

TM 445 - MILK AGAR

INTENDED USE

For enumeration of bacteria in milk and milk products, rinse waters and ice creams etc.

PRODUCT SUMMARY AND EXPLANATION

The milk secreted in an uninfected cow's udder is sterile. Contamination of this milk can occur during milking, cooling and storage. Milk is an excellent medium for bacteria, yeast and moulds. Their rapid growth can cause marked deterioration, spoiling the milk for liquid consumption or manufacture into dairy products. Human infection can occur by consumption of such contaminated milk or milk products. Milk Agar is recommended for performing plate count tests on milk, rinse waters and dairy products. It is formulated as per the official medium described by Department of Health Memo. It is also recommended by EUROGLACE (EEC Ice Cream Industries) for the examination of ice cream. For milk, dilutions of 1/10, 1/100 and 1/1000 are prepared with 1/4 strength Ringer solution. 1 ml of each dilution is pipetted aseptically into sterile Petri plates to which 10 ml of sterile and cooled Milk Agar is added and mixed well. Plates should be poured within 15 minutes of dilution preparation. After solidification of medium the plates are allowed to stand for 1 hour before transferring to the incubator. Incubate at 35°C for 2 or 3 days at 30°C. Higher counts may be obtained after an incubation at 22°C and 30°C temperature rather than at 35°C. Count the colonies within 4 hours after the incubation and read it as per ml of sample.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	5.000
Yeast extract	3.000
Milk solids	1.000
Agar	15.000

PRINCIPLE

Peptone and yeast extract provide essential nutrients while Milk solids are a source of casein. Dextrose is the carbon and energy source. Proteolytic bacteria will be surrounded by a clear zone, due to the conversion of casein into soluble nitrogenous compounds.

INSTRUCTION FOR USE

- Dissolve 24.0 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C. Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium pH (at 25°C)	: Light yellow coloured slightly opalescent gel forms in Petri plates. : 7.2±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Bacillus subtilis subsp. spizizenii</i>	6633	50-100	Good-luxuriant	>=50%	35-37°C	18-48 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Good-luxuriant	>=50%	35-37°C	18-48 Hours
<i>Lactobacillus casei</i>	9595	50-100	Good-luxuriant	>=50%	35-37°C	18-48 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	Good-luxuriant	>=50%	35-37°C	18-48 Hours
<i>Serratia marcescens</i>	8100	50-100	Good-luxuriant	>=50%	35-37°C	18-48 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.










DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Collee J. G., Fraser A. G., Marimon B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
2. Davis J. G., 1959, Milk Testing, 2nd Ed., Dairy Industries Ltd., London, Pg. 175.
3. Dept. of Health, 1987, Memo. 139/Foods.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
5. 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.
6. Klose J., 1968, Susswaren, 14:778.
7. Methods of Microbiological Examination for Dairy Purposes, Diluents, Media and Apparatus and their Preparation and Sterilization, BS4285, Sec. 1.2.
8. Thomas S. B. and Jenkins E., 1940, Proc. Soc. Appl. Agric., 38:40.
9. Wilson G. S., 1935, Bacteriological Grading of Milk, HMSO, London.



 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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