

PRODUCT SPECIFICATION SHEET

Plate Count Agar (DM214BS)

Intended Use

Plate Count Agar (DM214BS) is recommended for determining plate count of microorganisms in milk and dairy products by pour plate technique as per BIS (IS:5402 - 1969)

Product Summary and Explanation

Plate Count Agar is originally formulated by Buchbinder et al⁽¹⁾ and is recommended by APHA^(2,3,4) FDA⁽⁵⁾ and ISO committee.⁽⁶⁾ Present formulation is recommended by BIS⁽⁷⁾ for enumeration of microorganisms in food, water and wastewater. Plate Count Agar is also suitable for finding out bacterial count from sterile rooms.

Principles of the Procedure

Plate Count Agar contains casein enzymic hydrolysate which provides amino acids and other complex carbonaceous and nitrogenous substances essential for growth of organisms. Yeast extract supplies vitamin B complex. BIS recommends pour plate technique. Dextrose is a source of carbohydrate and energy. Sodium chloride maintains the osmotic balance of the medium.

Formula / Liter

Ingredients	Gms / Liter
Casein enzymic hydrolysate	5.00
Yeast extract	2.50
Dextrose	1.00
Sodium chloride	6.50
Agar	15.00
Final pH: 7.0 ± 0.1 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 30 grams of the medium in one litre of distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow coloured homogeneous free flowing powder
Prepared Medium	Light yellow coloured clear to slightly opalescent gel forms in Petri plates.
Reaction of 3.0% solution	pH : 7.0 ± 0.1 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected Cultural Response : Cultural characteristics observed after an incubation of 18 - 24 hours at 35 - 37°C.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Bacillus subtilis ATCC 6633</i>	50-100	good-luxuriant	≥70%
2.	<i>Escherichia coli ATCC 25922</i>	50-100	good-luxuriant	≥70%
3.	<i>Enterococcus faecalis ATCC 29212</i>	50-100	good-luxuriant	≥70%
4.	<i>Lactobacillus casei ATCC 9595</i>	50-100	good-luxuriant	≥70%
5.	<i>Staphylococcus aureus ATCC 25923</i>	50-100	good-luxuriant	≥70%
6.	<i>Streptococcus pyogenes ATCC 19615</i>	50-100	good-luxuriant	≥70%

The organisms listed are the minimum that should be used for quality control testing.





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Test Procedure

Samples are diluted and appropriate dilutions are placed in petri plates. Sterile molten agar is added to these plates and plates are rotated gently to ensure uniform mixing of the sample with agar. Refer appropriate references for specific test procedures.

Results

Refer appropriate references and test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10- 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Plate Count Agar

Product Code : DM214BS

Available Pack sizes : 100gm / 500gm

References

1. Buchbinder, Baris and Goldstein, 1951, Publ. Hlth. Rep., 66:327.
2. Marshall R. (Ed.), 1992, Standard Methods for the Examination of Dairy Products 16th ed., APHA, Washington, D.C.
3. Vanderzant C. and Splittstoesser D. (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd ed., APHA, Washington, D.C.
4. Greenberg A. E., Clesceri L. S. and Eaton A. D. (Eds.), 1992, Standard Methods for the Examination of Water and Waste Water, 18th ed., APHA, Washington, D.C.
5. U.S. Food and Drug Administration, 1995, Bacteriological Analytical Manual, 8th ed., AOAC, Arlington, Va.
6. International Organization for Standardization (ISO), 1991, Draft ISO/DIS 4833.
7. Bureau of Indian Standards, IS : 5402 - 1969 (First Reprint 1983).

Further Information

For further information please contact your local MICROMASTER Representative.



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