TM 2109 - HETEROTROPHIC PLATE COUNT AGAR

INTENDED USE
For heterotrophic plate count of bacteria in water.

PRODUCT SUMMARY AND EXPLANATION
Heterotrophs are organisms including bacteria, yeasts and moulds that require an external source of organic carbon for growth. Heterotrophic Plate Count Method has been applied in many variants and is widely used to measure the heterotrophic microorganism population in drinking water systems (potable water), swimming pool and other waters. Three different methods are described for determining the heterotrophic plate count i.e. pour plate method, spread plate method and membrane filter method. The concentration of heterotrophic bacteria in the distribution system can be influenced by the bacteriological quality of the finished water entering the system, as well as water temperature, residence time, levels of disinfectant residual, pipe materials, surface area-to-volume ratio, flow conditions, and the availability of nutrients for growth.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	3.000
M-Protein powder	0.500
Dipotassium hydrogen phosphate	0.200
Magnesium sulphate	0.050
Ferric chloride	0.001
Agar	15.000

PRINCIPLE
Peptone and M-Protein powder provides nitogen, carbon compounds, long chain amino acids, vitamins and other source of nutrients for organisms, which are not highly fastidious. Dipotassium hydrogen phosphate buffers the medium. Magnesium sulphate and ferric chloride are sources of inorganic ions.

INSTRUCTION FOR USE
- Dissolve 18.75 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 homogeneous free flowing powder.
Appearance of prepared medium : Light yellow coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.2±0.2

INTERPRETATION
Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Bacillus subtilis subsp. spizizenii	6633	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Enterococcus faecalis	29212	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Escherichia coli	25922	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Pseudomonas aeruginosa	27853	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Staphylococcus aureus subsp. *aureus*	25923	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Proteus mirabilis	25933	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Aeromonas hydrophila	7966	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Klebsiella pneumoniae	13883	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Citrobacter freundi	8090	50-100	Luxuriant	>=70%	35 - 37°C	18-48 Hours
Acinetobacter calcoaceticus	23055	50-100	Luxuriant	>=70%	35 - 37°C	18-48 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

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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. Taylor R. H. and Geldreich E. E., 1979, J. Am. Water works Assoc. 71:402.
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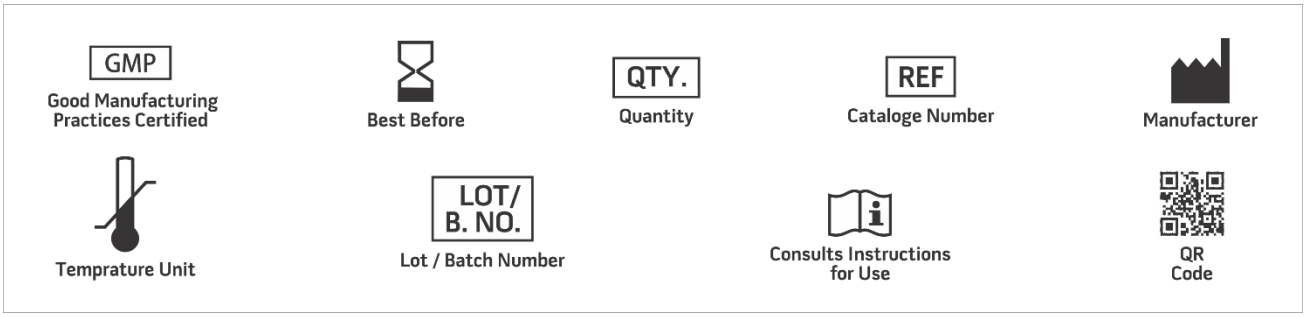

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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