S.F.P. HiVeg™ Agar Base MV1005

S.F.P. HiVeg Agar Base with the addition of selective supplement and enrichment is used for the presumptive identification and enumeration of *Clostridium perfringens* in foods.

Composition ** :

Ingredients	Grams/Litre
HiVeg hydrolysate No. 1	15.0
Papaic digest of soyabean meal	5.0
Yeast extract	5.0
Sodium bisulphite	1.0
Ferric ammonium citrate	1.0
Agar	20.0

Final pH (at 25°C) 7.6 ± 0.2
** Formula adjusted, standardized to suit performance parameters.

Directions :

Suspend 23.5 grams in 475 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C. Add 25 ml of Egg Yolk Emulsion (FD045) and reconstituted contents of 1 vial of S.F.P. Supplement (FD013). Mix well before pouring into sterile petri plates.

Principle and Interpretation :

S.F.P. HiVeg Agar Base is prepared by using HiVeg hydrolysate No.1 which is free of BSE/TSE risks. S.F.P. HiVeg Agar Base is the modification of S.F.P. (Shahidi-Ferguson Perfringens) Agar Base which is based on the formulation developed by Shahidi and Ferguson (1). The medium along with egg yolk emulsion and supplement containing Kanamycin and Polymyxin B as the selective agents give high degree of selectivity for *Clostridium perfringens*.
HiVeg hydrolysate No.1, Papaic digest of soyabean meal and yeast extract supply nitrogenous compounds, carbon, sulphur, vitamin B complex etc. necessary for the growth of *Clostridia*. Sodium bisulphite and ferric ammonium citrate are the hydrogen sulphide (H_2S) indicators. *Clostridia* reduce sulfite to sulfide, which reacts with iron and forms a black iron sulfide precipitate. This results in the formation of black colonies. Kanamycin and Polymyxin B used in the medium allow a better recovery of vegetative cells and spores of *Clostridium perfringens* than either Polymyxin B or Sulphadiazine alone (2). Some strains of *Clostridium perfringens* may form an opaque zone around the colony due to their lecithinase activity. Lecithinase positive facultative anaerobes may grow on SFP HiVeg Agar Base making the plates completely opaque and thus may mask the egg yolk reaction of *Clostridium perfringens*. Black colonies appearing on this medium may be of organisms other than *Clostridium perfringens*, so confirmatory tests should be carried out for identification.

Product Profile :

Vegetable based (Code MV)◉	**Animal based** (Code M)
MV1005 HiVeg hydrolysate No. 1	**M1005** Tryptose

Recommended for	:	Presumptive identification and enumeration of *Clostridium perfringens* in foods.
Reconstitution	:	47.0 g/l
Quantity on preparation (500g)	:	10.63 L
pH (25°C)	:	7.6 ± 0.2
Supplement	:	Egg Yolk emulsion (FD045); S.F.P. Supplement (FD013)
Sterilization	:	121°C / 15 minutes

Storage : Dry Medium - Below 30°C, Prepared Medium 2 - 8°C.

Quality Control :

Appearance of powder
Yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Gelling
Firm, comparable with 2.0% Agar gel.

Colour and Clarity
Basal medium yields, amber coloured slightly opalescent gel. With addition of Egg Yolk Emulsion (FD045), yellow coloured opaque gel forms in petri plates.

Reaction
Reaction of the medium (4.7gm in 95 ml distilled water) is pH 7.6 ± 0.2 at 25°C.

Cultural Response
Cultural characteristics observed after an incubation at 35 - 37°C for 40 - 48 hours, under anaerobic condition with added Egg Yolk Emulsion (FD045) and S.F.P. Supplement (FD013).

Organisms (ATCC)	Inoculum (CFU)	Growth	Colour of colony	Lecithinase
Clostridium perfringens(12924)	10^2-10^3	luxuriant	black	+
Escherichia coli (25922)	10^2-10^3	inhibited	-	-

Key : + = Opaque zone around the colony.

References :

1. Shahidi S.A. and Ferguson A.R., 1971, Appl. Microbiol., 21:500.
2. Harmon S.M., Kautter D.A. and Peeler J.T., 1971, Appl. Microbiol., 21:922.

◉ Prepared from GMO free Vegetable proteins replacing Animal based peptones. Freedom from BSE/TSE worries.