MASM (Modified Artificial Seawater Medium)

Stocks	**per 100 ml**
(1) $MgSO_4.7H_2O$	24.4 g
(2) KCl	6.0 g
(3) $NaNO_3$	10.0 g
(4) $CaCl_2.2H_2O$	3.0 g
(5) KH_2PO_4	0.5 g
(6) NH_4Cl	2.67 g

(7) Trace elements (PIV):	**per litre**
Ensure elements are added in the following sequence:	
Na_2EDTA	0.75 g
$FeCl_3.6H_2O$	0.097 g
$MnCl_2.4H_2O$	0.041 g
$ZnCl_2$	0.005 g
$CoCl_2.6H_2O$	0.002 g
$Na_2MoO_4.2H_2O$	0.004 g

Once elements are dissolved autoclave at 15 psi for 15 minutes.

	per 100 ml
(8) Vitamin B_1 (Thiamine hydrochloride)	0.12 g
Filter sterile	
(9) Vitamin B_{12} (Cyanocobalamin)	0.1 g

Take 1 ml of this solution and add 99 ml deionised water. Filter sterile.

(10) Soil Extract 2 (See SE2 recipe)

Medium	**per litre**
Tris	1.0 g
NaCl*	30 g
Stock solutions 1 - 5	10 ml each
Stock solution 6	1 ml
Stock solution 7 (Trace elements)	6 ml
Stock solutions 8 - 9	1 ml each
Stock solution 10 (SE2)	30 ml

Make up to 1 litre with deionised water and adjust to pH **8.0** with 1M NaOH or 1M HCl prior to autoclaving. Autoclave at 15 psi for 15 minutes.

*For brackish organisms, use 15 g of NaCl instead of 30 g (BW/MASM)

Reference

L. Provasoli; J. J. A. McLaughlin; M. R. Droop (1957). The development of artificial media for marine algae. , 25(4), 392–428. – adapted for CCAP

Reviewed: 17th January 2025