TECHNICAL DATA SHEET

MEAT LIVER GLUCOSE AGAR WITH 2 G/L YEAST EXTRACT

ENUMERATION OF ANAEROBIC SULFUR-REDUCING SPORE-FORMING BACTERIA

1 INTENDED USE

Meat Liver Glucose Agar with 2 g/L Yeast Extract is used to enumerate mesophilic and thermophilic anaerobic bacterial spores in raw materials and in ingredients used in canning as well as surface samples and canning process water.
It can also be used for the enumeration of spores in pasteurized products.

The typical composition of the agar corresponds to that defined in the standard NF V08-602.

2 PRINCIPLES

Meat-liver peptone assures the growth of most microorganisms, particularly that of anaerobic bacteria.

Glucose and yeast extract are the energy source for growth.

Starch favors spore germination.

Anaerobic bacteria reduce sulfite to sulfide, which in presence of ferric ions causes the blackening of the colonies due to the formation of iron sulfide.

3 TYPICAL COMPOSITION

The composition can be adjusted in order to obtain optimal performance.

For 1 liter of media :

- Meat – Liver peptone ..... 30,0 g
- Glucose ..... 2,0 g
- Yeast extract ..... 2,0 g
- Soluble starch ..... 2,0 g
- Sodium sulfite ..... 2,5 g
- Ferric ammonium citrate ..... 0,5 g
- Bacteriological agar..... 12,0 g

pH of the ready-to-use media at 25 °C : 7,6 ± 0,2.

4 INSTRUCTIONS FOR USE

Heat treatment of samples : Destruction of vegetative forms and spore activation

- For canned goods, heat the product to test for 10 minutes at 95-100 °C.
- For pasteurized products, heat 10 min at 80 ± 2 °C for the detection of *Bacillus cereus* and anaerobic sulfur reducing bacteria ; 10 min at 75 ± 2 °C for the detection of butyric *Clostridium* ; 10 min at 95-100 °C for the detection of thermophilic *Bacillus* and *Clostridium.*

- Melt the agar (BM169) for the minimum amount of time necessary to achieve total liquefaction.
- Cool and maintain in a molten state at 44-47°C.
- Transfer 1 mL of the heat treated inoculum and its serial dilutions to sterile Petri plates.
- Pour in roughly 15 mL of the molten media.
- Homogenize by swirling and let solidify on a cold surface.
- Add an overlayer of 5 to 10 mL of the same media and let solidify.
- Incubate in an anaerobic jar :
    - at 37 ± 1 °C for 48 ± 3 hours for mesophilic anaerobic bacteria.
    - at 55 ± 1 °C for 5 days, for thermophilic anaerobic bacteria, taking care to add a few drops of sterile paraffin oil in the cover of the Petri plates in order to insure a tight seal.

✓ **Inoculation :**
1 mL in depth (pour plates)

✓ **Incubation :**
48 h at 37 °C
5 days at 55 °C

5 RESULTS

Enumerate colonies surrounded by a black halo.

6 QUALITY CONTROL

Prepared media : amber agar.

Typical culture response after incubation (NF V08-602) :

Microorganisms		Growth (Productivity Ratio : P_R)	Characteristic colonies
[1] *Clostridium perfringens*	WDCM 00007	$P_R \geq 70$ %	Black
[1] *Clostridium perfringens*	WDCM 00080	$P_R \geq 70$ %	Black
[2] *Moorella thermoacetica*	DSM 521	$P_R \geq 70$ %	Black
[2] *Thermoanaerobacterium thermosaccharolyticum*	WDCM 00135	$P_R \geq 70$ %	Black

[1] 48 hours at 37 °C
[2] 5 days at 55 °C

7 STORAGE / SHELF LIFE

Prepared media in vials : 2-25 °C
The expiration date is indicated on the label.

8 PACKAGING

Ready-to-melt media :
10 x 200 mL vials BM16908

9 BIBLIOGRAPHY

NF V08-602. Mai 2011. Microbiologie des aliments - Dénombrement des spores dans les produits alimentaires avant traitement d'appertisation par comptage des colonies.

10 ADDITIONAL INFORMATION

The information provided on the labels take precedence over the formulations or instructions described in this document and are susceptible to modification at any time, without warning.

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