

**Also known as**

Terzaghi Medium.

**Specification**

Solid selective medium for the enumeration of *Streptococcus thermophilus* in yoghurt samples.

**Formula \* in g/L**

|                                       |       |                             |
|---------------------------------------|-------|-----------------------------|
| Casein peptone.....                   | 2.50  |                             |
| Meat peptone.....                     | 2.50  | Magnesium sulfate..... 0.25 |
| Soya peptone.....                     | 5.00  | Ascorbic acid..... 0.50     |
| Yeast extract.....                    | 2.50  | Lactose..... 5.00           |
| Meat extract.....                     | 5.00  | Agar ..... 15.00            |
| Sodium $\beta$ -glycerophosphate..... | 19.00 |                             |

Final pH 6.8  $\pm$  0,2 at 25 °C

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

**Directions**

Suspend 57.25 g of powder in 1 litre of distilled water and allow it to soak. Bring to the boil. Distribute into suitable containers and sterilize by autoclaving for 15 minutes at 121 ° C.

**Technique**

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% CO<sub>2</sub>.

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.

**Quality control**
**Incubation temperature:** 37°C  $\pm$  1,0

**Incubation time:** 48-72h

**Inoculum:** Practical range 100  $\pm$  20 CFU. Min. 50 CFU (Productivity) according to ISO 11133:2014/Amd 1:2018

**Microorganism**
**Growth**
**Remarks**
*Streptococcus thermophilus* ATCC® 19258

Good

10 % CO<sub>2</sub>
*Lactobacillus bulgaricus* ATCC® 11842

Inhibited to poor

10 % CO<sub>2</sub>
**References**

- ISO 7889:2003(E) IDF 117:2003 (E) Yogourt- Enumeration of characteristic microorganisms- Colony-count technique at 37°C.
- ISO 9232:2003(E) IDF 146:2003 (E) Yogourt- 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 Yogurt 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**

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