

## Media for marine and brackish water microalgae

### MF

f/2 medium with  $\text{Na}_2\text{SiO}_3 \cdot 9\text{H}_2\text{O}$  replaced by 1 mL soil extract and adjusted to pH 8.0 by buffering with 100 mg Tris (hydroxymethyl) aminomethane.

#### f/2

$\text{NaNO}_3$	7.5 mg
$\text{NaH}_2\text{PO}_4 \cdot 2\text{H}_2\text{O}$	0.6 mg
Vitamin B <sub>12</sub>	0.05 µg
Biotin	0.05 µg
Thiamine HCl	10 µg
$\text{Na}_2\text{SiO}_3 \cdot 9\text{H}_2\text{O}$	1 mg
f/2 metals	0.1 mL
Seawater	99.9 mL

#### Reference

Guillard, R. R. L., Ryther, J. H. 1962 Studies of marine planktonic diatoms. I. *Cyclotella nana* Hustedt, and *Detonula confervacea* (Cleve) Gran. *Can. J. Microbiol.*, **8**, 229-239.

#### f/2 metals

$\text{Na}_2\text{EDTA} \cdot 2\text{H}_2\text{O}$	440 mg
$\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$	316 mg
$\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$	1.2 mg
$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	2.1 mg
$\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$	18 mg
$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	0.7 mg
$\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$	0.7 mg
Distilled water	100 mL

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#### Soil extract

To 1000 mL distilled water add 200 mL of soil (soil from undisturbed deciduous woodland is best) and heat by autoclaving for 1 h at 105°C. When cool, heat by autoclaving for 1 h at 105°C again. Pass the supernatant through a GF/C filter and Celite, and then pass the filtrate through a GF/F filter. Adjust to 1000 mL by adding distilled water. Dispense 10 mL of the final filtrate into each test tube and sterilize by autoclaving for 20 min at 121°C. Keep in a cool place.

#### Reference

Provasoli, L., McLaughlin, J. J. A., Droop, M. R. 1957 The development of artificial media for marine algae. *Arch. Mikrobiol.*, **25**, 392-428.