

1145. MS-MEDIUM (MODIFIED)

| | | |
|--|--------|----|
| Anaerobic double distilled water | 800.00 | ml |
| MS Buffer (see below) | 200.00 | ml |
| Elemental sulphur | 5.00 | g |
| NaS ₂ O ₃ x 5 H ₂ O | 2.00 | g |
| MgSO ₄ x 7 H ₂ O | 7.00 | g |
| KCl | 0.48 | g |
| CaCl ₂ x 2 H ₂ O | 0.40 | g |
| MgCl ₂ x 6 H ₂ O | 0.80 | g |
| Solution A (see below) | 20.00 | ml |
| Solution B (see below) | 1.50 | ml |
| Solution D (see below) | 10.00 | ml |

The medium is prepared anaerobically under nitrogen gas and dispensed into Hungate tubes or serum bottle sealed with rubber septa. The medium to gas phase ratio should be about 1:10 (v:v). Sterilise the medium by heating at 100° C for 3 hours on three consecutive days.

Final pH of the medium for DSM 19534 is pH 6.0-6.8

Final pH of the medium for DSM 19557 is pH 5.9-6.5

MS Buffer:

100 mM NaOH saturated with CO₂

Each of the solutions below were prepared with anaerobic double distilled water and prepared under constant gassing with nitrogen.

Solution A:

| | | |
|--|---------|----|
| NH ₄ Cl | 100.00 | g |
| MgCl ₂ x 6 H ₂ O | 100.00 | g |
| CaCl ₂ x 2 H ₂ O | 40.00 | g |
| Distilled water | 1000.00 | ml |

Adjust to pH 4 with HCl

Solution B:

| | | |
|---|---------|----|
| K ₂ HPO ₄ x 3H ₂ O | 200.00 | g |
| Distilled water | 1000.00 | ml |

Solution D – Trace mineral solution (Ferguson and Mah, 1983):

| | | |
|--|---------|----|
| Na ₂ -EDTA x 2 H ₂ O | 500.00 | mg |
| Na ₂ WO ₄ x 2 H ₂ O | 30.00 | mg |
| CoCl ₂ x 6 H ₂ O | 150.00 | mg |
| CuCl ₂ x 2 H ₂ O | 20.00 | mg |
| MnCl ₂ x 4 H ₂ O | 100.00 | mg |
| NiSO ₄ x 6 H ₂ O | 20.00 | mg |
| FeSO ₄ x 7 H ₂ O | 100.00 | mg |
| H ₂ SeO ₃ | 10.00 | mg |
| ZnCl ₂ | 100.00 | mg |
| H ₃ BO ₃ | 10.00 | mg |
| AlCl ₃ x 6 H ₂ O | 40.00 | mg |
| NaMoO ₄ x 2 H ₂ O | 10.00 | mg |
| Distilled water | 1000.00 | ml |

Adjust pH to 3.0 with HCl