

## K minimum

Marine dinoflagellates

### Stocks

**per 200 ml**

- (1) Trace elements (x10 concentration)
- |   |         |
|---|---------|
| Na <sub>2</sub> EDTA                                | 8.72 g  |
| Fe Cl <sub>3</sub> .6H <sub>2</sub> O               | 6.30 g  |
| ZnSO <sub>4</sub> .7H <sub>2</sub> O                | 0.044 g |
| CoCl <sub>2</sub> .6H <sub>2</sub> O                | 0.02 g  |
| MnCl <sub>2</sub> .4H <sub>2</sub> O                | 0.36 g  |
| Na <sub>2</sub> MoO <sub>4</sub> .2H <sub>2</sub> O | 0.012 g |
- (2) Vitamin mix: First make primary stocks of Cyanocobalamin and Biotin.
- |   |                   |
|---|-------------------|
|   | <b>per 100 ml</b> |
| Cyanocobalamin (Vitamin B <sub>12</sub> )                           | 0.1 g             |
| Biotin  | 0.1 g             |
| (Dispense any excess primary stocks into 1 ml aliquots and freeze.) |                   |
| For final vitamin mix stock solution:                               |                   |
|   | <b>per 200 ml</b> |
| Thiamine HCl (Vitamin B <sub>1</sub> )                              | 0.1 g             |
| Cyanocobalamin (Vitamin B <sub>12</sub> )                           | 1 ml              |
| Biotin  | 1 ml              |
- (3) Na<sub>2</sub>SeO<sub>3</sub>
- |  |                  |
|--|------------------|
|  | <b>per litre</b> |
|  | 0.002 g          |

### Medium

**per litre**

NaNO <sub>3</sub>	0.075 g
NaH <sub>2</sub> PO <sub>4</sub> .2H <sub>2</sub> O	0.00565 g
Stock solution 1 (Trace elements)	0.1 ml
Stock solution 2 (Vitamin mix)	1.0 ml
Stock solution 3 (Na <sub>2</sub> SeO <sub>3</sub> )	1.0 ml

Make up to 1 litre with filtered natural seawater. Adjust pH to **8.0** with 1M NaOH or 1M HCl prior to autoclaving. Autoclave at 15 psi for 15 minutes.

### Reference

Leftley JW after Keller DK, Selvin RC, Claus W & Guillard RRL (1987) Media for the culture of oceanic ultraphytoplankton. J. Phycol. **23**, 633-638.

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