



Dehydrated Culture Media  
Bases / Media Supplements

## Technical Information

### SPS Agar, Modified

**Product Code: DM 1898**

**Application:** - SPS Agar, Modified is used for the selective isolation and enumeration of *Clostridium perfringens* from foods.

### Composition\*\*

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Yeast extract	10.000
Ferric citrate	0.500
Sodium sulphite	0.500
Sodium thioglycollate	0.100
Polysorbate 80	0.050
Sulphadiazine	0.120
Polymyxin B sulphate	0.010
Agar	15.000
Final pH ( at 25°C)	7.0±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Principle & Interpretation

Based on the Wilson and Blair medium and the medium described by Mossel et al<sup>(2, 3)</sup> for selective isolation and enumeration of *Clostridium perfringens* from foods. SPS (Sulphite Polymyxin Sulphadiazine) Agar was developed by Angelotti et al<sup>(1)</sup> The modified SPS Agar however obviates the inclusion of Miller-Prickett tubes one of the requisite in the medium of Mossel et al<sup>(4)</sup> Casein enzymic hydrolysate and yeast extract supplies nitrogenous compounds, vitamin B complex and other essential growth nutrients to the growing *perfringens* This organism reduces sulphite to sulphide which reacts with iron of ferric *Clostridium* citrate to form a black precipitate of iron sulphide and hence the colonies are black<sup>(4)</sup>. Polysorbate 80 monooleate supplies fatty acids for the organisms. Polymyxin and Sulphadiazine inhibit a wide variety of gram-positive and gram-negative bacteria<sup>(5)</sup>. Few organisms found in food other than *Clostridium perfringens* also form black colonies on this medium. Some strains of *Clostridium perfringens* fail to grow on this medium.

### Methodology

Suspend 41.28 grams of powder media in 1000 ml distilled water. Shake well and heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and pour in sterile Petri plates containing inoculum. Allow to solidify and if desired, pour the cover layer using about 5 ml sterile medium. Incubate anaerobically.

### Quality Control

#### Physical Appearance

Cream to beige homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.5% Agar gel

#### Colour and Clarity of prepared medium

Medium amber coloured slightly opalescent gel forms in Petri plates





Dehydrated Culture Media  
Bases / Media Supplements

#### Reaction

Reaction of 4.13% w/v aqueous solution at 25°C. pH : 7.0±0.2

#### pH Range

6.80-7.20

#### Cultural Response/Characteristics

DM 1898: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours under anaerobic conditions.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Clostridium perfringens</i> ATCC 13124	50-100	Good-luxuriant	>=50%	Black
<i>Clostridium sporogenes</i> ATCC 11437	50-100	Fair-good	30-40%	Black
<i>Staphylococcus aureus</i> ATCC 25923	50-100	None-poor	<=10%	
<i>Escherichia coli</i> ATCC 25922	>=10 <sup>3</sup>	inhibited	0%	white

## Storage and Shelf Life

**Dried Media:** Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

**Prepared Media:** 2-8<sup>o</sup> in sealable plastic bags for 2-5 days.

## Further Reading

1. Angelotti R., Han H. E., Foter M. J. and Lewis K. H., 1962, Appl. Microbiol., 10:193.
2. Mossel D. A. A., De Bruin A. S., Van Dipen H. M. J., Vendring
3. C. M. A. and Zoutewelle G., 1956, J. Appl. Microbiol., 19:142.
4. Mossel R. S., 1959, J. Sci. Food Agric., 19:662.
5. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
6. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents. Donot use the products if it fails to meet specificatons for identity and performens parameters.

