Product :
LETHEEN MODIFIED AGAR

Specification

Solid medium for the primary screening of microorganisms in cosmetics according to the FDA.

Formula * in g/L

Casein peptone..... 10.0
Meat peptone..... 10.0
Meat extract 3.0
Yeast extract..... 2.0
Dextrose..... 1.0
Lecithin..... 1.0
Sodium chloride..... 5.0
Sodium bisulphite..... 0.1
Agar..... 15.0

Final pH 7,2 ±0,2 at 25 ºC

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 47 g of powder in 1 L of distilled water and add 7 mL of Polysorbate 80 (Art. No. TW0080). Allow it to soak and bring to the boil stirring constantly. Distribute into suitable containers and sterilize in the autoclave at 121°C for 15 minutes.

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 the 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 ed., 1978) incorporated it as primary presumptive and enrichment medium for all microbial examinations of cosmetics.

The present formulation appears in the 8th ed. (1998) of the BAM and the notable modifications are the inclusion of sodium chloride providing suitable osmotic pressure and a increased amount of peptones and tissue extracts to promote good growth, these transforms this medium into a very rich all-purpose medium suitable for neutralizing almost all preservatives present in samples for examination.

Quality control

Incubation temperature: 30-35ºC **Incubation time:** 24-48-72 h

Inoculum: Practical range 100 ± 20 CFU. Min. 50 CFU (productivity) according to ISO 11133:2014/Amd 1:2018. Spiral Plate Method.

Microorganism	Growth	Remarks
Staphylococcus aureus ATCC® 6538	Productivity > 0.70	-
Candida albicans ATCC® 10231	Productivity > 0.70	-
Escherichia coli ATCC® 8739	Productivity > 0.70	-
Pseudomonas aeruginosa ATCC® 9027	Productivity > 0.70	-
Bacillus subtilis ATCC® 6633	Productivity > 0.70	-
Aspergillus brasiliensis ATCC® 16404	Productivity > 0.70	-

References

· ASTM Standard E 640-78 (1991) Test Method for the preservatives in water-containing cosmetics. Philadelphia. PA. USA.
· ATLAS, R.M., L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press, Inc. London.
· FDA (Food and Drug Adminstrations) (1998) Bacteriological Analytical Manual. 8th ed. Revision A. AOAC International. Gaithersburg. MD. USA.
· HORWITZ, W. (2000) Official Methods of Analysis. 17th ed. AOAC International. Gaithersburg. MD. USA.
. ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
· LUCAS, I.P. (1977) Microbiological Examination of Cosmetics. Newburger's Manual of Cosmetic Analysis A. O.A.C. Washington. USA.
· US PHARMACOPOEIA (2002) <61> Microbial Limit Tests. 25th ed. US Pharmacopeial Convention. Rockville. MD. USA.
· WEBER, G.R. & L.A. BLACK (1948). Relative efficiency of quaternary inhibitors. Soap and Sanit. Chem. 24:134-139.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).