Letheen Broth

For determination of bacterial activity of quaternary ammonium compounds using *Escherichia coli* or *Staphylococcus aureus*.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptic digest of animal tissue</td>
<td>10.000</td>
</tr>
<tr>
<td>Beef extract</td>
<td>5.000</td>
</tr>
<tr>
<td>Lecithin</td>
<td>0.700</td>
</tr>
<tr>
<td>Polysorbate 80</td>
<td>5.000</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>5.000</td>
</tr>
</tbody>
</table>

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

**Directions**

Label the ready to use LQ108 bottle. Inoculate the sample and Incubate at specified temperature and time.

**Principle And Interpretation**

Letheen Broth was developed by Quisno, Gibby and Foter (2) by the addition of lecithin and Polysorbate 80 to FDA Broth. Letheen Broth is recommended by AOAC to determine the phenol coefficient of cationic surfactants (3). Letheen Medium is also recommended for testing of cosmetics (4). Beef extract, casein enzymic hydrolysate, supply essential nutrients and other trace elements for the microbial growth. Lecithin and polysorbate 80 enables the recovery of bacteria from solutions containing residues of disinfectant used in sanitization of utensils and equipments. Lecithin neutralizes quaternary ammonium compounds and polysorbate 80 neutralizes phenolic disinfectants, hexachlorophene and formalin (5, 1). Dehydrated medium may appear moist with brown sugar appearance, which does not indicate deterioration (1).

**Quality Control**

**Appearance**

Sterile Letheen Broth in bottles.

**Colour**

Yellow coloured, clear solution.

**Quantity of medium**

100 ml of medium in bottles.

**Reaction**

6.80- 7.20

**Sterility test**

Passes release criteria.

**Cultural Response**

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia coli</em> ATCC 25922</td>
<td>50-100</td>
<td>luxuriant</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> ATCC 25923</td>
<td>50-100</td>
<td>luxuriant</td>
</tr>
<tr>
<td><em>Staphylococcus aureus</em> ATCC 6538</td>
<td>50-100</td>
<td>good-luxuriant</td>
</tr>
</tbody>
</table>
Storage and Shelf Life
Store between 2-8°C. Use before expiry date on the label.

Reference

Revision : 02 / 2016