

TECHNICAL DATA SHEET

Lethen Broth, Modified

Principle

Lethen broth modified is composed of peptone, tryptone, meat extract (equivalent of beef extract), yeast extract, sodium chloride, sodium bisulfite, lecithin and polysorbate 80. Peptone, tryptone, meat extract and yeast extract provide nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and trace elements for the growth of microorganisms. Sodium chloride maintains equilibrium of the medium. Sodium bisulfite neutralizes the preservative and enhances growth of microorganisms. The lecithin and tween 80 aids the recovery of bacteria from materials containing residues of disinfectant or preservatives used in cosmetics. Tween 80 and lecithin act as surface active disinfectant neutralizing agent, nullify other additives in commercial products. Lecithin also neutralizes quaternary ammonium compounds present in the cosmetics.

Use: For screening cosmetic products for microbial contamination.

Contents*

Ingredients	Gram/Litre
Peptone	20.000
Tryptone	5.000
Meat Extract#	5.000
Yeast Extract	2.000
Tween 80	5.000
Lecithin	0.700
Sodium Chloride	5.000
Sodium Bisulfite	0.100
pH at 25°C	7.0 ±0.2

* Formula adjusted for optimum performance and parameters # Equivalent to Beef Extract

Directions: Dissolve 42.80 grams in 1000 ml distilled water. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45 °C and inoculate test sample aseptically.

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Specimens types analyzed

Cosmetics and other commercial products etc.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Light beige colored free flowing, homogeneous powder
Reaction of 4.28% solution	7.0 ±0.2 at 25 °C
pH	6.80- 7.20
Color and clarity of ready medium	Light amber colored opalescent solution
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 °C for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response: Cultural characteristics observed after incubation at 35±2°C for 18-48 hours. Inoculum 50-100 CFU.

Organism	ATCC	Inoculum	Growth
<i>Staphylococcus aureus</i>	25923	50-100	Luxuriant
<i>Escherichia coli</i>	8739	50-100	Luxuriant
<i>Escherichia coli</i>	25922	50-100	Luxuriant

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.

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