Alkaline Saline Peptone Water (ASPW)

M1887

Alkaline Saline Peptone Water (ASPW) is recommended for enrichment of *Vibrio* species from food and water samples in accordance with ISO.

Composition**

Ingredients	Gms / Litre
Peptone	20.000
Sodium chloride	20.000
pH after sterilization (at 25°C)	8.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 40 grams 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

Vibrio s have played a significant role in human history. Outbreaks of cholera, caused by *Vibrio cholera* , can be traced back in time to early recorded descriptions of enteric infections. The *Vibrios* have also received the attention of marine microbiologists who observed that the readily cultured bacterial population in near-shore waters and those associated with fish and shell fish were predominantly *Vibrio* species (1). *Vibrio* species are mainly responsible for causing cholera and food poisoning in humans. *Vibrio cholera* causes cholerae due to the intake of contaminated food such as raw oysters. *Vibrio parahaemolyticus* is a major cause of food borne infections, causing food poisoning (2). Since *Vibrio* species naturally occur in sea water, worth special mention is their need for sodium chloride, although some species can grow with minimum sodium chloride concentration (1). The widely used media for *Vibrio* isolation are TCBS Agar and Alkaline Peptone Water (3).

Alkaline Saline Peptone Water (ASPW) is in accordance with ISO/TS 21872-1:2007 which specifies a horizontal method for the detection of the two main pathogenic *Vibrio* species causing intestinal illness in humans: *V. parahaemolyticus* and *V. cholera* (4). It is applicable to products intended for human consumption and the feeding of animals, and environmental samples in the area of food production and food handling.

Peptone provides carbonaceous, nitrogeneous and essential nutrients to the organisms. High concentration of sodium chloride in addition to maintaining the osmotic equilibrium also has an inhibitory action on the accompanying microflora.

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 4% w/v aqueous solution at 25°C. pH : 8.6±0.2

pH
8.40-8.80

Cultural Response
Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth

Cultural Response

Vibrio cholerae ATCC 15748	50-100	luxuriant
Vibrio parahaemolyticus ATCC 17802	50-100	luxuriant

Storage and Shelf Life

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

Reference

1.Thompson et al (ed.). 2006. The Biology of Vibrios, ASM Press, chapter 1, pg 3.
2.Alcamo. E.I, 2001. Fundamentals of Microbiology, 6th ed, Jones and Bartlett Publishers, Inc. pg 254, 244.
3.Clesceri, Greenberg and Eaton (ed.). 1998. Standard Method for the examination of Water and Waste water, 20th ed. American Public Health Association, Washington, D. C.
4.ISO/TS 21872-1:2007. Horizontal method for the detection of the two main pathogenic Vibrio species causing intestinal illness in humans: V. parahaemolyticus and V. cholera.

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