

**LETHEEN BROTH , MODIFIED (as per FDA)****TM 159**

For screening cosmetic products to check microbial contamination

**Composition**

<b>Ingredients</b>	<b>Gms/Ltr.</b>
Peptic digest of animal tissue	20.00
Casein enzymatic hydrolysate	5.00
Beef extract	5.00
Polysorbate 80	5.00
Sodium chloride	5.00
Yeast extract	2.00
Lecithin	0.70
Sodium bisulphite	0.10

\* Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight.

**Instructions for Use**

Dissolve 42.80gms in 1000ml of distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (at 121°C) for 15 minutes. Cool to 40 - 45°C and dispense into sterile tubes.

**Appearance:** Light yellow colour, clear to slightly opalescent solution

**pH (at 25°C):** 7.0± 0.2

**Principle**

**LETHEEN BROTH, MODIFIED (as per FDA)** is used for screening cosmetic products to check microbial contamination. This medium is recommended by FDA. The word Letheen represents a combination of lecithin and polysorbate (tween) 80. Letheen medium is formed by combination of Lecithin and tween (Polysorbate 80). Medium composed of Beef extract and Peptic digest of animal tissue that supply nitrogenous compounds, carbon and sulphur for bacteria. Sodium chloride maintains the osmotic equilibrium of the medium. Lecithin neutralizes quaternary ammonium compounds and polysorbate 80 neutralizes phenolic disinfectants, hexachlorophene and formalin. Vitamins and cofactors, required for growth as well as additional sources of nitrogen and carbon, are provided by yeast extract. Sodium bisulfite to partially neutralize the preservative systems commonly found in cosmetics.

**Interpretation**

Cultural characteristics observed after inoculating ( $10^3$  CFU/ml), on incubation at 35 - 37°C for 24 - 48 hours.

<b>Microorganisms</b>	<b>ATCC</b>	<b>Inoculum (CFU/ml)</b>	<b>Growth</b>
<i>Staphylococcus aureus</i>	6538	$10^3$	Luxuriant
<i>Escherichia coli</i>	25922	$10^3$	Luxuriant

**References**

1. APHA, 1960, Standard Methods for the Examination of Water and Wastewater, 11th ed., APHA, N.Y.
2. Bacteriological Analytical Manual, 1995, Food and Drug Administration, 8th Ed., AOAC International, Gaithersburg, MD, U.S.A
3. Weber and Black, 1948, Soap Sanitary Chem., 24:134.