Also known as

m-Green Yeast & Mold Agar

Specification

Solid selective culture medium for enumeration of fungi according to ISO standard 10718:2002.

Formula * in g/L

Dextrose	50,000
Peptone	10,000
Yeast extract	9,000
Magnesium sulfate	2,100
Potassium phosphate	2,000
Diastase	0,050
Thiamine	0,050
Bromocresol green	0,026
Agar agar	15,000

Final pH 4,6 ± 0,2 at 25 ºC

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

Directions

Suspend 88,22 g of powder in 1 L of distilled water and bring to the boil to dissolve. Distribute in suitable containers and sterilize in the autoclave at 121ºC for 15 minutes. Pour plates immediately. Do not overheat or remelt: The low pH of the media softens the jellification of the agar, giving a consistency not suitable to streak plating, but able to support the membrane filter.

Description

This classical formulation used by the food industry for the detection and enumeration of yeast and moulds by the membrane filter method was adopted by ISO for application in cork stoppers for alcoholic or non-alcoholic beverages in the 10718:2002 Standard.

The composition of the culture broth includes Bromocresol Green indicator that facilitates the visualization and counting of fungal colonies. The fungal colonies are green due to the diffusion of the dye into the colonies (alkaline reaction). The end products of the microbial growth diffuse into the medium, reducing the pH and turn the indicator to yellow (acid reaction). Bacterial growth is inhibited by the acid pH.

Technique

Roll the membrane filter used to filter the test sample onto the surface of the medium, avoiding the formation of air bubbles. Incubate the plates at 30 ± 2ºC for 3 days. Observe and count the colonies on each plate at least every 24 hours.

After incubation colonies appearing on the filter surface can be counted. Mould colonies generally appear green and filamentous, whereas yeast colonies are green and opaque.

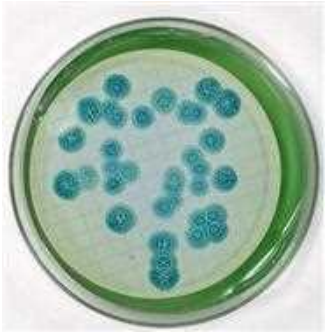
Quality control

Incubation temperature: 30±2 ºC **Incubation time:** 24-48-72 h

Inoculum: Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity) / 10^4-10^6 CFU (Selectivity) according to ISO 11133:2014/Amd 1:2018 . MF methods.

Microorganism	Growth	Remarks
Bacillus subtilis ATCC® 6633	Inhibited to poor	-
Aspergillus brasiliensis ATCC® 16404	Productivity > 0.70	Black sporulation at 3-5 days
Saccharomyces cerevisiae ATCC® 9763	Productivity > 0.70	-
Candida tropicalis ATCC® 1369	Productivity > 0.70	-
Candida albicans ATCC® 10231	Productivity > 0.70	-

Saccharomyces cerevisiae ATCC 9763



Candida albicans ATCC 10231

Aspergillus Aspergillus brasiliensis ATCC® 16404 ATCC 16404

References

· ATLAS, R.M. & L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press. London.

. ISO Standard 10718:2002 Cork stoppers. Enumeration of colony-forming units of yeasts, moulds and bacteria capable of growth in an alcoholic medium.

. ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.

Storage

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