

Specification

Culture medium used for the detection and enumeration of fungi in food, dairy products and other samples according to the European and US Pharmacopoeia harmonized chapters.

Presentation

| | Packaging Details | Shelf Life | Storage |
|--|---|-------------------|----------------|
| 10 Prepared bottles Bottle 125 ml with: 100 ± 3 ml | 1 box with 10 bottles 125 ml. Injectable cap: Plastic screw inner cap. The use of syringes needles with a diameter greater than 0.8 mm is not recommended | 16 months | 2-25 °C |

Composition

| | |
|----------------------|----------|
| Composition (g/l): | |
| Potato peptone | 4.00 (1) |
| Glucose..... | 20.00 |
| Agar..... | 15.00 |

(1) Equivalent to 200 g Infusion from potatoes

Description /Technique

Description:

Potato Dextrose Agar is a weakly selective medium for fungi due to its high sugar content and acidic pH. Pigment production and aerial mycelium development is enhanced by the potato peptone, especially in *Fusarium*, *Aspergillus* and *Penicillium* species. The selectivity can be increased by adding antibiotics such as chloramphenicol or tetracycline, or by simply decreasing the pH to an acidic level. At pH 3,5 bacterial growth is almost totally inhibited without a significant effect on fungi. This acidification can be obtained by the aseptic addition of an adequate amount of organic acid to the medium after sterilization: 10-15 mL/L of a 10% sterile solution of tartaric or lactic acid is usually sufficient. After its acidification the medium should not be overheated or reheated since it can hydrolyze the agar causing a potential loss in the solidification property of the medium.

Directions for Use:

To use, the contents of the bottle should be poured into plates.

The melting of the culture medium should be carried out according to the manufacturer's instructions, either in a water bath or microwave oven. Never apply direct heat to melt a medium. The melting temperatures and times depend on the shape of the container, the volume of medium and the heat source. Before melting any medium loosen the screwcap of the container to avoid breaking the container.

Once the medium has melted, the bottle can be kept in a water bath at 45-47°C for a maximum time of 8h.

The medium should be melted only once and used. Media with agar should not be melted repeatedly as their characteristics change with each remelting. Overheating should be avoided as much as prolonged heating, especially with regard to media with an acidic or alkaline pH.

Once melted pour the plates using aseptic techniques. To inoculate, follow standard laboratory methods or the applicable norms. Spiral plate method, streak plating, econometric methods, dilution banks, spread plating etc.

The usual technique for the use of this medium is as follows:

Melt the flask and pour plates, after solidified, inoculated by streaking isolation method or by the spiral plating method.

If it is decided acidify the medium, distribute the diluted samples into sterile Petri plates.

Pour over molten agar cooled to 45-47°C and gently mix to homogenize the mixture. After solidification, plates are incubated for 5-7 days at 20-25°C to permit the complete development of the fungal colonies.

The weak consistency of the agar due to its original acidity makes this medium inadequate for streaking.

Note: The solid mediums can be melted in different ways: autoclave, bath and, if the customer considers appropriate, also the microwave. Whenever the microwave option is chosen, it is necessary to take certain safety measures to avoid breaking of the containers, such as loosening the screw cap and putting the bottle or tube in a water bath in the microwave. The fusion temperature and time will depend on the shape of the container, the volume of medium and the heat source. Avoid overheating as both the heating periods.

Quality control**Physical/Chemical control**

Color : Yellowish

pH: 5.6 ± 0.2 at 25°C

Microbiological control

Melting- pour plates- Inoculate: 50-100 CFU according to the European and US Pharmacopoeia harmonized chapters and according to ISO 11133 standard.

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Aerobic. Incubation at 22.5 ± 2 °C 3-5 days (moulds and yeast).

Microorganism

Aspergillus brasiliensis ATCC® 16404, WDCM 00053

Candida albicans ATCC® 10231, WDCM 00054

S. cerevisiae ATCC® 9763, WDCM 00058

Growth

Good (≥70%)

Good (≥70%)

Good (≥70%)

Sterility control

Incubation 48 h at 30-35 °C and 48 h at 20-25 °C: NO GROWTH.

Check at 7 days after incubation in same conditions.

Bibliography

- ATLAS R.M. (1995) Handbook of Microbiological Media for the Examination of Food. CRC Press. Boca Raton. Florida. USA.
- EUROPEAN PHARMACOPOEIA 8.0 (2014) 8th ed. § 2.6.13. Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. EDQM. Council of Europe. Strasbourg.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO 4973:2023. Quality control of culture media and diluents used in cosmetics standards
- ISO 11930:2019. Evaluation of the antimicrobial protection of a cosmetic product
- RICHARDSON, G.H. (1985) Standard Methods for the examination of dairy products 15th ed. APHA. Washington.
- USP 33 - NF 28 (2011) <62> Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. USP Corp. Inc. Rockville. MD. USA.
- VANDERZANT, C. & D.F. SPLITTSTOESSER (1992) Compendium of methods for the microbiological examination of foods. 3rd ed. APHA. Washington.