

# TECHNICAL DATA SHEET

Article no. : 8869.0500

## LACTOSE PURPLE BROTH (DEV)

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### SPECIFICATION

Liquid medium for For the enrichment and detection of coliforms in water according to German standard methods.

### FORMULA \* IN G/L

Meat peptone.....	10.00
Meat extract.....	3.00
Sodium chloride.....	5.00
Lactose.....	10.00
Bromocresol purple.....	0.02

Final pH 7,2 ±0,2 at 25 °C

\*Adjusted and /or supplemented as required to meet performance criteria

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### DIRECTIONS

Dissolve 28 g of powder in 1 L of distilled water. Distribute in tubes provided with Durham's tubes. Sterilize in the autoclave at 121 °C for 15 minutes.

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### DESCRIPTION

Lactose Purple Broth (DEV) is used for the enrichment and enumeration of coliform bacteria in the microbiological analysis of water according to "the German Standard Methods for the examination of water and the German drinking water regulations".

Meat peptone and Meat extract provide nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate providing carbon and energy. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Bromocresol purple is the pH indicator.

All coliforms ferment lactose with acid and gas production. This group includes the genera *Escherichia*, *Enterobacter*, *Citrobacter*, and *Klebsiella*. When lactose is fermented it produces acid that changes the color of the medium from blue-purple (alkaline) to yellow (acid).

Additional biochemical tests as indole and MUG, can confirm the presence of *E. coli*.

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### TECHNIQUE

German standards suggests the use of MPN technique with 0,1, 1 and 10 mL of sample and an incubation at 35 ± 2 °C for 44 ± 4 hours. Tubes that change to yellow and eventual gas production/accumulation in Durham's tubes are considered positive. If L-tryptophan (1g / L) and MUG (50 mg / 500 ml) are added to the base medium, it is accelerated by the detection of *E. coli*.

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## QUALITY CONTROL

Incubation Temperature: 35 ± 2 °C

Incubation Time: 44 ± 4 h

Inoculum: ≤100 CFU. Min. 50 CFU (Productivity) according to ISO 11133:2014/Amd 1:2018. (w. Durham tube)

Microorganism	Growth	Remarks
<i>Escherichia coli</i> ATCC <sup>®</sup> 8739	Good	Gas (+). Medium turns Yellow
<i>Escherichia coli</i> ATCC <sup>®</sup> 25922	Good	Gas (+). Medium turns Yellow
<i>Salmonella typhimurium</i> ATCC <sup>®</sup> 14028	Good	Gas (-). Unchanged color. Purple.
<i>Pseudomonas aeruginosa</i> ATCC <sup>®</sup> 27853	Good	Gas (-). Unchanged color. Purple.
<i>Citrobacter freundii</i> ATCC <sup>®</sup> 8090	Good	Gas (+). Medium turns Yellow
<i>Klebsiella pneumoniae</i> ATCC <sup>®</sup> 13883	Good	Gas (+). Medium turns Yellow

## REFERENCES

- DEUTSCHE EINHEITSVERFAHREN zur Wasser-, Abwasser- Und Schlammuntersuchung. VCM Verlagsgesellschaft, D-6940. Weinheim.
- VERORDNUNG über Trinkwasser und Wasser für Lebensmittelbetriebe vom 12- Dezember-1990- Bundesgesetzblatt; Teil I, 2613-2629 (1990).

## STORAGE

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).

