

TM 158 – LETHEEN BROTH, AOAC

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

Letheen Broth was developed by Quisno, Gibby and Foter by the addition of lecithin and Polysorbate 80 to FDA Broth. In the early 40s, Weber and Black recommended the use of lecithin and Polysorbate to neutralize the antimicrobial action of the quaternary ammonium compounds. Letheen Broth is recommended by AOAC to determine the phenol coefficient of cationic surfactants. Letheen Medium is also recommended for testing of cosmetics. The medium is also recommended by APHA for microbial testing of water.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	10.000
Beef extract	5.000
Lecithin	0.700
Polysorbate 80 (Tween 80)	5.000
Sodium chloride	5.000

PRINCIPLE

This medium consists of Beef extract and peptone which supply nitrogenous compounds, carbon, sulphur and other trace elements to the organisms. 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.

INSTRUCTION FOR USE

- Dissolve 25.70 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks as desired and Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured clear solution in tubes.
pH (at 25°C)	: 7.0 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
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<i>Escherichia coli</i>	25922	50-100	Good-luxuriant	35-37°C	24-48 Hours
<i>Escherichia coli</i>	8739	50-100	Good-luxuriant	35-37°C	24-48 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	Luxuriant	35-37°C	24-48 Hours
<i>Staphylococcus aureus subsp. aureus</i>	6538	50-100	Good-luxuriant	35-37°C	24-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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2. Favero (Chm.), 1967, A State of the Art Report, Biological Contamination Control Committee, American Association for Contamination Control.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
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7. Quisno, R., I.W. Gibby, and M.J. Foter. 1946. Am. J. Pharm. 118:320-323.
8. Smart R. and Spooner D.F., 1972, J.Soc.Cosmet. Chem., 23:721.
9. Weber and Black, 1948, Am. J. Public Health, 38:1405.



 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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