

B1045	FRASER SECONDARY ENRICHMENT BROTH BASE					
Formula						
Ingredients :		gms/lit.				
Casein enzymic hydrolysate		5.00				
Proteose peptone		5.00				
Yeast extract		5.00				
Beef extract		5.00				
Sodium chloride		20.00				
Lithium chloride		3.00				
Disodium phosphate		12.00				
Monopotassium phosphate		1.35				
Esculin		1.00				
Ferric ammonium citrate		0.50				
Final pH (at 25°C) : 7.2 ± 0.2						
Directions :						
Suspend 57.85 grams in 990 ml distilled water. Heat if necessary, to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45 - 50°C and aseptically add rehydrated contents of 1 vial of Fraser Enrichment Supplement (BF055) or one vial of Fraser Selective Supplement (BF117). Mix thoroughly and dispense as desired.						
Principle :						
Proteose peptone, casein enzymic hydrolysate, yeast extract, and beef extract make the media highly nutritive by providing essential nutrients including carbonaceous and nitrogenous substances. Phosphates maintain the buffering capacity of the medium. All Listeria species exhibit beta-glucosidase activity which is evident by the blackening of the media. Listeria species hydrolyze esculin (substituted glucoside) to glucose and esculetin. The latter combines with ferric ions of ferric ammonium citrate, resulting in the formation of 6-7 dihydroxy coumarin, a black brown complex. Ferric ammonium citrate also enhances the growth of L. monocytogenes. The high tolerance of sodium chloride of Listeria is used as means to inhibit the growth of Enterococci. Lithium chloride is also used to inhibit Enterococci, which also possess the ability to hydrolyze esculin. Growth of accompanying bacteria is largely inhibited by the addition of Nalidixic acid and Acriflavin hydrochloride (BF).						
QC Tests - (I) Dehydrated Medium						
Colour :	Cream to yellow					
Appearance :	Homogeneous Free Flowing powder					
(II) Rehydrated medium						
pH (post autoclaving/heating) :	7.2 ± 0.2					
Colour (post autoclaving/heating) :	Light yellow to yellow					
Clarity (post autoclaving/heating) :	Clear solution with slightly precipitate					
(III) Q.C. Test Microbiological						
Cultural characteristics observed with added Fraser enrichment supplement (BF055) or Fraser Selective Supplement (BF117) after an incubation at 35-37°C for 24-48 hours.						
MICROORGANISM (ATCC)	GROWTH	ESCULIN HYDROLYSIS*				
Listeria monocytogenes (19111)	Good-luxuriant	Positive reaction, blackening of medium				
Listeria monocytogenes (19112)	Good-luxuriant	Positive reaction, blackening of medium				
Listeria monocytogenes (19117)	Good-luxuriant	Positive reaction, blackening of medium				
Listeria monocytogenes (19118)	Good-luxuriant	Positive reaction, blackening of medium				
Enterococcus faecalis (29212)	Inhibited	-				
Escherichia coli (25922)	Inhibited	-				
Staphylococcus aureus (25923)	Inhibited	-				
* = subcultured on Listeria selective agar						
Precautions :		1. For Laboratory Use. 2. Follow proper, established laboratory procedures in handling and disposing of infectious materials. 3. Lithium chloride is harmful. Avoid bodily contact and inhalation of vapours. On contact with skin, wash with plenty of water immediately.				
Limitations :		1. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.				
Use :		For the isolation, cultivation and enrichment of Listeria monocytogenes from foods and environmental specimens.				
Storage :		Dehydrated medium- below 30°C Prepared medium- Between 2 to 8°C.				
Packing :		500 gm. bottle				
Product profile:		Reconstitution	Quantity on Preparation (500g)	pH (25°C)	Supplement	Sterilization
B1045	57.85g/l	8.643L	7.2 ± 0.2	Fraser Enrichment Supplement (BF055) or Fraser Selective Supplement (BF117)	121°C / 15 minutes	