

# PRODUCT SPECIFICATION SHEET



## Slanetz And Bartley Medium (DM245)

### Intended Use

Slanetz and Bartley Medium (DM245) is used for detection and enumeration of faecal Streptococci by MF technique.

### Product Summary and Explanation

Slanetz & Bartley<sup>(1)</sup> originally devised this medium to detect and enumerate *enterococci* by the technique of membrane filtration, but it has also proved useful as a direct plating medium<sup>(2,3)</sup>. The medium is highly selective for *Enterococci*. The Department of Health<sup>(6)</sup> has recommended this medium to be used for enumeration of *Enterococci* in water supplies. Water is filtered through a membrane filter which is then placed on the surface of the Slanetz and Bartley Medium plates and incubated at 35°C for 4 hours and then at 44-45°C for 44-48 hours. *Enterococci* reduce tetrazolium chloride to the insoluble red dye formazan, producing colonies which are dark red or maroon on the surface of the membrane or agar. This reaction is not exclusive to *enterococci*, and the count at this stage should be considered presumptive. The preliminary incubation at 35°C helps for the recovery of stressed organisms. Not all the species reduce TTC, hence pale colonies also should be considered. Colonies may be confirmed as *enterococci* by demonstrating aesculin hydrolysis using Kanamycin Aesculin Azide Agar (DM126).

### Principles of the Procedure

Tryptose and yeast extract in the medium provide the necessary nitrogen, vitamins and minerals required for the growth of organisms. Sodium azide has inhibitory effect on gram-negative organisms. Triphenyl Tetrazolium Chloride is reduced to the insoluble formazan inside the bacterial cell forming dark red-coloured colonies. When the medium is incubated at higher temperature (44-45°C), all red or maroon colonies can be considered as presumptive *Enterococci*<sup>(4, 5)</sup>.

### Formula / Liter

Ingredients	Gms / Litre
Tryptose	20.00
Yeast Extract	5.00
Dextrose	2.00
Disodium phosphate	4.00
Sodium azide	0.40
2,3,5-Triphenyl tetrazolium chloride	0.10
Agar	15.00
Final pH: 7.2 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

### Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.
3. **Warning:** Sodium azide has a tendency to form explosive metal-azides with plumbing materials. It is advisable to use enough water to flush off the disposables

### Directions

1. Suspend 46.5 grams in 1000 ml distilled water.
2. Heat to boiling to dissolve the medium completely.
3. DO NOT AUTOCLAVE OR OVERHEAT. Excessive heating is detrimental.

### Quality Control Specifications

Dehydrated Appearance	Cream to Yellow, homogeneous, free flowing powder
Prepared Medium	Light yellow colored, clear to slightly opalescent gel forms in Petri plates



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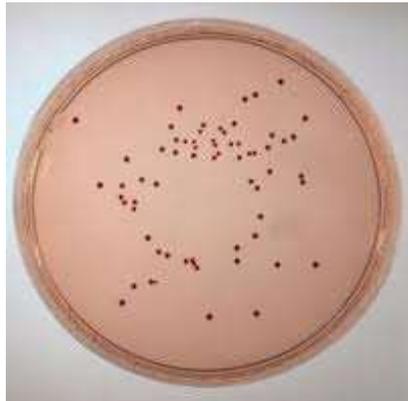


<b>Reaction of 4.65% Solution</b>	pH 7.2 ± 0.2 at 25°C
<b>Gel Strength</b>	Firm, compared to 1.5% Agar Gel.

**Expected Cultural Response:** Cultural response on Slanetz and Bartley Medium after incubation at 44-45°C for 44-48 hours.

Sr. No.	Organisms	Inoculum (CFU)	Growth	Recovery
1.	<i>Escherichia coli</i> ATCC 25922	>=10 <sup>3</sup>	Inhibited	0%
2.	<i>Enterococcus faecalis</i> ATCC 29212	50-100	Good-Luxuriant	>=50%

The organisms listed are the minimum that should be used for quality control testing.



Enterococci colonies on Slanetz and Bartley Medium



Enterococci colonies on Slanetz and Bartley Medium using membrane filtration technique

## Test Procedure

1. Food samples are homogenized and so diluted with physiological saline to give 15-150 colonies on each Petri plate.
2. Homogenates or dilutions are spread on agar surface and incubated at 35°C for 48 hours. Pink or dark red colonies with a narrow whitish border are counted<sup>(3)</sup>.

## Results

Count all red and maroon colonies as presumptive enterococci. Confirmation of isolates can be achieved by demonstration of a positive aesculin reaction on Kanamycin Aesculin Azide Agar (DM126).

## Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

## Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

## Limitations of the Procedure

1. Count all red, maroon or pink colonies as presumptive enterococci. Not all species reduce TTC therefore pale colonies should not be ignored.
2. Although incubation at 35°C yields a higher count, it allows the growth of organisms which do not conform to the definition of enterococci.



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3. Incubation at 44-45°C has a selective effect and produces fewer false-positives. However, the preliminary incubation at 35°C encourages the recovery of stressed organisms.
4. Although the selective properties of this medium are very good it is advisable to regard the colony count as a presumptive or unconfirmed count.
5. Further identification may be required depending on the scope of the examination.

## Packaging

**Product Name: Slanetz And Bartley Medium**

**Product Code : DM245**

**Available Pack sizes : 100gm / 500gm**

## References

1. Slanetz L. W. and Bartley C.H., 1957, J. Bact., 74:591.
2. Burkwall M.K. and Hartman P.A., 1964, Appl. Microbiol., 12:18.
3. Nordic Committee on Food Analysis, 1968, Leaflet 68.
4. Taylor E.W. and Burman N.P., 1964, J. Appl. Bact., 27:294.
5. Mead G.C., 1966, Proc. Soc. Wat. Treat. Exam., 15:207.
6. Department of Health and Social Security, 1982, Report 71, HMSO, London. Further Information

## Further Information

For further information please contact your local MICROMASTER Representative.



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