M2 Agar

M2 Agar is a semi synthetic culture medium used as a general purpose plate count agar.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Dextrose</td>
<td>10.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>10.000</td>
</tr>
<tr>
<td>Monopotassium phosphate</td>
<td>0.100</td>
</tr>
<tr>
<td>Magnesium sulphate</td>
<td>0.050</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td><strong>Final pH (at 25°C)</strong></td>
<td>7.1±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Suspend 40.15 grams in 1000 ml distilled water containing 132 ml glycerine. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

**Principle And Interpretation**

Nutrient media are basic culture media used for maintaining microorganisms, cultivating fastidious organisms(1, 2). Plate Count Agar is recommended for the plate count of microorganisms in food, dairy products, water and waste water. M2 Agar is suitable for determining bacterial count from sterile rooms.

Yeast extract provides a source of trace elements, vitamins and amino acids. Dextrose is the source of carbohydrate. Monopotassium phosphate buffers the media. Magnesium sulphate is a source of divalent cations. Sodium chloride is an essential ion and helps in maintaining the osmotic balance of the medium. Agar is the solidifying agent.

**Quality Control**

**Appearance**
Cream to yellow homogeneous free flowing powder

**Gelling**
Firm, comparable with 1.5% Agar gel

**Colour and Clarity of prepared medium**
Light amber coloured clear to slightly opalescent gel forms in Petri plates

**Reaction**
Reaction of 4.015% w/v aqueous solution at 25°C. pH : 7.1±0.2

**pH**
6.90-7.30

**Cultural Response**
M858: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Saccharomyces cerevisiae</em></td>
<td>good-luxuriant</td>
</tr>
<tr>
<td>ATCC 9763</td>
<td></td>
</tr>
<tr>
<td><em>Escherichia coli</em> ATCC 25922</td>
<td>good-luxuriant</td>
</tr>
</tbody>
</table>

**Storage and Shelf Life**

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.
Reference
Press, London.
2. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Lippincott, Williams and Wilkins,
Baltimore.

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