Reference: 312760ZA **Technical Data Sheet**

Product: **Letheen Modified Broth - 90 ml**

Specification

Liquid medium for the primary recovery of stressed microorganisms in the microbial examination of cosmetics according to FDA and ISO normative.

Presentation

	Packaging Details	Shelf Life	Storage
10 Prepared bottles Bottle 125 ml with: 90 ± 3 ml	1 box with 10 bottles 125 ml. Injectable cap: Plastic screw inner cap. The use of syringes needles with a diameter greater than 0.8 mm is not recommended.	12 months	8-25 ºC

Composition

Composition (g/l):

Casein peptone	5.00
Meat peptone	20.0
Meat extract	5.00
Yeast extract	2.00
Lecithine	0.70
Sodium chloride	5.00
Polysorbate 80	5.00
Sodium bisulfite	0.10

Description /Technique

Description

In the early 40's, Weber and Black recommended the use of lecithin and polysorbates to neutralize the antimicrobial action of the Quaternary Ammonium Compounds (QAC's).
In 1965 the methodology was accepted by the AOAC for antimicrobial assays and extends their use to all the cationic surfactants (detergents). The TAT (Tryptone-Azolectin-Polysorbate) medium, in the Newburger Cosmetic Analysis Manual, (2nd ed., 1977) is similar in composition and uses the AOAC formulation. In 1978 the FDA (Bacteriological Analytical Manual, 5th edition, 1978) incorporated it as a primary presumptive and enrichment medium for all microbial examination of cosmetics.
The present formulation appears in the 8th edition (1998) of the BAM and the notable modification are the inclusion of sodium chloride providing suitable osmotic pressure and an increased amount of peptones and tissue extracts to promote good growth, these transform this medium into a very rich all-purpose medium suitable for neutralizing almost all preservatives presents in samples under examination.
The ISO Technical Committee on Cosmetics (ISO/TC 217) (2006) has also adopted the present formulation as an alternative enrichment medium prior to microbiological examination but ideally Eugon LT100 Broth should be employed for this.

Technique recommended use:

Collect, dilute and prepare samples and volumes as required according to specifications, directives, official standard regulations and/or expected results. Dispense liquid medium in appropiate containers if the original container is of large volume.
Inoculate asseptically the Bottles/tubes with the prepared sample or its dilution.
Incubate the tubes tightly closed aerobically at 30-35ºC for 24-48-72 h
(Incubation times, temperature and sample volumes may vary depending on the sample, on the specifications...)
Read the turbity increase as growth indicator.
This medium can be used to inoculate any confirmatory, secondary medium by streaking methodology or by spiral method; after proper incubation, enumerate all the colonies that have appeared onto the surface of the secondary agar.
Each laboratory must evaluate the results according to their specifications.
Calculate total microbial count per ml of sample by multiplying the average number of colonies per plate by the inverse dilution factor if streaked a diluted sample. Report results as colony forming Unit (CFU's) pe ml or g along with enrichment and secondary media used, incubation time and temperature.

Quality control

Physical/Chemical control

Color : Yellowish-brown pH: 7.0 ± 0.2 at 25ºC

Microbiological control

Prepare Tubes - Inoculate with 100±20 CFU for Growth Promotion or 10^4-10^6 CFU (selectivity).

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Aerobiosis. Incubation at 30-35 ºC. Reading at 24-48 until 72 h

Microorganism	Growth
Ps. aeruginosa ATCC® 9027, WDCM 00026	Good
Staphylococcus aureus ATCC® 6538, WDCM 00032	Good
Bacillus subtilis ATCC® 6633, WDCM 00003	Good
Escherichia coli ATCC® 25922, WDCM 00013	Good
Salmonella typhimurium ATCC® 14028, WDCM 00031	Good

Sterility Control

Incubation 48 h at 30-35 ºC and 48 h at 20-25 ºC: NO GROWTH.
Check at 7 days after incubation in same conditions.

Bibliography

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