

Technical Information

Potato Dextrose Broth, Granulated

Product Code: MG 1403

Application: Potato Dextrose Broth, granulated is recommended for cultivation and enumeration of yeasts and moulds.

Composition**

Ingredients	Gms / Litre
Potatoes, infusion from 200g	4.000
Dextrose	20.000
Final pH (at 25°C)	5.1±0.2

*Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Potato Dextrose Broth is recommended by APHA (1) and F.D.A. (2) for plate counts of yeasts and moulds in the examination of foods and dairy products (3). Potato Dextrose Broth is also used for stimulating sporulation, for maintaining stock cultures of certain dermatophytes and for differentiation of typical varieties of dermatophytes on the basis of pigment production (4). Potato infusion and dextrose promote luxuriant fungal growth. Adjusting the pH of the medium by tartaric acid to 3.5, inhibits the bacterial growth. Heating the medium after acidification should be avoided.

Type of specimen

Food and dairy samples

Specimen Collection and Handling:

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,3,5). After use, contaminated materials must be sterilized by autoclaving before discarding. Warning and Precautions : Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations : 1. Further biochemical and serological tests must be carried out for complete identification.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended

Methodology

Suspend 24 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well before dispensing. In specific work, when pH 3.5 is required, acidify the medium with sterile 10% tartaric acid. The amount of acid required for 100 ml of sterile, cooled medium is approximately 1 ml. Do not heat the medium after addition of the acid.

Quality Control

Appearance

Off-white to yellow coloured granular medium.

Colour and Clarity of prepared medium

Light amber coloured clear to slightly opalescent solution in tubes

Reaction

Reaction of 2.4% w/v aqueous solution at 25°C. pH : 5.1±0.2

pH

4.90-5.30

Cultural Response

Cultural characteristics observed after an incubation at 25-30°C for 4-5 days.

Organism	Inoculum (CFU)	Growth	Ascospore formation
Cultural Response			
# <i>Aspergillus brasiliensis</i> ATCC 16404 (00053*)	50-100	luxuriant	negative
<i>Candida albicans</i> ATCC 10231 (00054*)	50-100	luxuriant	negative
<i>Saccharomyces cerevisiae</i> ATCC 9763 (00058*)	50-100	luxuriant	positive

Key:- * Corresponding WDCM numbers

Key:- # Formerly known as *Aspergillus niger*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

Further Reading

1. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
2. FDA Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, D.C.
3. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
4. MacFaddin J. F., 1985, Media for the Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1, Williams and Wilkins, Baltimore.
5. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
6. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
7. 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.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
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