Technical Information

EC MiVeg Broth

Product Code :VM1127

Application:- EC MiVeg Broth is recommended for the selective enumeration of presumptive *Eshcerichia coli* by MPN technique.

Composition**

Ingredients	Gms / Litre
MiVeg hydrolysate	20.0
Lactose	5.0
Synthetic detergent No. I	1.5
Dipotassium phosphate	4.0
Monopotassium phosphate	1.5
Sodium chloride	5.0
Final pH (at 25°C)	6.9 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

EC Broth is prepared by replacing Casein enzymic hydrolysate and Bile salt mixture with MiVeg hydrolysate and Synthetic detergent No. I thus making the medium free from BSE/TSE risks. EC MiVeg Broth is the modification of the medium formulated by Hajna and Perry (1). This medium, like the conventional medium is used for estimation of *Escherichia coli* densities from sea water and shellfish as reported by Tennant et al (2) or for confirmation of *Escherichia coli* from frozen foods and nut meats, as used by Fishbein and Surkiewicz (3). Like the conventional medium this medium can be used in Most Probable Number (MPN) techinque for microbial examination of water, waste water and foods (4, 5). It should not be used for the direct isolation of coliforms since prior enrichment in a presumptive medium for optimal recovery of fecal coliform is required.

MiVeg hydrolysate in this medium provides essential growth nutrients. Lactose act as a fermentable sugar. Synthetic detergent No.I inhibit gram-positive bacteria especially bacilli and faecal *Streptococci*. Potassium phosphates control the pH during fermentation of lactose. Sodium chloride maintains the osmotic balance of the medium. Gas production in a fermentation tube within 24 hour or less is a presumptive evidence of the presence of coliform bacteria. EC MiVeg Broth, like the conventional medium can be used at 37°C for the detection of coliform organisms, at 44.5°C for the isolation of *Escherichia coli* from water and shellfish, at 45.5°C for examination of food stuff.

Methodology

Suspend 37 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. Dispense in test tubes with inverted Durham tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Adjust the concentration of medium in accordance with sample size.

Quality Control

Physical Appearance

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

Colour and Clarity

Yellow coloured, clear solution without any precipitate, forms in tubes.

Reaction

Reaction of 3.7% w/v aqueous solution is pH 6.9±0.2 at 25°C.

pH range

6.7-7.1

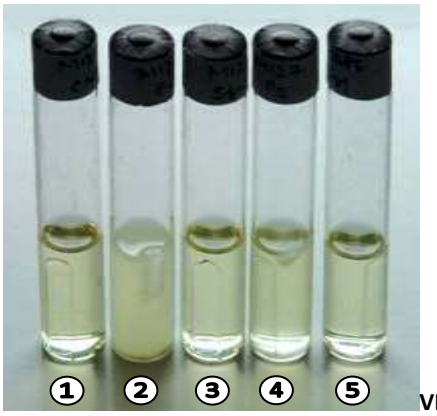
Cultural Response/Characteristics

Cultural characteristics was observed after an incubation at 44.5°C ± 0.2 for 24 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Gas
Bacillus subtilis (6633)	10^3	inhibited	-
Enterococcus faecalis (29212	10^3	inhibited	-
Escherichia coli (25922)	10^3	luxuriant	+
Enterobacter aerogenes (13048)	10^3	inhibited	-
Pseudomonas aeruginosa (27853)	10^3	fair- good	-

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: 2-8^0 in sealable plastic bags for 2-5 days.



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1. Control
2. *Escherichia coli*
3. *Enterococcus faecalis*
4. *Enterobacter aerogenes*
5. *Pseudomonas aeruginosa*

Further Reading

1. Hajna and Perry, 1943, Am. J. Publ. Health, 33:550.
2. Tennant et al, 1961, Can. J. Microbiol., 1:733.
3. Fishbein and Surkiewicz, 1964, Appl. Microbiol., 12:127.
4. Eaton A.D., Clesceri L.S. and Greenberg A.E., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st ed, APHA, Washington, DC.
5. Frances Pouch Downes and Keith Ito (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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