

TM 150- LAURYL SULPHATE BROTH (LAURYL TRYPTOSE BROTH) (ISO 11866-2, ISO 4831:2006)

INTENDED USE

For detection and enumeration of coliform bacteria in water, waste water, dairy products and other food sample.

PRODUCT SUMMARY AND EXPLANATION

Lauryl Sulphate Broth is used for the detection of coliforms in water, dairy products and other foods, as recommended by APHA. Lauryl Sulphate Broth is also recommended by the ISO Committee for the detection of coliforms. It can be used for the presumptive detection of coliforms in water, effluent or sewage by the MPN test. Lauryl Sulphate Broth was developed by Mallmann and Darby. Cows demonstrated that inclusion of sodium lauryl sulphate makes the medium selective for coliform bacteria. It was later investigated that Lauryl Sulphate Broth gave a higher colon index than the confirmatory standard methods media and also that gas production in Lauryl Sulphate Broth not only acts as a presumptive test but also as a confirmatory test for the presence of coliforms, in the routine testing of water.

COMPOSITION

Ingredients	Gms / Ltr
Tryptose	20.000
Lactose	5.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.750
Potassium dihydrogen phosphate	2.750
Sodium lauryl sulphate	0.100

PRINCIPLE

Tryptose provides the nitrogen, carbon compounds, vitamins and amino acids. Lactose is the fermentable sugar. Sodium chloride maintains the osmotic balance of the medium. Dipotassium phosphate and Potassium dihydrogen phosphate controls the pH during fermentation of Lactose. Lactose-positive bacteria metabolize lactose with gas formation which is indicated by using inverted Durham tubes. Sodium lauryl sulfate is the selective agent used to inhibit organisms other than coliforms.

For inoculum of 1 ml or less, use single strength medium. For inocula of 10 ml or more, double strength or proportionate medium should be prepared. After inoculation, incubate the tubes at 37°C for 24 to 48 hours. For every tube showing fermentation (primary fermentation), inoculate two tubes of Lauryl Tryptose Broth from the tube showing primary fermentation and incubate these tubes at 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 Kovacs reagent. A positive indole test in a broth tube showing gas production at 44°C indicates the presence of Escherichia coli. If no fermentation occurs in the tube incubated at 37°C after 24 hours, the primary fermentation is assumed to be due to organisms other than coliforms.

INSTRUCTION FOR USE

- Dissolve 35.60 grams in 1000ml distilled water.
- Gently heat to boiling with gentle swirling to dissolve the medium completely.
- Distribute into tube containing inverted Durham tubes.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- Cool to 45-50°C prior to inoculation.



QUALITY CONTROL SPECIFICATIONS

Appearance of Dehydrated powder	:	Cream to yellow colour, Homogeneous free flowing powder
Appearance of Prepared medium	:	Light yellow coloured, clear solution without any precipitate
pH (at 25°C)	:	6.8± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Gas production	Incubation Temp.	Incubation Period	Indole production (44°C)
<i>Escherichia coli</i>	25922	50-100	Luxuriant	Positive reaction	35-37°C	18-24 Hours	Positive reaction, Red ring at the interface of the medium
<i>Enterobacter aerogenes</i>	13048	50-100	Luxuriant	Positive reaction	35-37°C	18-24 Hours	Negative reaction, No colour development/ cloudy ring
<i>Salmonella typhimurium</i>	14028	50-100	Luxuriant	Negative reaction	35-37°C	18-24 Hours	Negative reaction, No colour development/ cloudy ring
<i>Staphylococcus aureus</i>	25923	≥1000	Inhibited	-	35-37°C	18-24 Hours	-
<i>Enterococcus faecalis</i>	29212	≥1000	Inhibited	-	35-37°C	18-24 Hours	-

PACKAGING

In 100 & 500 gm packaging size.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°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 powder show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

DISPOSAL










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

REFERENCES

- Mallmann, W. L., and C. W. Darby. Uses of a lauryl sulphate tryptose broth for the detection of coliform organisms. Am J. Public Health. 31:12. (1941).
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- Vanderzant, C., and D. F. Splittstoesser (eds.). Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C. (1992).
- Eaton, A. D., L. S. Clesceri, and A. E. Greenberg (eds.). Standard methods for the examination of water and wastewater, 19th ed. American Public Health Association, Washington, D.C. (1995).
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- Cowls P. B., 1938, J. Am. Water Works Assoc., 30:979.



7. U. S. Food and Drug Administration. Bacteriological analytical manual, 8th ed., AOAC International, Gaithersburg, MD. (1995).
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 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Cataloge Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

***For Lab Use Only**

Revision: 9th July 2020