Agar powder, Bacteriological

**Principle And Interpretation**
Agar powder, Bacteriological is recommended for routine bacteriological work and particularly useful in pharmaceutical preparation where it passes in Microbial limit tests for the presence of bacteria.

**Quality Control**

**Appearance**
Cream coloured homogenous free flowing odourless powder or has slight odour and produce mucilagenous sensation on the tongue.

**Solubility**
Freely soluble in hot water at temperatures above 85°C. Insoluble cold water.

**Clarity**
A firm solid, clear to slightly opalescent gel is formed at a concentration of 1.5% at 38-39°C.

**Dye Diffusion**
Agar dye diffusion: - 18-20mm

**Reaction**
6.50- 7.50

**Swelling Index**
6.0 ml- 8.0ml

**Identification test**
As per method specified in USP 37, NF32;
A: Infrared absorption.
B: With Iodine, some fragments of agar appear bluish black, with some areas reddish to violet.
C: Agar forms a clear liquid, which congeals at 30 to 39°C to form a firm resilient gel, which does not melt below 80°C.

**Microbial Load:**

**Total aerobic microbial count (cfu/gm)**
By plate method when incubated at 30-35°C for not less than 3 days.
Bacterial Count : <= 1000 CFU/gram

**Total Yeast and mould count (cfu/gm)**
By plate method when incubated at 20-25°C for not less than 5 days.
Yeast & mould Count : <= 100 CFU/gram

**Test for Pathogens**

**Chemical Analysis**

**Gelling temperature**
36-39°C

**Melting temperature**
>=85°C

**Water (KF)**
<=20%

**Calcium**
<= 0.1%

**Heavy metals (as Pb)**
<= 40 ppm

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*Please refer disclaimer Overleaf.*
Heavy metals (as Lead)
<=10 ppm
Arsenic (As)
<=3 ppm
Sulphated ash
<=6.5%
Acid insoluble Matter (on dry basis)
<=0.5%
Foreign organic matter
<=1.0%
Foreign insoluble matter
<=15 mg in 7.5 gm of Agar

Gelling Strength
>= 800 g/cm²

Test for Water absorption
As per method specified in USP 37,NF 32, NMT 75 ml of water is absorbed by 5.0 g of agar

Test for Gelatin
As per method specified in USP 37,NF 32, No formation of yellow precipitate

Test for Starch
As per method specified in USP 37,NF 32, No Formation of blue colour on addition of iodine

Growth Promotion Test
As per method specified in USP 37,NF32

Cultural response
Cultural response observed after an incubation at 35-37°C for 18-24 hours by preparing Nutrient Agar (M001) using Agar Powder, Bacteriological as an ingredient.

Cultural Response

<table>
<thead>
<tr>
<th>Organism</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC 25922</td>
<td>Luxuriant</td>
</tr>
<tr>
<td><em>Pseudomonas aeruginosa</em> ATCC 27853</td>
<td>Luxuriant</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> ATCC 25923</td>
<td>Luxuriant</td>
</tr>
<tr>
<td><em>Salmonella</em> Typhi ATCC 6539</td>
<td>Luxuriant</td>
</tr>
<tr>
<td><em>Streptococcus pyogenes</em> ATCC 19615</td>
<td>Luxuriant</td>
</tr>
</tbody>
</table>

Storage and Shelf Life
Store below 30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Disclaimer:
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