

## ASW (Artificial Seawater) + Barley

| <b>Stocks</b>                                | <b>per 1000 cm<sup>3</sup></b> |
|--|--------------------------------|
| (1) Extra salts:                             |                                |
| NaNO <sub>3</sub>                            | 30.00 g                        |
| Na <sub>2</sub> HPO <sub>4</sub>             | 1.20 g                         |
| K <sub>2</sub> HPO <sub>4</sub>              | 1.00 g                         |
| (2) Vitamin solution:                        |                                |
| Biotin                                       | 0.0002 g                       |
| Calcium pantothenate                         | 0.02 g                         |
| Cyanocobalamin                               | 0.004 g                        |
| Folic acid                                   | 0.0004 g                       |
| Inositol                                     | 1.0 g                          |
| Nicotinic acid                               | 0.02 g                         |
| Thiamine HCl                                 | 0.1 g                          |
| Thymine                                      | 0.6 g                          |
| (3) Soil Extract (SE1) - see recipe overleaf |                                |
| <br><b>Medium</b>                            |                                |
| Extra salts stock solution (1)               | 3.75cm <sup>3</sup>            |
| Vitamin stock solution (2)                   | 2.50cm <sup>3</sup>            |
| Soil extract (3)                             | 25.00cm <sup>3</sup>           |
| Tricine                                      | 0.50g                          |

Make up to 1000 cm<sup>3</sup> with filtered natural seawater\*. Adjust pH to 7.6 – 7.8 with 1N NaOH or 1N HCl. Add approximately 1 grain of barley to each 25ml of prepared medium prior to autoclaving. Sterilise for 15 minutes at 15 psi and use when cooled to room temperature

\* Alternatively, use: Distilled water to 1000cm<sup>3</sup> and "Ultramarine Synthetica" sea salts \*\* 33.60g

### Supply

\*\*Waterlife Research Industries Ltd., 476 Bath Road, Longford West Drayton, Middlesex, England. UB7 0ED. Tel: (01753) 685696

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## SE1 (Soil Extract 1)

used in media for marine algae

### Preparing the soil

Site selection for a good soil is very important and for most purposes a soil from undisturbed deciduous woodland is best. Sites to avoid are those showing obvious signs of man's activity and particular care should be taken to avoid areas where fertilizers, crop sprays or other toxic chemicals may have been used.

A rich loam with good crumb structure should be sought. Stones, roots and larger invertebrates should be removed during an initial sieving through a 1 cm mesh. The sieved soil should be spread to air dry and hand picked for smaller invertebrates and roots. It should be turned periodically and picked over again. When dry it may be sieved through a finer mesh (2-4 mm) or stored as it is prior to use.

### Medium

Soil is prepared as above. Air-dried soil and twice its volume of supernatant distilled water are autoclaved together at 15 psi for 2 hours and left to cool. The supernatant is then decanted and filtered through Whatman No 1 filter paper, then distributed to containers in volumes suitable for making up batches of media. The aliquots and their containers are autoclaved for an appropriate length of time (e.g. 1 litre or less for 15 minutes) and are then kept in a cool place (e.g. a refrigerator) until required.