

ASW:BG 11 (Blue-Green Medium)

Marine cyanobacteria

Note: vitamins are not required in the ASW part of this recipe.

Stocks	per 100 ml
(1) Extra nutrient salts:	
NaNO ₃	3.00 g
Na ₂ HPO ₄	0.12 g
K ₂ HPO ₄	0.10 g
(2) Trace metal solution:	
H ₃ BO ₃	0.286 g
MnCl ₂ .4H ₂ O	0.022 g
Na ₂ MoO ₄ .2H ₂ O	0.039 g
CuSO ₄ .5H ₂ O	0.008 g
Co(NO ₃) ₂ .6H ₂ O	0.005 g

Medium

This medium is made up in 2 parts:

Part 1	per litre
Tricine	0.50 g
Soil extract (SE1 - see recipe overleaf)	25.00 ml
Extra nutrient salts (1)	3.75 ml

Make up to 1 litre with filtered natural seawater and adjust pH to 7.6 - 7.8 with 1M NaOH or HCl.

Part 2	per litre
NaNO ₃	1.500 g
K ₂ HPO ₄ .3H ₂ O	0.040 g
MgSO ₄ .7H ₂ O	0.075 g
CaCl ₂ .2H ₂ O	0.036 g
Citric acid	0.006 g
Ammonium ferric citrate green	0.006 g
EDTANa ₂	0.001 g
Na ₂ CO ₃	0.020 g
Trace metal solution (2)	1.00 ml

Make up to 1 litre with distilled water and adjust pH to 7.4.

Autoclave Parts 1 and 2 separately at 15 psi, allow to cool then mix aseptically. For agar plates, add 15 g non-nutrient agar per litre.

SE1 (Soil Extract1)

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.