

## Technical Information

### Plate Count Agar

#### Product Code: DM 1091S

**Application:** Plate Count Agar is used for determining plate counts of microorganisms in food, water and waste water by pour plate technique.

#### Composition\*\*

Ingredients	Gms / Litre
Casein enzymic hydrolysate	5.000
Yeast extract	2.500
Dextrose	1.000
Sodium chloride	6.500
Agar	15.000
Final pH ( at 25°C)	7.0±0.1

\*\*Formula adjusted, standardized to suit performance parameters

#### Principle & Interpretation

Plate Count Agar originally formulated by Buchbinder et al <sup>(1)</sup> also is recommended by APHA <sup>(2-4)</sup> FDA (5) and ISO committee <sup>(6)</sup>. Present formulation is recommended by BIS <sup>(7)</sup> for enumeration of microorganisms in food, water and wastewater. Casein enzymic hydrolysate provides amino acids and other complex nitrogenous substances. Yeast extract supplies Vitamin B complex. The 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. Plate Count Agar is also suitable for finding out bacterial count from sterile rooms.

#### Methodology

Suspend 30 grams of powder media in 1000 ml distilled water. Shake well & Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

#### Quality Control

##### Physical Appearance

Cream to yellow coloured homogeneous free flowing powder

##### Gelling

Firm, comparable with 1.5% Agar gel

##### Colour and Clarity of prepared medium

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

##### Reaction

Reaction of 3.0% w/v aqueous solution at 25°C. pH : 7.0±0.1

pH range 6.90-7.10

##### Cultural Response/Characteristics

DM 1091S: Cultural characteristics observed after an incubation of 18 - 24 hours at 35 - 37°C.

Organism	Inoculum	Growth	Recovery
<i>Bacillus subtilis</i> ATCC 6633	50-100	luxuriant	>=70%
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	>=70%
<i>Enterococcus faecalis</i> ATCC 29212	50-100	luxuriant	>=70%



Dehydrated Culture Media  
Bases / Media Supplements

<i>Lactobacillus casei</i> ATCC 9595	50-100	luxuriant	>=70%
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant	>=70%
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant	>=70%

## 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<sup>0</sup> in sealable plastic bags for 2-5 days

## Further Reading

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).

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