

Technical Information

M-Standard Methods Broth

Product Code: DM 2114

Application: - M-Standard Methods Broth is used for enumeration of bacteria in milk and other samples of sanitary importance in dairy industries by membrane filter technique.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Dextrose	2.000
Final pH (25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

The dairy industry depends on the use of tests such as the standard plate count and coliform count as indicators of post process contamination and control of the manufacturing process. Evaluation of these test require that product and environmental samples be analyzed for pathogens ⁽⁴⁾.

M-Standard Methods Broth also called as M-Tryptone Glucose Yeast Broth is used as non-selective general purpose media recommended by APHA ⁽¹⁾ for determination of bacterial counts in dairy products water ⁽²⁾, foods ⁽³⁾ and other specimens respectively.

M-Standard Methods Broth has similar composition as Plate Count Agar except agar and other ingredients are in double quantity ⁽⁴⁾. Casein enzymic hydrolysate and yeast extract provide the essential nutrients like amino acids, minerals and trace growth factors. Dextrose serves as the carbon source. About 2 ml of the broth medium is used to saturate sterile absorbent pads. Filters used for membrane filtration are then aseptically placed on these absorbent pads.

Methodology

Suspend 17 grams of powder media in 1000 ml distilled water. Shake well & heat if necessary with frequent agitation to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured clear solution without any precipitate

Reaction

Reaction of 1.7% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH range 6.80-7.20

Cultural Response/ characteristics

DM 2114: Cultural characteristics observed after an incubation at 35-37°C for 20-24 hours.



Dehydrated Culture Media
Bases / Media Supplements

Organism	Inoculum (CFU)	Growth
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant
<i>Salmonella Typhi</i> ATCC 6539	50-100	luxuriant
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant
<i>Staphylococcus epidermidis</i> ATCC 12228	50-100	luxuriant
<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	luxuriant

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° in sealable plastic bags for 2-5 days.

Further Reading

1. American Public Health Association, 1960, Standard Methods for the Examination of Water and Wastewater, 11th ed., APHA, New York.
2. Greenberg A. E., Trussell R. R. and Clesceri L. S. (Eds.), 1985, Standard Methods for the Examination of Water and Wastewater, 16th ed., APHA, Washington, D.C.
3. Speck M. (Ed.), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd ed., APHA, Washington, D.C.
4. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

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