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**TECHNO PHARMCHEM**

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Registered Off. : 101-A, Deep Enclave, Pocket "D", Ashok Vihar, Phase-III, Delhi-110 052 (India)  
Corporate Off. : 152, Vardhman City Centre, Near Shakti Nagar Underbridge, Delhi-110052 (India)  
Works : Plot No.1022, Modern Industrial Estate, Bahadurgarh-124507, Haryana (India)  
Telephone : 0091 - 11 - 23646422 E-mail : tecpharm@gmail.com  
Website : www.technopharmchem.com

## Lactose Broth

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### Product Code : CM0142

Lactose Broth is used for the detection of coliform bacteria in water, foods, and dairy products as per Standard Methods.

### Composition\*\*

Ingredients	Gms / Litre
Peptone Bacteriological	5.000
Meat extract	3.000
Lactose	5.000

Final pH ( at 25°C) 6.9±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 13 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. For larger inocula (10 ml or more), concentrated medium may be prepared to account for medium dilution by the inoculum. Dispense in tubes containing inverted fermentation vial (Durhams tube) as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Principle And Interpretation

Lactose Broth is recommended by APHA in the performance and confirmation of the presumptive test for coliform bacteria in water, food and milk. This medium was initially listed as an alternative to Lauryl Sulfate Broth in the presumptive Standard Total Coliform Multiple-Tube (MPN) Test for water analysis. Although it is not the original formulation, Lactose Broth provides excellent results in Eijkman Assays of gas production at 45°C, which is a characteristic of *Escherichia coli*. While preparing this medium it is important to avoid overheating and to distribute it into tubes before sterilization.

Peptone and Meat extract in the medium supply essential nutrients to the organisms. Lactose is a fermentable carbohydrate for the coliforms. Tubes of Lactose Broth are inoculated with dilutions of water or milk, etc. under test, and incubated at 35°C and examined for gas formation after 24 and 48 hours. Members of the coliform group are defined as aerobic and facultative anaerobic gram-negative and non-sporing bacilli, which ferment lactose with gas formation within 48 hours at 35°C. In testing dairy products, Lactose Broth is used only in the completed test. Large water samples may require double strength Lactose Broth to minimize the final volume.

### Quality Control

Appearance	:	Cream to yellow homogeneous free flowing powder
Colour and Clarity of prepared medium	:	Light to medium amber coloured clear solution without any precipitate
Reaction	:	Reaction of 1.3% w/v aqueous solution at 25°C. pH: 6.9±0.2
pH	:	6.70-7.10



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### Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Gas
Enterobacter aerogenes ATCC 13048	50-100	luxuriant	positive reaction
Enterococcus faecalis ATCC 29212	50-100	luxuriant	negative reaction
Escherichia coli ATCC 25922	50-100	luxuriant	positive reaction
Pseudomonas aeruginosa ATCC 27853	50-100	luxuriant	negative reaction
Escherichia coli ATCC 8739	50-100	luxuriant	positive reaction

### Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C.  
Use before expiry date on the label.