Technical Information

Lauryl Sulphate MiVeg Broth (Lauryl Tryptose MiVeg Broth)

Product Code : VM1080

Application:- Lauryl Sulphate MiVeg Broth (Lauryl Tryptose MiVeg Broth) is used for the detection of coliforms in water, dairy products and other foods.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate No. 1	20.0
Lactose	5.0
Sodium chloride	5.0
Dipotassium phosphate	2.75
Monopotassium phosphate	2.75
Sodium lauryl sulphate	0.1
Final pH (at 25°C)	6.8 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Lauryl Sulphate MiVeg Broth is prepared by using MiVeg hydrolysate No.1 instead of Tryptose thereby making the medium free from BSE/TSE risks. Lauryl Tryptose MiVeg Broth is the modification of Lauryl Tryptose Broth which was formulated by Mallmann and Darby (1) and is recommended by APHA for the presumptive detection of coliforms in water, effluent or sewage by MPN test (2) and for the detection of coliforms in foods (3). Like conventional medium, this medium is designed to obtain rich growth and substantial amount of gas from small inocula of coliform organisms. Aerobic spore bearers are completely inhibited. Cowls (4) showed that sodium lauryl sulphate imparts selectivity to the medium for coliform bacteria. The Lauryl Tryptose (Lauryl Sulphate) MiVeg Broth gives a higher colon index than the confirmatory standard methods media and the gas production served not only as a presumptivetest but also confirmatory of the presence of the coliforms for routine testing of water.

MiVeg hydrolysate No.1 supplies all the essential growth nutrients, such as nitrogen and carbon compounds, sulphate and trace ingredients. The potassium phosphates added, to buffer the medium, while sodium chloride maintains osmotic equilibrium. Sodium lauryl sulphate inhibit organisms other than coliforms. For inoculum of 1ml or less, use single strength medium. For inocula of 10 ml or more, double strength or proportionate medium should be prepared. After inoculation, incubate at 35-37°C for 24-48 hours. For each tube showing primary fermentation, inoculate two tubes of Lauryl Tryptose MiVeg Broth using same primary fermentation tube and incubate these tubes at 35-37°C and 44°C respectively. If there is fermentation in the tube incubated at 44°C after 8 to 24 hours, perform indole test by adding Kovac's reagent. A positive indole test in a broth tube showing gas production at 44°C indicates the presence of *Escherichia coli*. Absence of fermentation in the tubes incubated at 35-37°C for 24 hours, indicates that the primary fermentation is due to the organisms other than coliforms. Broth becomes cloudy or forms precipitate if stored at 2 - 8°C, but it should get cleared at room temperature.

Methodology

Suspend 35.6 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat if necessary to dissolve the medium completely. Distribute into tubes containing inverted Durham's' tubes. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

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

Colour and Clarity of prepared medium

Light yellow coloured, clear solution without any precipitate.

Reaction

Reaction of 3.56% w/v aqueous solution is pH 6.8 ± 0.2 at 25°C.

pH Range

6.6-7.0

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organisms (ATCC)	Growth	Gas production	Indole (44°C)
Enterobacter aerogenes (13048)	luxuriant	+	-
Enterococcus faecalis (29212)	inhibited	-	-
Escherichia coli (25922)	luxuriant	+	+
Salmonella serotype Typhimurium (14028)	luxuriant	-	-
Staphylococcus aureus (25923)	inhibited	-	-

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 day.

Further Reading

1. Mallmann and Darby, 1941, Am. J. Public Health, 31:127

2. Clesceri, Greenberg and Eaton (Ed), 1998, Standard Methods for the Examination of Water and Wastewater, 20th ed, APHA, Washington, D.C.

3. Downes FP and Ito K (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.

4. Cowls, 1938, J. Am. Water Works Association, 30:979.

Disclaimer :

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