

**PLATE COUNT AGAR****TM 363**

For determination of plate counts of microorganisms in milk & dairy products by pour plate method

Composition

Ingredients	Gms/Ltr.
Agar	9.00
Tryptone	5.00
Yeast extract	2.50
Dextrose	1.00

* Dehydrated powder, hygroscopic in nature, store in a dry place in tightly- sealed containers 25°C and protected from direct Sunlight.

Instructions for Use

Dissolve 17.50gms in 1000ml distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (121°) for 15 minutes. Cool to room temperature prior to dispense.

Appearance: Light yellow coloured clear to slightly opalescent gel forms in petri plates
pH (at 25°C): 7.0 ± 0.2

Principle

PLATE COUNT AGAR is used for determination of plate counts of microorganisms from samples. This media was formulated and described by **Buchbinder** et al. Plate count agar is also suitable for determining bacterial count. Tryptone provides amino acids and other complex nitrogenous substances and Yeast extract supplies vitamin B complexes. Dextrose is a source for carbon and energy. APHA recommends the pour plate technique. The samples are diluted and appropriate dilutions are placed in petri plates. Sterile molten medium (cooled at 45°C) is added to these plates and plates are rotated gently to ensure uniform mixing of the sample with the medium.

Interpretation

Cultural characteristics observed after inoculating (10^3 CFU/ml), on incubation at 35° C for 24 hours.

Microorganisms	ATCC	Inoculum (CFU/ml)	Recovery rate %	Growth
<i>Bacillus subtilis</i>	6633	10^3	$\geq 70\%$	Luxuriant
<i>Escherichia coli</i>	25922	10^3	$\geq 70\%$	Luxuriant
<i>Lactobacillus casei</i>	9595	10^3	$\geq 70\%$	Luxuriant
<i>Staphylococcus aureus</i>	25923	10^3	$\geq 70\%$	Luxuriant
<i>Streptococcus pyogenes</i>	19615	10^3	$\geq 70\%$	Luxuriant
<i>Enterococcus faecalis</i>	29212	10^3	$\geq 70\%$	Luxuriant

References

1. Marth (ed.). Standard methods for the examination of dairy products, 14th ed. American Public Health Association, Washington, D.C. (1978).
2. Marshall (ed.). Standard methods for the examination of dairy products, 16th ed. American Public Health Association, Washington, D.C. (1993).



PRODUCT DATA SHEET

3. U.S. Food and Drug Administration.. Bacteriological analytical manual, 8th ed. AOAC International, Gaithersburg, Md. (1995).
4. Clesceri, Greenberg and Eaton (ed.). Standard methods for the examination of water and wastewater, 20th ed. American Public Health Association, Washington, D.C. (1998).
5. Horwitz (ed.). Official methods of analysis of AOAC International, 17th ed. vol. 1. AOAC International, Gaithersburg, Md. (2000).
6. Downes and Ito (ed.). Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C. (2001).