

Lethen Broth, AOAC**M165**

Lethen Broth, AOAC is recommended for determination of bactericidal activity of quaternary ammonium compounds using *Escherichia coli* or *Staphylococcus aureus* ATCC 6538.

Composition***

Ingredients	Gms / Litre
Peptic digest of animal tissue	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

Lethen Broth was developed by Quisno, Gibby and Foter (2) by the addition of lecithin and Polysorbate 80 to FDA Broth. Lethen Broth is recommended by AOAC to determine the phenol coefficient of cationic surfactants (3). Lethen 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**

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

Cultural Response

M165: 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-luxuriant				
<i>Staphylococcus aureus</i> ATCC 6538	50-100	good-luxuriant				
<i>Escherichia coli</i> ATCC 8739	50-100	Good-luxuriant				
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant				

Reference

1. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
2. Weber and Black, 1948, Am. J. Public Health, 38:1405.
3. Horwitz, (Ed.), 2000, Official Methods of Analysis of AOAC International, 17th Ed., Vol.I, AOAC International, Gaithersburg, Md.
4. 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.
5. Favero (Chm.), 1967, A State of the Art Report, Biological Contamination Control Committee, American Association for Contamination Control.

Storage and Shelf Life

Store below 30°C and the prepared medium at 2 - 8°C. Use before expiry date on the label.