Reference: 720774ZA **Technical Data Sheet**

Product: **Plate Count agar (PCA)**

Specification

Medium for aerobic plate counts by the surface inoculation method (standard Plate Count Agar) according to ISO 4833, 8552 & 17410 Standards and IFU No. 6.

Presentation

	Packaging Details	Shelf Life	Storage
20 Tubes Tube 17 x 145 mm with: 20 ± 0.3 ml	17x145 mm glass tubes, ink labelled, metal-Non injectable cap. - 20 tubes per box .	12 months	8-25 ºC

Composition

Composition (g/l):
Peptone from casein..... 5.0
Yeast extract..... 2.5
D(+)Glucose..... 1.0
Agar.....15.0

Description /Technique

Description
The Plate Count Agar formulation is according to that of Buchbinder et al. as recommended in their study of media for the plate count of microorganisms.
The original formulation of the standardized agar for dairy microbiology has been modified in order to avoid the addition of milk. This new composition allows the growth of most microorganisms without any further additions.
This medium's formulation is equivalent to that escribed by the 'Standard Methods for the Examination of Dairy products', the USP's 'Tryptone Glucose Yeast Agar', the 'Deutsche Landswirtchaft' and to the APHA, ISO and AOAC's Plate Count Agar. This is the medium of choice for the plate count of any type of sample.

Technique:
Prepare 10-fold serial dilutions of the sample and take 1 ml aliquots from each dilution (in duplicates) and put them into sterile Petri plates. Pour approx. 20 ml of sterile cooled medium (around 45 °C) in each of the plates. Mix gently by swirling the plate in the form of a figure 8. Leave the plates undisturbed to solidify and incubate in an inverted position. The incubation time and temperature depend on the type of microorganism under study. For a general aerobic count, incubate for 3 days à 30 °C. Taking readings after 48 and 72 hours.
The plate count method proposed by the APHA consists of pouring the molten agar à 50 °C on plates containing the diluted samples (pour plate technique). The final count is carried out after 48 hours of incubation à 32-35 °C.
For microorganisms with other temperature requirements, the following incubations have been suggested: 2 days à 32-35 °C, 2-3 days à 45 °C, 2 days à 55 °C, 3-5 days à 20 °C, 10 days à 6.5 ºC ± 1 ºC.
Sample dilutions are prepared with 1/4 Ringer's solution, buffered Peptone Water, or Maximum Recovery Diluent depending on their nature.
The poured plate count method is preferred to the spread plate technique, since it gives higher counts. Nevertheless, the latter facilitates isolation and reseeding of the colonies.

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.

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Quality control

Physical/Chemical control

Color : Yellowish pH: 7.0 ± 0.2 at 25ºC

Microbiological control

Melt Medium - Prepare Plates - Spiral Spreading: Practical range 100 ± 20 CFU. min. 50 CFU (productivity)

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

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

Aerobiosis. Incubation at 30 ± 1 ºC, reading at 72 ± 3h

Ps. fluorescens ATCC 13525 (10 days/ 6,5 ºC ±1) acc. ISO 17410

Microorganism	Growth
Bacillus subtilis ATCC® 6633, WDCM 00003	Good (≥70%)
Escherichia coli ATCC® 8739, WDCM 00012	Good (≥70%)
Stph. aureus ATCC® 25923, WDCM 00034	Good (≥70%)
L. monocytogenes ATCC® 35152, WDCM 00109	Good (≥70%)
Ps. fluorescens ATCC®13525, WDCM 00115	Good (≥70%)

Sterility Control

Incubation 48 h at 30-35 ºC and 48 h at 20-25 ºC: NO GROWTH.
Check at 7 days after incubation in same conditions.

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