TM 2017 – BUFFERED PEPTONE WATER

INTENDED USE

For increasing the recovery of injured *Salmonella* species from foods prior to selective enrichment and isolation.

PRODUCT SUMMARY AND EXPLANATION

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 that sublethal 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. This is particularly important for vegetable specimens, which have low buffering capacity. This medium can be used for testing dry poultry feed. In a survey involving isolation of Salmonellae from meat that had been artificially contaminated with sub-lethally injured organisms, pre-enrichment in Buffered Peptone Water at 37°C for 18 hours before selection in Tetrathionate Brilliant Green Bile Broth (TM 2364) showed superior results compared with direct selection method. Lactose Broth is frequently used as a pre-enrichment medium but it may be detrimental to recovery of Salmonellae.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	10.000
Sodium chloride	5.000
Disodium phosphate, anhydrous	3.500
Potassium hydrogen phosphate	1.500

PRINCIPLE

The media contain proteose peptone 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 sub lethally injured bacteria and supports intense growth. The phosphate buffer system prevents bacterial damage due to changes in the pH of the medium.

INSTRUCTION FOR USE

- Dissolve 20.0 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense in 50 ml amounts into tubes or flasks or as desired.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes. 5. If desired aseptically add rehydrated contents of one vial of EC O157:H7 Selective Supplement (TS 248) to 1000 ml of medium for enrichment of Escherichia coli O157:H7

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder
Appearance of prepared medium : Light yellow coloured, clear solution without any precipitate.
pH (at 25°C) : 7.2±0.2

INTERPRETATION

Cultural characteristics observed after incubation. (Recovery is carried out using XLD Agar, TM 492).

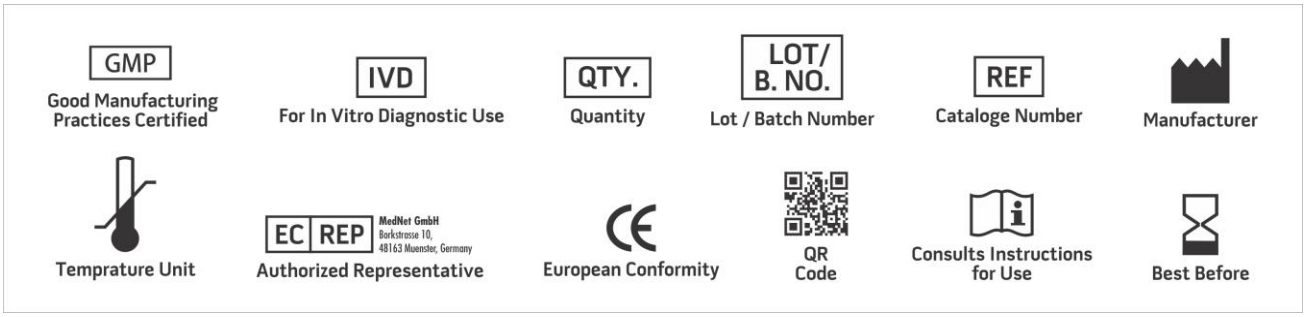
Microorganism	ATCC	Inoculum	Growth	Recovery	Incubation Temperature	Incubation Period
Salmonella Enteritidis	13076	50-100	Good-luxuriant	>=50%	35-37°C	18-24 Hours
Salmonella Typhi	6539	50-100	Good-luxuriant	>=50%	35-37°C	18-24 Hours
Salmonella Typhimurium	14028	50-100	Good-luxuriant	>=50%	35-37°C	18-24 Hours

PACKAGING:
In pack size of 100 gm and 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

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



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
***For Lab Use Only**
Revision: 08 Nov., 2019