

Specification

Solid medium for detection and enumeration of fungi (yeast and moulds) from food samples according to ISO standards.

Presentation

	Packaging Details	Shelf Life	Storage
10 Prepared bottle Bottle 125 ml with: 100 ± 3 ml	1 box with 10 bottles 125 ml. Plastic screw inner cap.	12 months	8-25 °C

Composition

Extracto de levadura.....	5.0
D(+) Glucosa.....	20.0
Oxitetraciclina.....	0.1
Gentamicina.....	0.05
Agar.....	15.0

Description /Technique

Description

This formulation of the classical Sabouraud Medium differs from others as it has no peptone and has a neutral pH.

The ISO 7954 recommends chloramphenicol or oxytetracycline as antibiotic.

These antibiotics do not, however, sufficiently inhibit Gram-negative microorganisms occurring in meat, especially raw material. The addition of gentamicin is necessary in cases of heavy contamination to obtain inhibition.

The combination of chloramphenicol and gentamicin inhibits certain types of yeasts. the alternatively specified antibiotic oxytetracycline is the antibiotic of choice.

Technique

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. 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 or spread plating.

Collect, dilute and prepare samples and volumes as required according to specifications, directives, official standard regulations and/or expected results.

Incubate the plates right side up aerobically at 20-25°C for up to 5 days. (Incubation times greater then those mentioned above or different incubation temperatures may be required depending on the sample, or on the specifications. This medium can be inoculated directly or after enrichment with broth.

After incubation, enumerate all the colonies that have appeared onto the surface of the agar.

Each laboratory must evaluate the results according to their specifications.

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 : Brownish

pH: 7.0 ± 0.2 at 25°C

Microbiological control

Melting - pour plates - inoculation Practical range 100 ± 20 CFU. min. 50 CFU (productivity) / 10⁴-10⁶ CFU (selectivity)

Microbiological control according to ISO 11133:2014/A1:2018.

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

Aerobiosis. Incubation at 22.5 °C ± 2.5. Reading at 24-72 h for bacteria and 3-5 days to yeasts and moulds.

Microorganism

Growth

Candida albicans ATCC® 10231, WDCM 00054

Good

Escherichia coli ATCC® 25922, WDCM 00013

Inhibited

Bacillus subtilis ATCC® 6633, WDCM 00003

Inhibited

S. cerevisiae ATCC® 9763, WDCM 00058

Good

Aspergillus brasiliensis ATCC® 16404, WDCM 00053

Good

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

- DOWNES, F.P. & K. ITO (2001) Compendium of methods for the microbiological examination of foods. APHA. Washington DC. USA.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO 13681 Standard (1995) Enumeration of Yeasts and Moulds. Colony Count Technique.
- MacFADDIN, J.F. (1985) Media for isolation-cultivation-identification-maintenance of medical bacteria. William & Wilkins. Baltimore. MD. USA.
- MARSHALL, R.T. (1992) Standard methods for the examination of dairy products 16th ed. APHA. Washington DC, USA.
- MOSSEL, D.A.A., A.M.C. KLEYNEN-SEMMEILING, H.M. VINCENTIE, H. BEERENS & M. CATSARAS (1970) Oxytetracycline-Glucose-Yeast Extract Agar for selective enumeration of moulds and yeasts in foods and clinical material. J. Appl. Bacteriol. 33:454-457.
- SABOURAUD, R. (1910) Les Teignes. Masson, Paris.