



WC Medium

Freshwater medium for the culturing of Cyanobacteria and Diatoms. A variation with additional Si is used for *Aulacoseira* sp.

Reference: Guillard, R. R. L. and Lorenzen, C. J. (1972), Yellow-green algae with chlorophyllide C. J. Phycol. 8:10-14.

STOCK SOLUTIONS	CONCENTRATION: g L ⁻¹ DEIONISED WATER (dH ₂ O)	VOLUME FOR MEDIUM
1. CaCl ₂ ·2H ₂ O	36.7 g	1.0 mL
2. MgSO ₄ ·7H ₂ O	36.9 g	1.0 mL
3. NaHCO ₃	12.6 g	1.0 mL
4. K ₂ HPO ₄	8.7 g	1.0 mL
5. NaNO ₃	85 g	1.0 mL
6. WC – Micronutrients	<i>see recipe below</i>	0.10 mL
7. Fe citrate	<i>see recipe below</i>	0.10 mL
8. Vitamins	<i>see recipe below</i>	0.50 mL
9. Na ₂ SiO ₃ ·5H ₂ O	42.4 g	1.0 mL

Store all stock solutions in the refrigerator.

WC – Micronutrients

Add each of the constituents to ~750 mL dH₂O, mixing thoroughly between additions to dissolve. Make solution up to 1 L. The pH may need to be lowered to 4-4.5 to dissolve fully.

CONSTITUENT	QUANTITY
Na ₂ EDTA	43.6 g
CuSO ₄ ·5H ₂ O	0.10 g
ZnSO ₄ ·7H ₂ O	0.22 g
CoCl ₂ ·6H ₂ O	0.10 g
MnCl ₂ ·4H ₂ O	1.8 g
Na ₂ MoO ₄ ·2H ₂ O	0.06 g
H ₃ BO ₃	10 g

Fe citrate solution

Add both constituents to 1 L of dH₂O and autoclave to dissolve. Store solution in the dark.

CONSTITUENT	QUANTITY
Ferric citrate	33.5 g
Citric acid	33.5 g

Vitamins solution

Add constituents to 100 mL of dH₂O. Remake solution after 3 months. Store solution in the dark.

CONSTITUENT	CONCENTRATION: mg L ⁻¹ DEIONISED WATER (dH ₂ O)	QUANTITY FOR WORKING STOCK
Vitamin B ₁₂	100 mg	1.0 mL
Biotin	100 mg	1.0 mL
Thiamine HCl	<i>add reagent directly to stock</i>	20.0 mg

1. To prepare WC Medium (1 L)

- Add each stock solution (1 – 8) in the stated quantities to 994.3 mL dH₂O:
- Autoclave at 121°C (15 psi for 20 mins).

2. To prepare WC + Si Medium (1 L)

- Prepare as WC Medium, adding solution 9 (filter sterilised) aseptically after WC medium has been autoclaved and cooled.

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