1069. MODIFIED BIEBL AND PFENNIG'S MEDIUM

KH₂PO₄  
CaCl₂ x 2 H₂O  
MgSO₄ x 7 H₂O  
NH₄Cl  
NaCl  
Yeast extract  
Ferric citrate (0.1% w/v)  
Trace element solution (SL-7)  
Distilled water

0.50 g  
0.15 g  
2.00 g  
0.34 g  
20.00 g  
0.40 g  
5.00 ml  
1.00 ml  
1000.00 ml

Bubble the medium with nitrogen gas and fill 10 ml in 15 ml tubes with a rubber septum under a stream of nitrogen gas.

Trace element solution SL-7:

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distilled water</td>
<td>1000.0 ml</td>
</tr>
<tr>
<td>HCl (25%)</td>
<td>1.0 ml</td>
</tr>
<tr>
<td>ZnCl₂</td>
<td>70.0 mg</td>
</tr>
<tr>
<td>MnCl₂ x 4 H₂O</td>
<td>100.0 mg</td>
</tr>
<tr>
<td>H₃BO₃</td>
<td>60.0 mg</td>
</tr>
<tr>
<td>CoCl₂ x 6 H₂O</td>
<td>200.0 mg</td>
</tr>
<tr>
<td>CuCl₂ x 2 H₂O</td>
<td>20.0 mg</td>
</tr>
<tr>
<td>NiCl₂ x 6 H₂O</td>
<td>20.0 mg</td>
</tr>
<tr>
<td>Na₂MoO₄ x 2 H₂O</td>
<td>40.0 mg</td>
</tr>
</tbody>
</table>

For DSM 18064
Final pH 6.8
Add the following components after autoclaving from sterile stock solutions:

Sodium pyruvate 3.0 g/l
Vitamin B₁₂ (2 mg/l filter sterilised) 1.0 ml/l

For DSM 18713 and 18859 and 19784
Add the following components after autoclaving from sterile stock solutions:

Sodium pyruvate 3.0 g/l
Vitamin B₁₂ (2 mg/l filter sterilised) 1.0 ml/l
Na₂S x 9 H₂O 1.0 mM
Na₂S₂O₃ x 5 H₂O 6.0 mM
NaHCO₃ (10%, autoclaved in sealed, half full vessels under CO₂) 10.0 ml/l

DSM 18713 and 18859 Final pH 7.2
DSM 19784 Final pH 6.9

Continued on next page
For DSM 19947
Final pH 6.9
Add the following component after autoclaving from sterile stock solutions:
- Sodium pyruvate: 3.0 g/l
- Vitamin B12 (2 mg/l filter sterilised): 1.0 ml/l
- Na$_2$S x 9 H$_2$O: 1.0 mM
- Na$_2$S$_2$O$_3$ x 5 H$_2$O: 4.0 mM
- NaHCO$_3$ (10%, autoclaved in sealed, half full vessels under CO$_2$): 10.0 ml/l

For DSM 18985
Reduce the MgSO$_4$ x 7 H$_2$O to 1.5 g/l
Final pH 6.8
Add the following component after autoclaving from sterile stock solutions:
- Sodium pyruvate: 3.0 g/l
- Vitamin B$_{12}$ (2 mg/l filter sterilised): 1.0 ml/l
- Either Na$_2$S x 9 H$_2$O: 1.0 mM
- or Na$_2$S$_2$O$_3$ x 5 H$_2$O: 2.0 mM
- NaHCO$_3$ (10%, autoclaved in sealed, half full vessels under CO$_2$): 10.0 ml/l

For DSM 21808 and 21809
Final pH 7.5
Add the following component after autoclaving from sterile stock solutions:
- Sodium pyruvate: 3.0 g/l
- Vitamin B$_{12}$ (2 mg/l filter sterilised): 1.0 ml/l
- Na$_2$S x 9 H$_2$O: 1.0 mM
- or Na$_2$S$_2$O$_3$ x 5 H$_2$O: 2.0 mM
- NaHCO$_3$ (10%, autoclaved in sealed, half full vessels under CO$_2$): 10.0 ml/l

For DSM 24766
Reduce the MgSO$_4$ x 7 H$_2$O to 1.00 g/l
Final pH 7.0
Add the following component after autoclaving from sterile stock solutions:
- Sodium pyruvate: 3.0 g/l
- Vitamin B$_{12}$ (2 mg/l filter sterilised): 1.0 ml/l
- Na$_2$S x 9 H$_2$O: 1.0 mM
- NaHCO$_3$ (10%, autoclaved in sealed, half full vessels under CO$_2$): 10.0 ml/l