TM 1077- SPS AGAR

INTENDED USE

For detection of *Clostridium perfringens* in foods.

PRODUCT SUMMARY AND EXPLANATION

SPS (Sulphite Polymyxin Sulphadiazine) Agar was developed by Angelotti et al based on the Wilson and Blair Medium and the medium described by Mossel et al for selective isolation and enumeration of *C. perfringens* from foods. The medium of Mossel et al included the use of Miller-Prickett tubes. The modified SPS Agar however obviates the inclusion of Miller-Prickett tubes.

Prepare serial dilutions of the samples to be tested and inoculate onto SPS Agar using the pour plate technique. If desired, pour cover layers using about 5 ml medium. Incubate the plates anaerobically. Enumerate the black colonies. Presumptive black *C. perfringens* colonies should be confirmed by standard biochemical tests.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	15.000
Yeast extract	10.000
Sodium sulphite	0.500
Polymyxin B sulphate	0.010
Sulphadiazine	0.120
Ferric citrate	0.500
Agar	13.900

PRINCIPLE

Casein enzymic hydrolysate and yeast extract supply nitrogenous compounds, vitamin B complex and other essential growth nutrients to the growing *C. perfringens*. This organism reduces sulphite to sulphide which reacts with iron of ferric citrate to form a black precipitate of iron sulphide and hence the colonies appear black. Polymyxin B and sulphadiazine inhibit a wide variety of gram-positive and gram-negative bacteria. Few organisms found in food other than *C. perfringens* also form black colonies on this medium.

INSTRUCTION FOR USE

- Dissolve 40.03 grams in 1000 ml distilled water.
- Heat, to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Medium amber coloured slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation under anaerobic conditions.

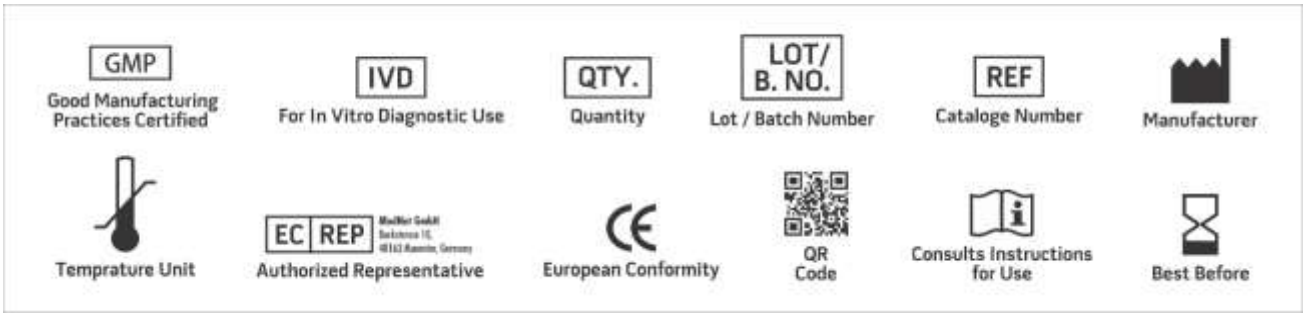
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	Incubation Temperature	Incubation Period
Clostridium perfringens	12924	50-100	Good-luxuriant	>=50%	Black	35-37°C	18-48 Hours
Clostridium sporogenes	11437	50-100	Fair-good	30-40%	Black	35-37°C	18-48 Hours
Escherichia coli	25922	>=10^3	Inhibited	0%	-	35-37°C	18-48 Hours
Staphylococcus aureus	25923	50-100	None-poor	0-10%	White	35-37°C	18-48 Hours

PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

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



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 08 Nov., 2019