



## Modified Buffered Peptone Water Broth

M1859

Modified Buffered Peptone Water Broth is used for the isolation of *Enterohemorrhagic coli* (EHEC).

### Composition\*\*

Ingredients	Gms / Litre
Tryptone	10.000
Lactose	10.000
Yeast extract	6.000
Casein acid hydrolysate	5.000
Sodium chloride	5.000
Disodium hydrogen phosphate	3.600
Potassium hydrogen phosphate	1.500
Sodium pyruvate	1.000
Final pH ( at 25°C)	7.2±0.2

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

### Directions

Suspend 42.1 grams in 1000 ml of distilled water. Heat if necessary to dissolve the medium completely. Autoclave at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour in sterile Petri plates.

### Principle And Interpretation

*Escherichia coli* O157:H7 belongs to the Enterohemorrhagic *Escherichia coli* (EHEC) group and it predominates as a food borne pathogen. *E.coli* O157: H7 was first recognized as a human pathogen in 1982 when two outbreaks of hemorrhagic colitis were associated with consumption of undercooked ground beef that has been contaminated with this organism (1). Enterohemorrhagic infections are usually food or water borne and have been implicated in undercooked beef, lunchmeat, raw milk, water, sprouts and vegetables(2).

Enterohaemorrhagic *E.coli* strains are also termed as verocytotoxin-producing *E.coli* (VTEC/ EHEC). Although many different serotypes of *Escherichia coli* are known to produce verocytotoxin (3) those of *Escherichia coli* O157:H7 and O157:H are so far the common types causing human infections. O157 VTEC strains have several unusual biochemical characters that are exploited in methods for their laboratory identification. They belong to the minority of *E.coli* that are β-glucuronidase negative and do not ferment sorbitol or rhamnose within 24 hours.

Modified Buffered Peptone Water Broth is recommended for the detection of EHEC. Enzymatic digest of casein and acid digest of casein provide nitrogen, yeast extract provides essential vitamins and minerals to the organisms. Lactose provides energy. Sodium chloride in the medium maintains osmotic balance. Sodium pyruvate stimulates growth. Disodium hydrogen phosphate and potassium phosphate act as buffering agents.

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Light yellow to amber coloured clear solution without any precipitate

#### Reaction

Reaction of 4.21% w/v aqueous solution at 25°C. pH : 7.2±0.2

#### pH

7.00-7.40

#### Cultural Response

Cultural characteristics observed after an incubation at 36-38°C for 18-24 hours.

**Cultural Response**

<b>Organism</b>	<b>Inoculum (CFU)</b>	<b>Growth</b>
<b>Cultural Response</b>		
<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant
<i>Escherichia coli</i> O157:H7 ATCC 35150	50-100	good-luxuriant
<i>Salmonella</i> Typhimurium ATCC 14028	50-100	good-luxuriant

**Storage and Shelf Life**

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

**Reference**

1. Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
2. [www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM](http://www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM).
3. Smith and Scotland, 1988, J. Med. Microbiol., 26:77-85

Revision : 2 / 2015

**Disclaimer :**

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.