

## MASM (Modified Artificial Seawater Medium)

### Stocks

### per 100 ml

(1) MgSO <sub>4</sub> .7H <sub>2</sub> O	24.4 g
(2) KCl	6.0 g
(3) NaNO <sub>3</sub>	10.0 g
(4) CaCl <sub>2</sub> .2H <sub>2</sub> O	3.0 g
(5) KH <sub>2</sub> PO <sub>4</sub>	0.5 g
(6) NH <sub>4</sub> Cl	2.67 g
(7) Trace elements (PIV):	
Ensure elements are added in the following sequence:	
Na <sub>2</sub> EDTA	0.75 g
FeCl <sub>3</sub> .6H <sub>2</sub> O	0.097 g
MnCl <sub>2</sub> .4H <sub>2</sub> O	0.041 g
ZnCl <sub>2</sub>	0.005 g
CoCl <sub>2</sub> .6H <sub>2</sub> O	0.002 g
Na <sub>2</sub> MoO <sub>4</sub> .2H <sub>2</sub> O	0.004 g

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

### per 100 ml

(8) Vitamin B <sub>1</sub> (Thiamine hydrochloride)	0.12 g
Filter sterile	
(9) Vitamin B <sub>12</sub> (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

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