

HC Agar Base

Cat. 2001

Used with Tween 80 (Polysorbate 80) for the enumeration of molds in cosmetics.

Practical information

Applications	Categories
Selective enumeration	Yeasts and molds
Industry: Cosmetics	



Principles and uses

HC Agar Base used with Tween 80 (Polysorbate 80) is used for the enumeration of molds in cosmetics. This medium was described by Mead and O'Neill in 1986. The formulation of HC Agar decreased incubation time to 3 days at $27,5 \pm 0,5$ °C. The formulation of HC Agar Base is supplemented with Tween 80 (Polysorbate 80) to prepare HC Agar.

Dextrose is the fermentable carbohydrate providing carbon and energy. Yeast extract is source of vitamins, particularly the B-group essential for bacterial growth. Peptones provide nitrogen, vitamins, minerals and amino acids essential for growth. Magnesium sulphate is a magnesium ion required in a big variation of enzymatic reactions, including DNA replication. The phosphates buffer the pH near neutrality. Ammonium Chloride provides essential ions. Sodium carbonate inactivates low levels of preservatives that are active at acidic pH. Chloramphenicol inhibits bacteria, including *Pseudomonas aeruginosa* and *Serratia marcescens*, potential contaminants of cosmetics products. Tween 80 (Polysorbate 80) is incorporated to neutralize phenols, hexachlorophene, formalin that may be present in residual amounts from products. Agar is the solidifying agent.

Formula in g/L

Dextrose	20	Ammonium chloride	1,4
Bacteriological agar	15	Casein peptone	2,5
Chloramphenicol	0,1	Disodium phosphate	3,5
Magnesium sulfate	0,06	Monopotassium phosphate	3,4
Peptone	2,5	Sodium carbonate	1
Yeast extract	5		

Preparation

Dissolve 54,4 grams of the medium in 1 liter of distilled water and add 20 ml of tween 80. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 °C for 15 minutes. Cool to 50 °C and dispense into appropriate containers.

Instructions for use

- Inoculate and incubate at a temperature of $27,5 \pm 0,5$ °C for 72 hours.

Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	$7,0 \pm 0,2$

Microbiological test

Incubation conditions: (27,5±0,5 °C / 72 h).

Microorganisms

Candida albicans ATCC 10231
Aspergillus brasiliensis ATCC 16404
Bacillus subtilis ATCC 6633
Pseudomonas aeruginosa ATCC 9027

Specification

Good growth
Good growth
Total inhibition
Partial inhibition

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Hitchins, Tran and McCarron. 1995. In FDA bacteriological analytical manual, 8th ed. AOAC International, Gaithersburg, Md Mead and O'Neill. 1986. J. Soc. Cosmet. Chem. 37:49.
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