

CM 21414 – PLATE COUNT AGAR (STANDARD METHODS AGAR)

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

Plate Count Agar is equivalent to the medium recommended by APHA for the isolation of microorganisms in milk and other dairy products.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	5.000
Yeast extract	2.50
Dextrose	1.00
Agar	9.000

PRINCIPLE

This medium consists of Tryptone which provides amino acids and other complex nitrogenous substances. Yeast extract supplies Vitamin B complex. APHA recommends pour plate technique. 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 used for the estimation of the number of live heterotrophic bacteria in water.

INSTRUCTION FOR USE

Dissolve 17.5 grams in 1000 ml purified/distilled water.

Heat to boiling to dissolve the medium completely.

Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.

Mix well and pour into sterile Petri plates

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow coloured homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured, clear to slightly opalescent gel forms in petri plates.
pH (at 25°C)	: 7.0 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
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Bacillus subtilis	6633	50-100	Luxuriant	$\geq 70\%$	35-37°C	18-24 Hours
Escherichia coli	25922	50-100	Luxuriant	$\geq 70\%$	35-37°C	18-24 Hours
Lactobacillus casei	9595	50-100	Luxuriant	$\geq 70\%$	35-37°C	18-24 Hours
Staphylococcus aureus subsp. aureus	25923	50-100	Luxuriant	$\geq 70\%$	35-37°C	18-24 Hours
Enterococcus faecalis	29212	50-100	Luxuriant	$\geq 70\%$	35-37°C	18-24 Hours
Streptococcus pyogenes	19615	50-100	Luxuriant	$\geq 70\%$	35-37°C	18-24 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. American Public Health Association, 1978, Standard Methods for the Examination of Dairy Products, 14th ed., APHA Inc. Washington, D.C.
2. senberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

