
LETHEEN BROTH MODIFIED

INTENDED USE

Remel Lethéen Broth Modified is a liquid medium recommended for use in qualitative procedures for microbiological testing of cosmetics.

SUMMARY AND EXPLANATION

Weber and Black developed Lethéen Broth by adding lecithin and polysorbate 80 to Tryptose Glucose Extract Broth, for the study of quaternary ammonium compounds.^{1,2} Lethéen Broth Modified is based on the formula in the Bacteriological Analytical Manual for use in the microbiological testing of cosmetics.³ It is also recommended by the Association of Official Analytical Chemists (AOAC) as an enrichment broth to cultivate microorganisms from cosmetic samples.⁴

PRINCIPLE

Lethéen Broth supplies meat peptone and beef extract, nutrients necessary for bacterial growth. Lethéen Broth Modified is supplemented with casein peptone which supplies increased nitrogen for enhanced growth of organisms. Yeast extract provides B-complex vitamins. Sodium chloride is a source of essential electrolytes and maintains osmotic equilibrium. Sodium bisulfite neutralizes quaternary ammonium compounds. Lecithin and polysorbate 80 (contained in Lethéen Broth) partially inactivate quaternary ammonium compounds, phenolic compounds, formalin, hexachlorophene, and ethanol.

REAGENTS (CLASSICAL FORMULA)*

Lethéen Broth.....	25.7 g	Yeast Extract.....	2.0 g
Casein Peptone.....	15.0 g	Sodium Bisulfite.....	0.1 g

pH 7.2 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS

This product is for Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM

1. Suspend 42.8 g of medium in 1000 ml of demineralized water.
2. Heat to boiling with agitation to completely dissolve.
3. Sterilize by autoclaving at 121°C for 15 minutes or following established procedures.
4. Dispense into appropriate containers.

PROCEDURE

1. Methods for isolation of microorganisms from cosmetic products include pre-enrichment of samples and direct colony counts.^{3,4} Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, and testing.

QUALITY CONTROL

Each lot number of Lethéen Broth Modified has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures.

CONTROL

Bacillus subtilis ATCC® 6633
Escherichia coli ATCC® 25922
Pseudomonas aeruginosa ATCC® 27853
Staphylococcus aureus ATCC® 25923

INCUBATION

Aerobic, 18-24 h @ 33-37°C
Aerobic, 18-24 h @ 33-37°C
Aerobic, 18-24 h @ 33-37°C
Aerobic, 18-24 h @ 33-37°C

RESULTS

Growth
Growth
Growth
Growth

BIBLIOGRAPHY

1. Weber, G.R. and L.A. Black. 1948. Soap Sanitary Chem. 24:134-137, 151, 153, 155.
2. Weber, G.R. and L.A. Black. 1948. Am. J. Public Health. 38:1405-1417.
3. Food and Drug Administration. 2001. Bacteriological Analytical Manual Online. Chapter 23. Revised August 2001. Authors: A.D. Hitchins, T.T. Tran, and J.E. McCarron. AOAC International, Gaithersburg, MD.
4. Horowitz, W. 2002. Official Methods of Analysis of AOAC International. 17th ed., 1st rev. AOAC International, Washington, D.C.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, sample collection, storage and transportation, materials required, quality control, and limitations.

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