

f/2 Culture Media (wkoz, last updated 07 Aug 2009)

(Adapted from CCMP webpage (http://marine.rutgers.edu/ebme/html_docs/f2-MediaRecipes.htm))

STOCK SOLUTIONS:

Compound	Quantity per liter of finished Media (ml)	Stock Concentration (g/L in EPure Water)	Notes
NaNO ₃	1.0	75.0	Add to Media
NaH ₂ PO ₄ •H ₂ O	1.0	5.0	Autoclave Separately
Na ₂ SiO ₃ •9H ₂ O*	1.0	30.0	Autoclave Separately
Trace Metal Solution	1.0	See Recipe	Autoclave Separately
Vitamin Solution	0.5	See Recipe	Add to Media

- Add Nitrate and vitamin solution directly to seawater and autoclave.
- Autoclave separately aliquots of the phosphate, trace metals and silicate. Add these aseptically to your media once it has cooled to room temperature.
- *Note: f/2 Medium contains extensive silica precipitate and should be used only when growing diatoms. For other algal groups use f/2-Si Medium.
- Store non-sterile stocks in the refrigerator.

TRACE METAL PRIMARY STOCKS and WORKING SOLUTION:

- To 950 ml EPure H₂O, add:

Compound	Quantity to Working Solution	Primary Stock Solution (in autoclaved (cooled) EPure Water)
FeCl ₃ •6H ₂ O	3.15 g	---
Na ₂ EDTA•2H ₂ O	4.36 g	---
CuSO ₄ •5H ₂ O	1.0 ml	980 mg / 100 ml
Na ₂ MoO ₄ •2H ₂ O	1.0 ml	630 mg / 100 ml
ZnSO ₄ •7H ₂ O	1.0 ml	2.2 g / 100 ml
CoCl ₂ •6H ₂ O	1.0 ml	1.0 g / 100 ml
MnCl ₂ •4H ₂ O	1.0 ml	18.0 g / 100 ml

- Working solution will initially be cloudy
- Add 1N NaOH to adjust pH to about 4.5; solution should be clear unless too much NaOH has been added.
- Bring final volume of Trace Metal Working Solution to 1.0 liter with EPure H₂O.

VITAMIN PRIMARY STOCKS and WORKING SOLUTION:

- To 950 ml EPure H₂O, add:

Compound	Quantity to Working Solution	Primary Stock Solution (in EPure Water)
Vitamin B ₁₂	1.0 ml	10.0 mg / 10.0 ml
Biotin	1.0 ml	10.0 mg / 10.0 ml *
Thiamin HCl	200.0 mg	---

* May need to dissolve in a small amount of 0.1N NaOH first.

- Make final volume of Vitamin Working Solution to 1.0 liter with EPure H₂O.
- Store Primary Vitamin Stock Solutions, in dark or foil covered bottles, in the -20° freezer.
- Store Working Vitamin Solution in the refrigerator, in dark or foil covered bottles, or freeze small (~0.75ml) aliquots to thaw for final media.
- Note that Bitamin B₁₂ is toxic in high concentrations – be cautious when handling!