Technical Data

Buffered HiVeg Peptone Water

MV1494

Buffered HiVeg Peptone Water is used as pre-enrichment medium for increasing the recovery of injured *Salmonella* species from foods prior to selective enrichment and isolation.

Composition**

Ingredients	Gms / Litre
HiVeg hydrolysate	10.000
Sodium chloride	5.000
Disodium hydrogen phosphate.12H2O	9.000
Monopotassium hydrogen phosphate	1.500
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 20.07 grams(equivalent weight of dehydrated medium) in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Microorganisms that are subjected to environmental stresses may become structurally or metabolically damaged or injured. These microorganisms are unable to replicate in selective environments. Therefore these injured organisms must be resuscitated or permitted to repair the damage by incubation in an appropriate, non-selective environment (1). Edel and Kampelmacher (2) noted that sublethal injury to Salmonellae may occur in many food preservation processes. Enriching injured cells in Lactose Broth (pH 6.9) may be further detrimental to their recovery (3).

Buffered HiVeg Peptone water is prepared by replacing casein enzymic hydrolysate with HiVeg hydrolysate to avoid BSE/ TSE risks associated with animal based peptones. Pre enrichment in Buffered HiVeg Peptone Water (MV1494) at 35°C for 18-24 hours results in repair of injured cells (4).

The buffering system prevents bacterial damage due to change in the pH of the medium. HiVeg hydrolysate provides carbonaceous and nitrogenous compounds , amino acids long chain peptides and vitamins required for the growth. Recently ISO committee has also recommended Buffered Peptone water (M1494I) for the detection of *Enterobacteriaceae* from food stuffs and other materials (5).

Inoculate 10 grams specimen in 50 ml of Buffered HiVeg Peptone Water (MV1494) and incubate at 35°C for 18 hours. Transfer 10 ml from this medium to 100 ml of Rappaport Vassiliadis Soya Broth (RVS Broth) (M1491) and incubate at 43°C for 24-48 hours and then subculture on selective media like XLD HiVeg Agar, (MV031). Examine the plates for colonies of *Salmonella* species.

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 2.0% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.(Recovery is observed on XLD HiVeg Agar, MV031)

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Cultural Response				
Salmonella Enteritidis ATCC 13076	50-100	luxuriant	>=50%	red with black centres
Salmonella Typhi ATCC 6539	50-100	luxuriant	>=50%	red with black centres
Salmonella Typhimurium ATCC 14028	50-100	luxuriant	>=50%	red with black centres

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.Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
2.Edel W. and Kampelmacher E. H., 1973, Bull. Wld. Hlth. Org., 48: 167.
3.Angelotti R., 1963, “Microbiological Quality of Foods”, Academic Press, New York.
4.Sadovski A. Y., 1977, J. Food Technol., 12.85.
5.International Organization for Standardization (ISO), 2002, Draft ISO/DIS, 6579.

Revision : 01 / 2015