

**ATCC Medium 1653: Revised Magnetic spirillum growth Medium (MSGM)**

Wolfe's Vitamin Solution (see below) .....	10.0 mL	
Wolfe's Mineral Solution (see below) .....	5.0 mL	
0.01M Ferric Quinate (see below) .....	2.0	mL
0.1% Resazurin .....	0.45 mL	
KH <sub>2</sub> PO <sub>4</sub> .....	0.68 g	
NaNO <sub>3</sub> .....	0.12 g	
Ascorbic acid .....	0.035 g	
Tartaric acid .....	0.37 g	
Succinic acid .....	0.37 g	
Sodium acetate .....	0.05 g	
Agar (for semi-solid media) .....	1.3 g	
Distilled water .....	1000.0 mL	

*Add components in the order given with stirring.*

***Adjust to pH 6.75 with NaOH.***

**Liquid Medium:**

*Autoclave at 121 C for 15 minutes.*

*Aseptically fill screw-cap containers to full capacity with sterile medium.*

*Inoculate heavily leaving no headspace of air.*

*Tightly screw down closures.*

**Semi-solid Medium:**

*Dispense 12mL per 16 x 125 mm screw cap tube.*

*Autoclave at 121 C for 15 minutes.*

**0.01M Ferric Quinate:**

FeCl <sub>3</sub> .....	0.27 g
Quinic Acid (Sigma) .....	0.19 g
Distilled water .....	100.0 mL

*Dissolve and autoclave at 121 C for 15 minutes.*

**Wolfe's Vitamin Solution**

Available from ATCC as a sterile ready-to-use liquid (Vitamin Supplement, catalog no. MD-VS).

Biotin.....	2.0 mg
Folic acid.....	2.0 mg
Pyridoxine hydrochloride.....	10.0 mg
Thiamine . HCl.....	5.0 mg
Riboflavin.....	5.0 mg

Nicotinic acid.....	5.0 mg
Calcium D-(+)-pantothenate.....	5.0 mg
Vitamin B12.....	0.1 mg
p-Aminobenzoic acid.....	5.0 mg
Thioctic acid.....	5.0 mg
DI Water.....	1000.0 mL

**Wolfe's Mineral Solution**

Available from ATCC as a sterile ready-to-use liquid (Trace Mineral Supplement, catalog no. MD-TMS.)

Nitrilotriacetic acid.....	1.5 g
MgSO <sub>4</sub> x 7H <sub>2</sub> O.....	3.0 g
MnSO <sub>4</sub> x H <sub>2</sub> O.....	0.5 g
NaCl.....	1.0 g
FeSO <sub>4</sub> x 7H <sub>2</sub> O.....	0.1 g
CoCl <sub>2</sub> x 6H <sub>2</sub> O.....	0.1 g
CaCl <sub>2</sub> .....	0.1 g
ZnSO <sub>4</sub> x 7H <sub>2</sub> O.....	0.1 g
CuSO <sub>4</sub> x 5H <sub>2</sub> O.....	0.01 g
AlK(SO) x 12HO.....	0.01 g
H <sub>3</sub> BO <sub>3</sub> .....	0.01 g
Na <sub>2</sub> MoO <sub>4</sub> x 2H <sub>2</sub> O.....	0.01 g
DI Water.....	1000.0 mL

Add nitrilotriacetic acid to approximately 500 ml of water and adjust to pH 6.5 with KOH to dissolve the compound. Bring volume to 1.0 L with remaining water and add remaining compounds one at a time.

Note...MG...2/26/2004

*There is no need to dispense this under gas. The medium will have a pinkish color from the resazurin, but microaerophilic conditions will set up in the medium (filled to the rim) after inoculation.*