

## CHU-10 (MODIFIED by J. Acreman, UTCC)

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 <sub>2</sub> SiO <sub>3</sub> .9H <sub>2</sub> O	5.8 g/L	10 ml
2. Ca(NO <sub>3</sub> ) <sub>2</sub> .4H <sub>2</sub> O	57.56 g/L	1 ml
3. K <sub>2</sub> HPO <sub>4</sub>	10 g/L	1 ml
4. MgSO <sub>4</sub> .7H <sub>2</sub> O	25 g/L	1 ml
5. Fe-EDTA	see recipe below	0.8 ml
6. Na <sub>2</sub> CO <sub>3</sub>	20 g/L	1 ml
7. F/2 Vitamins	see below*	1 ml
8. Trace metal mix	see below**	1 ml

### \*Fe-EDTA stock solution:

Boil 1 Litre of water to remove the CO<sub>2</sub>. Dissolve 5.2 of EDTA (**NOT sodium EDTA**) in about 950 ml of distilled water, with 5.4 g of KHCO<sub>3</sub>. Add 5.0 g of FeSO<sub>4</sub>.7H<sub>2</sub>O and make final volume to 1000 ml. Adding 1 ml/L of this stock to the medium gives a final concentration of 1 mg Fe/ml.

Instead of Fe-EDTA, one could also use one of the following:

1. FeCl<sub>3</sub>.6H<sub>2</sub>O (3.15 g/L) and Na<sub>2</sub>EDTA (4.36 g/L). Add 1ml/L to medium
2. Fe citrate (3.35 g/100 ml) and Citric acid (3.35 g/100 ml). Add 1ml/L to medium

### \*\* Trace metal mix

Substance	g/Litre
1. Na <sub>2</sub> EDTA	1.00 g
2. H <sub>3</sub> BO <sub>3</sub>	2.86 g
3. MnCl <sub>2</sub> .4H <sub>2</sub> O	1.81 g
4. ZnSO <sub>4</sub> .7H <sub>2</sub> O	0.222 g
5. Na MoO <sub>4</sub> .5H <sub>2</sub> O	0.390 g
6. CuSO <sub>4</sub> .5H <sub>2</sub> O	0.079 g
7. Co(NO <sub>3</sub> ) <sub>2</sub> .6H <sub>2</sub> 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.

## 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)