

CHU-10 (MODIFIED by J. Acreman, CPCC)

Reference: Stein, J (ED.) 1973. Handbook of Phycological methods. Culture methods and growth measurements. Cambridge University Press. 448 pp.

STOCK	STOCK SOLUTION	ml/Litre
1. Na ₂ SiO ₃ .9H ₂ O*	5.8 g/L	10 ml
2. Ca(NO ₃) ₂ .4H ₂ O	57.56 g/L	1 ml
3. K ₂ HPO ₄	10 g/L	1 ml
4. MgSO ₄ .7H ₂ O	25 g/L	1 ml
5. Na ₂ CO ₃	20 g/L	1 ml
6. F/2 Vitamins	see page 2	1 ml
7. Na ₂ EDTA. 2H ₂ O	1.00 g/L	1ml
8. Trace metal mix	see below**	1 ml
9. Ferric citrate and Citric acid	6.00 g/L	1 ml
10. H ₂ SeO ₃	0.163 g/L	0.5 ml

* Adjust pH of Na₂SiO₃.9H₂O to neutral before adding to the media

If Ferric citrate and citric acid not available, substitute:

1. FeCl₃.6H₂O (3.15 g/L) and Na₂EDTA.2H₂O (4.36 g/L). Add 1ml/L to medium

** Trace metal mix

Substance	g/Litre
1. H ₃ BO ₃	2.86 g
2. MnCl ₂ .4H ₂ O	1.81 g
3. ZnSO ₄ .7H ₂ O	0.222 g
4. Na ₂ MoO ₄ .2H ₂ O	0.390 g
5. CuSO ₄ .5H ₂ O	0.079 g
6. Co(NO ₃) ₂ .6H ₂ O	0.0494 g

Dissolve each of the above substances separately prior to adding the next.

Adjust pH of the final CHU-10 medium to 6.4 for diatoms and green algae or to 8.5 for cyanobacteria and *Cladophora* (for *Cladophora*, mix 50% of CHU-10 @ pH 8.5 with 50% filter-sterilized lake water).

CHU-10 VARIATIONS

1. CHU-10 Basic, i.e. the recipe above.
2. CHU-10 with Soil Extract, (5-10% soil extract)
3. CHU-10 with agar: add 15 g of Difco Bacto agar/L of medium)

F/2 VITAMIN SOLUTION

STOCK

1. Vitamin B12 (Cyanocobalamin)
2. Biotin

STOCK SOLUTION

- 5mg/5ml distilled H₂O
- 1 mg/10ml distilled H₂O

To make the working solution add the following amounts of the stock solutions to 100 ml of distilled water:

1. Vitamin B12 0.1 ml
2. Biotin 1.0 ml
3. Thiamine HCl 20 mg

Dispense working solution according to amounts required for media preparation. One ml aliquots are conveniently stored in cryovials for periods of 1-2 months. Store the remainder of the working solution in a polyethylene bottle of 100 ml. Wrap with Parafilm to avoid moisture loss and store all solutions frozen.