Specification

Solid medium for the plate count of milk and dairy products, according to DIN and FIL/IDF standards.

Formula * in g/L

Casein peptone 5.00
Yeast extract 2.50
Skimmed milk 1.00
Dextrose 1.00
Agar 10.50

Final pH 7.0 ±0.2 at 25 °C

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 20 g of powder in 1 L of distilled water and let it soak. Bring to the boil, constantly stirring. Distribute into suitable containers and sterilize in the autoclave at 121°C for 15 minutes.

Description

This medium, with added milk, is more nutrient rich than other standard media; however, the opalescence of the medium makes early observations sometimes difficult.
Due to its lower agar concentration, it may be used for the pour plate method or the spread plate method.

Technique

Prepare 10-fold serial dilutions of the sample and take 1 ml in duplicate aliquots from each dilution and put them in sterile Petri dishes. Pour approx. 20 ml of sterile cooled medium (around 45 °C) in each of the plates. Mix gently by swirling the plate in 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 investigation. In general for an aerobic count, incubate for 3 days à 30 °C. Checking the plates à 24, 48 and 72 hours.
The plate count method proposed by the APHA consists of the pour plate method i.e. pouring the molten agar à 50 °C on plates containing the diluted samples. 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 30 ±1 °C, 2-3 days à 45 °C, 2 days à 55 °C, 3-5 days à 20 °C, 7-10 days à 5-7 °C.
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 surface inoculation method, since it gives higher counts, although the latter facilitates isolation and reseeding of the colonies.

Quality control

Incubation temperature: 30°C ± 1.0 **Incubation time:** 72 ± 3 h

Inoculum: Practical range 100±20 CFU. min. 50 CFU (productivity), according to ISO 11133:2014/Amd 1:2018. Spiral Plate Method.

Microorganism	Growth	Remarks
Escherichia coli ATCC® 25922	Productivity > 0.70	-
Bacillus subtilis ATCC® 6633	Productivity > 0.70	-
Staphylococcus aureus ATCC® 25923	Productivity > 0.70	-
Escherichia coli ATCC® 8739	Productivity > 0.70	-

References

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Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).