

## TM 1558 – LETHEEN BROTH (as per USP)

### INTENDED USE

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

### PRODUCT SUMMARY AND EXPLANATION

Glucose Extract Agar was developed according to APHA for use in the microbiological examination of water. Weber and Black modified it further with addition of lecithin and polysorbate 80 and developed a laboratory procedure for evaluating bactericidal activity of quaternary ammonium compounds proposed for sanitizing food utensils. Letheen media are recommended by USP in disinfectant challenge testing.

### COMPOSITION

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

### 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. Dehydrated medium may appear moist with brown sugar appearance, does not indicate deterioration.

### 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	: Off-white to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured clear to slightly opalescent solution.
pH (at 25°C)	: 7.0 ± 0.2

### INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period



<i>Escherichia coli</i>	25922	50-100	Good-luxuriant	35-37°C	24-48 Hours
<i>Staphylococcus aureus</i>	25923	50-100	Good-luxuriant	35-37°C	24-48 Hours
<i>Staphylococcus 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 25-30°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**

1. APHA, 1960, Standard Methods for the Examination of Water and Wastewater, 11th ed., APHA, N.Y.
2. Weber and Black, 1948, Soap Sanitary Chem., 24:134.
3. Weber and Black, 1948, Am. J. Public Health, 38:1405.
4. The United States Pharmacopoeia/National Formulary 2017, US Pharmacopeial Convention Inc. Rockville, M.D.
5. Favero (Chm.), 1967, A State of the Art Report, Biological Contamination Control Committee, American Association for Contamination Control.
6. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
7. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
8. 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.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. 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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