



## Modified EC Broth Base

M1285

### Intended Use:

Recommended for enrichment of *Escherichia coli* O157:H7 from food and other samples.

### Composition\*\*

Ingredients	g/ L
Peptone	20.000
Sodium chloride	5.000
Lactose	5.000
Bile salts mixture	1.120
Dipotassium hydrogen phosphate	4.000
Potassium dihydrogen phosphate	1.500
Final pH ( at 25°C)	6.9±0.2

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

### Directions

Suspend 18.31 grams in 500 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45–50°C and aseptically add rehydrated contents of two vials of NO 5 Selective Supplement (FD096). Mix well and dispense in sterile test tubes or flasks as desired.

### Principle And Interpretation

EC Medium was originally developed by Hajna and Perry (1) for improved detection of coliforms. The current formulation is a combination of lactose broth, bile salts mixture and buffering agents. Peptone serves as a rich source of nitrogen, vitamins and amino acids. Lactose provides the carbon source for lactose fermenting microorganisms. The addition of bile salts mixture inhibits the growth of gram positive bacteria particularly bacilli and faecal streptococci. Sodium chloride maintains the osmotic balance of the medium. Potassium salts buffers the medium. The addition of novobiocin inhibits gram positive bacteria.

### Type of specimen

Food samples

### Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (2).

After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

### Limitations

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Further biochemical and serological tests must be carried out for further identification.
3. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

### Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

**Colour and Clarity of Prepared Medium**

Light amber clear solution without any precipitate

**Reaction**

Reaction of 3.66% w/v aqueous solution at 25°C. pH : 6.9±0.2

**pH**

6.70-7.10

**Cultural Response**

Cultural characteristics observed with added NO 5 Selective Supplement (FD096) after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum(CFU)	Growth
<i>Escherichia coli</i> O157:H7	50-100	luxuriant
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	≥10 <sup>4</sup>	inhibited
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	≥10 <sup>4</sup>	inhibited
** <i>Bacillus spizizenii</i> ATCC 6633 (00003*)	≥10 <sup>4</sup>	inhibited

Key \*- Corresponding WDCM Numbers    \*\*Formerly known as *Bacillus subtilis* subsp. *spizizenii*

**Storage and Shelf Life**

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

**Disposal**

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

**Reference**

1. Hajna A.A., a. Perry C.A., 1943, Am. J. Pbl. Hlth. 33:550-556.
2. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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**Disclaimer :**

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