Technical Information

Modified Fungal MiVeg Agar Base (Modified Inhibitory Mould MiVeg Agar Base)

Product Code :VM2045

Application:- Modified Fungal MiVeg Agar Base with addition of polysorbate 80, is used for estimation of moulds in cosmetics and toiletries.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	2.5
MiVeg peptone	2.5
Yeast extract	5.0
Dextrose	20.0
Disodium hydrogen phosphate	3.5
Monopotassium hydrogen phosphate	3.4
Ammonium chloride	1.4
Sodium carbonate	1.0
Magnesium sulphate	0.06
Chloramphenicol	0.1
Agar	15.0
Final pH (at 25°C)	7.0±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Modified Fungal MiVeg Agar Base is prepared by using MiVeg peptone and MiVeg hydrolysate in place of animal based peptone and casein enzymic hydrolysate which makes the medium free from BSE/TSE risks. This medium is the modification of Modified Fungal Agar Base which is formulated by Mead and O'Neill (1) for estimating moulds in cosmetics and toiletries. Earlier culture media developed for determining mould counts in cosmetics and toiletries etc. required upto 7 days of incubation for the valid count (2, 3), whereas this media is like the conventional medium requires 3 days at 27-28°C to complete the test.

It is very nutritious medium as it contains MiVeg hydrolysate, MiVeg peptone, yeast extract, dextrose and inorganic salts. Chloramphenicol present in the medium inhibits the potential contaminants of cosmetics and toiletries like *Pseudomonas aeruginosa* and *Serratia marcescens*. Sodium and potassium phosphates maintains the buffering system of the medium. Polysorbate 80 act as a neutralizer of preservatives such as methyl paraben and physically hold or seclude the surfactants like sodium lauryl sulphate and lauroyldiethanolamide. These surfactants might suppress the growth or the spore germination of moulds. The pH of the medium is neutral which inactivates preservatives such as benzoic acid which is active at pH values below 6.0 but not active at pH near to the neutrality (3).

Methodology

Suspend 54.5 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Add 20 ml of polysorbate 80. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Yellow coloured, may have slightly greenish tinge,homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Medium amber coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 5.45 % w/v aqueous solution pH: 7.0 ±0.2 at 25°C

pH range

6.8-7.2

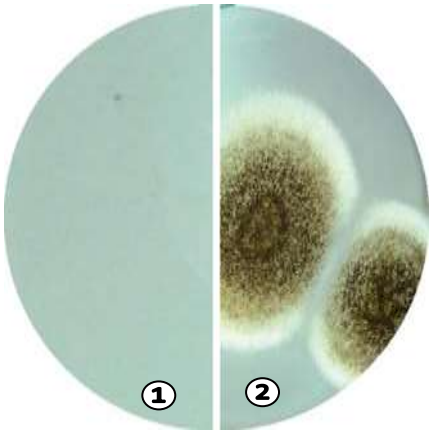
Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 27-28°C for 48-72 hours

Organisms (ATCC)	Inoculum (CFU)
Aspergillus niger (16404)	good-luxuriant
Escherichia coli (25922)	inhibited
Pseudomonas aeruginosa (27853)	none-poor

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.



VM2045 Modified Fungal M i Veg Agar Base

1. Control
2. *Aspergillus niger*

Further Reading

1. Mead and O'Neill, 1986, J. Soc. Cosmet. Chem., 37:49.
2. U.S. Food and Drug Administration, 1984, Bacteriological Analytical Manual, 6th ed., AOAC., Arlington, Va.
3. Williams (Ed.), 2005, Official methods of Analysis of AOAC, 18th ed. AOAC, Washington, D.C.

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