.

In medium for diatoms also sterile filter stock C and add 1 ml/ liter.

Adjust pH to 8.2 ± 0.2 with 1.2 M HCl.

It is possible to autoclave the stock solutions except for the silica and vitamin solutions. They should be sterilized through a 0.2 µm filter.

Stock solutions			Conc in stock	Final conc in medium
A.	NaNO ₃	49.3 g	580 mM	580 µM
B.	K ₂ HPO ₄	6.32 g	36.3 mM	36.3 µM
C. (diatoms)	Na ₂ SiO ₃ · 5H ₂ O	30 g	141.4 mM	141.4 µM

Each nutrient is dissolved in 1 liter distilled water.

Vitamin prim. stock solution		Conc in stock	Final conc in medium
B12	100 mg	738 µM	0.37 nM
Biotin	100 mg	4.1 mM	2.05 nM
Thiamindiclorid	20 g	593 mM	296 nM

Dissolve all 3 in 100 ml dest. water. Pipette 1 ml portions in eppendorf vials and freeze.

Working stock: *Dilute each vial in 1 liter dest water.*

L1 Trace metal working stock		Conc in stock	Final conc in medium
FeCl ₃ · 6H ₂ O	3.15 g	11.7 mM	11.7 µM
Na ₂ -EDTA · 2H ₂ O	4.36 g	11.7 mM	11.7 µM

Dissolve in 1 liter dest. water and add 1 ml of each primary stock solutions (Se below)

L1 Trace metal primary stocks		Add to working stock	Final conc in medium
CoCl ₂ · 6H ₂ O	1.0 g	1 ml	50 nM
CuSO ₄ · 5H ₂ O	0.25 g	1 ml	10 nM
H ₂ SeO ₃	0.13 g	1 ml	10 nM
K ₂ CrO ₄	0.194 g	1 ml	10 nM
MnCl ₂ · 4H ₂ O	18.0 g	1 ml	900 nM
Na ₂ MoO ₄ · 2H ₂ O	1.89 g	1 ml	80 nM
Na ₃ VO ₄	0.184 g	1 ml	10 nM
Ni ₃ SO ₄ · 4H ₂ O	0.27 g	1 ml	10 nM
ZnSO ₄ · 7H ₂ O	2.2 g	1 ml	80 nM

Dissolve each of the 9 trace metals in 100 ml of dest. water (= Primary stock solutions).

References.

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