

Technical Information

Plate Count Agar with 1.2% agar

Product Code: DM 2698

Application: - Plate Count Agar w/1.2% agar is recommended for the determination of plate count of microorganisms in foods and dairy products.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	5.000
Yeast extract	2.500
Dextrose	1.000
Agar	12.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Plate count agar w/1.2% agar has similar formulation used by Buchbinder et al. (1). Plate Count Agar is also equivalent to the medium recommended by APHA for the isolation of microorganisms in milk and other dairy products except for agar content. (2).

Casein enzymic hydrolysate supplies amino acids and other complex nitrogenous substances. Yeast extract supplies Vitamin B complex. Dextrose acts as carbon source. Agar acts as a solidifying agent. This medium can be used where gel of 1.2% concentration is desired.

Samples are diluted serially generally in tenfold dilutions. 1 ml of sample to be tested is transferred to sterile petri dish. Sterile molten agar medium (M 1698) is added to these plates (15 ml) and is rotated gently to ensure uniform mixing of sample with agar medium (3). For detection of mesophilic bacteria it is incubated at 30°C for 72 hours. For thermophilic bacteria it is incubated at 55°C and 6.5°C for 10 days for psychrophilic bacteria.

Methodology

Suspend 20.5 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder.

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity

Light yellow coloured, clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 2.05% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH Range

6.80-7.20

Cultural Response

DM 2698: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.



Dehydrated Culture Media
Bases / Media Supplements

Organism	Inoculum (CFU)	Growth	Recovery
<i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant	>=70%
<i>Enterococcus faecalis</i> ATCC29212	50-100	luxuriant	>=70%
<i>Escherichia coli</i> ATCC25922	50-100	luxuriant	>=70%
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	luxuriant	>=70%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	>=70%

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Buchbinder et.al (1951) Public Health Reports:66: 327.
2. American Public Health Association, 1978, Standard Methods for the Examination of Dairy Products, 14th ed., APHA Inc. Washington, D.C.
3. ISO 4833:1991 Microbiology –general guidance for the enumeration of microorganisms – Colony count technique at 300C.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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