



## Modified Buffered Peptone Water

M1857

Modified Buffered Peptone Water is used for pre-enriching damaged *Salmonella* species from food specimens to increase recovery.

### Composition\*\*

Ingredients	Gms / Litre
Pancreatic digest of gelatin	10.000
Sodium chloride	5.000
Disodium phosphate	7.000
Monopotassium phosphate	3.000
Final pH ( at 25°C)	7.2±0.2

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

### Directions

Suspend 25.0 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

### Principle And Interpretation

Modified Buffered Peptone Water is a pre-enrichment medium designed to help recovery of sub-lethally damaged Salmonellae before transfer to a selective medium. This pre-enrichment medium is free from inhibitors and is well buffered and provides conditions for resuscitation of the cells that have been injured by processes of food preservation. It was noted by Edel and Kampelmacher (1) that sub-lethal injury to *Salmonella* may occur due to food preservation techniques involving heat, desiccation, high osmotic pressure, preservatives or pH changes. Buffered Peptone Water during the pre-enrichment period helps in recovery of injured cells that may be sensitive to low pH (2). This is particularly important for vegetable specimens, which have low buffering capacity. This medium can be used for testing dry poultry feed (3). Lactose Broth is frequently used as a pre-enrichment medium but it may be detrimental to recovery of Salmonellae (4).

The media contain Pancreatic digest of gelatin as a source of carbon, nitrogen, vitamins and minerals. Sodium chloride maintains the osmotic balance and phosphates buffer the medium. The broth is rich in nutrients and produces high resuscitation rates for sublethally injured bacteria and supports intense growth. The phosphate buffer system prevents bacterial damage due to changes in the pH of the medium.

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Light yellow coloured, clear solution without any precipitate

#### Reaction

Reaction of 2.5% 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 35-37°C for 18-24 hours.

#### Cultural Response

Organism	Inoculum (CFU)	Growth
Cultural Response <i>Salmonella Enteritidis</i> ATCC 50-100 13076		good-luxuriant

<i>Salmonella Typhi</i> ATCC 6539	50-100	good-luxuriant
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	good-luxuriant

### Storage and Shelf Life

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

### Reference

1. Edel and Kampelmacher, 1973, Bull. W.H.O., 48:167-174.
2. Sadowski, 1977, J. Food Technol., 12:85-91.
3. Juven, Cox, Bailey, Thomson, Charles and Schutze, 1984, J. Food Prot., 47:299-302.
4. Angelotti, 1963, Academic Press, New York, N.Y.

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### Disclaimer :

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