

TECHNICAL DATA SHEET

Article No. 9838

M17 AGAR, ready-to-use culture medium, bottles

SPECIFICATION

Ready-to-use culture medium, sterile, bottles. Solid selective medium for the enumeration of *Streptococcus thermophilus* in yoghurt samples.

Colour: Brownish
pH: 6.8 ± 0.2 at 25 °C

COMPOSITION IN G/ L

Tryptone	2.50
Meat peptone	2.50
Soy peptone	5.00
Yeast extract	2.50
Meat extract	5.00
Sodium β-glycerophosphate	19.00
Magnesium sulfate	0.25
Ascorbic acid	0.50
Lactose	5.00
Agar	15.00

PACKAGE DETAILS

9838-10x100ML

Volume 100 ± 3 ml
Bottle size 125 ml
Packaging unit 10 bottles
1 box with 10 x 100 ml in 125-ml-bottles. Injectable cap: Plastic screw inner cap.

9838-10x200ML

Volume 200 ± 3 ml
Bottle size 250 ml
Packaging unit 10 bottles
1 box with 10 x 200 ml in 250-ml-bottles. Injectable cap: Plastic screw inner cap.



DESCRIPTION

M-17 Agar was developed by Terzaghi and Sandine for detecting lactic streptococci and their bacteriophages in the dairy industry, but later, Shankar and Davies proved its efficacy for the selective isolation of *Streptococcus thermophilus* in yoghurt.

The effectiveness of the medium is due to its great buffering capacity, facilitating the growth of streptococci while the high concentration of β -glycerophosphate inhibits the growth of lactobacilli.

TECHNIQUE

To use, the contents of the bottle should be poured into plates. Melt the agar in a water bath (100 °C). 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.

The recommended technique for enumeration of streptococci is the spread plate or pour plate technique, in the latter molten agar is cooled to about 50-55 °C before adding the sample, and for both, a 24-hour incubation at 42 °C is carried out. If the inoculation plate is on the surface, the incubation should be in an atmosphere of 10% CO₂.

Almost all the colonies that appear in these conditions are streptococci. The ISO standard recommends longer incubation times or lower temperatures, this can cause morphological differences in the colonies that hinder their recognition, however a greater recovery is obtained.

The exact technique of microbiological control, can be found by referring to ISO standards.

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

Atmosphere 5% CO₂ Incubation at 37 ± 1 °C Reading at 48h-3 day

Microorganism	Growth
<i>Lactobacillus bulgaricus</i> ATCC® 11842, WDCM 00102	Inhibited - poor
<i>Streptococcus thermophilus</i> ATCC® 19258, WDCM 00134	Good

Sterility control:

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

Check at 7 days after incubation in same conditions.

REFERENCES

- ISO 7889:2003(E) IDF 117:2003 (E) Yoghurt- Enumeration of characteristic microorganisms- Colony-count technique at 37°C.
- ISO 9232:2003(E) IDF 146:2003 (E) Yoghurt- Identification of characteristic microorganisms (*Lactobacillus delbrückii* subsp. *bulgaricus* and *Streptococcus thermophilus*).
- TERAGAZHI, B.E. y SANDINE, W.E. (1975) Improved medium for lactic streptococcaceae phages from cheese factories. Appl. Environm. Microbiol 29:80, 29:807.
- SHANKAR, P.A. y DAVIES, F.L. (1977) Selective Technique for Yoghurt Bacteria Enumeration. J. Soc. Dairy Technol. 30:28 CeNAN.
- (1982) Técnicas para el Analisis Microbiológico de Alimentos y Bebidas. Madrid.
- VANDERZANT & SPLITTSTOESSER (1992) Compendium of Methods for the Microbiological Examination of Foods.3rd. Ed. APHA. Washington. , ATLAS, R.M., L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press, Inc. London.

STORAGE

8 - 25 °C

SHELF LIFE

12 months unopened from date of manufacture

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