



## Letheen Broth

M165D

Letheen Broth is recommended for the testing of quaternary ammonium compounds for antimicrobial activity using *Escherichia coli* or *Staphylococcus aureus* ATCC 6538.

### Composition\*\*

Ingredients	Gms / Litre
Proteose Peptone	10.000
Beef extract	5.000
Lecithin	0.700
Polysorbate 80	5.000
Sodium chloride	5.000
Final pH ( at 25°C)	7.0±0.2

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

### Directions

Suspend 25.7 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

### Principle And Interpretation

Letheen Broth was developed by Quisno, Gibby and Foter(1) by the addition of lecithin and Polysorbate 80 to FDA Broth. Letheen Broth is used to determine the phenol coefficient of cationic surfactants . Letheen Medium is also recommended for testing of cosmetics (2).

Beef extract, Proteose Peptone (equivalent to ProteosePeptone No.3) 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 (3, 4).

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Light yellow coloured clear solution in tubes

#### Reaction

Reaction of 2.57% w/v aqueous solution at 25°C. pH : 7.0±0.2

#### pH

6.80-7.20

#### Cultural Response

M165D: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
<i>Escherichia coli</i> ATCC 25922	50-100	good
<i>Escherichia coli</i> ATCC 11229	50-100	good
<i>Staphylococcus aureus</i> ATCC 6538	50-100	good
<i>Staphylococcus aureus</i> ATCC 25923	50-100	good
<i>Salmonella Typhi</i> ATCC 6539	50-100	good

## 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

1. Quisno, R., I. W. Gibby, and M.J. Foter. 1946. A neutralizing medium for evaluating the germicidal potency of the quaternary ammonium salts. *Am. J. Pharm.* 118:320-323.
2. American Society for Testing and Materials, 1991, Standard Test Methods for preservatives in water-containing cosmetics, E640-78. Annual Book of ASTM Standards, ASTM, Philadelphia, Pa.
3. Favero (Chm.), 1967, A State of the Art Report, Biological Contamination Control Committee, American Association for Contamination Control.
4. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.

### Disclaimer :



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