Alkaline Saline Peptone Water, ASPW (i23660)

ASPW is a broth medium for the enrichment of *Vibrio* species from food and water samples; this formulation conforms to ISO/TS 21872-1& 2:2007.

Industry: Water / Food / Clinical

Principles & Uses

Vibrio species, notably *Vibrio cholera*, have historically played a pivotal role in human health, with outbreaks of *cholera* dating back to early recorded accounts of enteric infections. These Gram-negative, highly motile rods are naturally present in aquatic environments, and while *V. cholerae* is a member of these environments, only a fraction can cause cholera. *Vibrio parahaemolyticus* is a significant agent of foodborne infections. The need for sodium chloride, especially in seawater, is crucial for their growth, although some species can tolerate lower sodium chloride concentrations.

Alkaline Saline Peptone Water (ASPW) serves as a non-selective enrichment broth for *Vibrio* cultivation, with its formulation linked to the work of Shread, Donovan, and Lee. Peptone acts as a source of essential nutrients, while high NaCl concentration inhibits unwanted microflora while maintaining osmotic balance. This medium, aligned with ISO standards, aids in detecting pathogenic *Vibrio* species causing intestinal illnesses in humans, making it applicable to diverse samples, including food and environmental sources.

The raised pH serves to inhibit unwanted flora while supporting the viability of *Vibrio* species. Growth is assessed by turbidity, with additional steps recommended for comprehensive identification through selective media, morphology studies, and biochemical and serological analyses.

Composition (gr/L)

Peptone 20 g, Sodium chloride 20 g.

Final pH at 25°C 8.6 ± 0.2

Preparation from dehydrated Powder

Dissolve 40 g of the powder in 1 L of purified water. Mix well and autoclave at 121°C for 15 minutes.

Quality Control

Dehydrated Appearance: White to light beige, free flowing, homogeneous.

Prepared Appearance: Light to medium amber, clear to slightly opalescent.

Reaction of 4.0% Solution at 25°C: pH 8.6 ± 0.2

Cultural Response

50-100 CFU was inoculated and incubate at 35 ± 2°C for 18-24 hours.

Organism (ATCC*)	Recovery
Vibrio cholerae (15748)	Good
Vibrio parahaemolyticus (17802)	Good

*ATCC is a registered trade mark of the American Type Culture Collection.

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.