# Alkaline Saline Peptone Water (ASPW) (ISO) (NCM0175)

**Intended Use**
Alkaline Saline Peptone Water is a medium for the enrichment of *Vibrio* spp. from food and water samples according to ISO 21872-1:2017 and ISO 21872-2:2007, and is not intended for use in the diagnosis of disease or other conditions in humans.

**Description**
Originally described by Shread, Donovan & Lee as an enrichment broth for *Aeromonas* spp. and identified by Cruickshank as an effective medium for the enrichment of *Vibrio* spp., Alkaline Saline Peptone Water uses elevated pH and salt levels to provide a favorable environment for the enrichment of *Vibrio* spp.

Peptone provides essential vitamins, minerals, amino acids & nitrogen for growth requirements. Sodium chloride provides essential electrolytes for maintenance of the osmotic balance.

Sub-culture onto Thiosulfate Citrate Bile Salts Sucrose (TCBS) Agar (NCM0052) will be required.

**Typical Formulation**

| | |
|---|---|
| Peptone | 20.0 g/L |
| Sodium Chloride | 20.0 g/L |

Final pH: 8.6 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

**Precaution**
Refer to SDS

**Preparation**
1. Dissolve 40 grams of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium, if necessary.
3. Autoclave at 121°C for 15 minutes.

**Test Procedure**
For a complete discussion on the isolation and identification of *Vibrio cholerae* and other enteropathogenic *Vibrio* spp., refer to specific procedures, such as ISO 21872-1:2017 and ISO 21872-2:2007.

**Quality Control Specifications**
**Dehydrated Appearance:** Powder is homogeneous, free flowing and beige.

**Prepared Appearance:** Prepared medium is a clear, very pale yellow liquid.

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**Expected Cultural Response:** Cultural response on TCBS Agar at 36-38°C after 21-27 hours of incubation.

| Microorganism | Approx. Inoculum (CFU) | Response | Reaction |
|---|---|---|---|
| *Enterococcus faecalis* ATCC® 29212 | $>10^4$ | Markedly Suppressed to Inhibited | --- |
| *Escherichia coli* ATCC® 25922 | $>10^4$ | Complete Inhibition | --- |
| *Escherichia coli* ATCC® 8739 | $>10^4$ | Complete Inhibition | --- |
| *Escherichia coli* ATCC® 11775 | $>10^4$ | Complete Inhibition | --- |
| *Salmonella typhimurium* ATCC® 14028 | $>10^4$ | Complete Inhibition | --- |
| *Vibrio alginolyticus* ATCC® 17749 | ~1000 | Growth | Yellow |
| *Vibrio cholera* ATCC® 14733 | ~1000 | Growth | Yellow |
| *Vibrio furnissii* NCTC 11218 | ~1000 | Growth | Yellow |
| *Vibrio parahaemolyticus* ATCC® 33809 | ~1000 | Growth | Green |

The organisms listed are the minimum that should be used for quality control testing.

**Results**

After 18 – 48 hours of incubation at 35 ± 2°C, sucrose-fermentating *Vibrio* spp. (*V. cholerae, V. alginolyticus, V*. *hareyi, V. cincinnatiensis, V. fluvialis, V. furnissii, V. metschnikovii,* and some *V. vulnificus*) appear smooth, opaque, thin-edged yellow colonies on TCBS Agar.

**Expiration**

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing or appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

**Limitations of the Procedures**

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

**Storage**

Store dehydrated culture media at 2-30°C away from direct sunlight. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

**References**


1. Cruickshank R. (1968) Medical Microbiology. 11th ed. Livingstone Ltd, London, UK.
2. ISO 21872-1:2017 Microbiology of the food chain – Horizontal method for the determination of Vibrio spp. – Part 1: Detection of potentially enteropathogenic Vibrio parahaemolyticus, Vibrio cholerae and Vibrio vulnificus.
3. ISO 21872-2:2007 Microbiology of food and animal feeding stuffs – Horizontal method for the detection of potentially enteropathogenic Vibrio spp. – Part 2: Detection of species other than *Vibrio parahaemolyticus* and *Vibrio* cholerae.
4. Shread, P., Donovan, T.J. and Lee, J.V. (1991). *Soc. Gen. Microbiol.* Q. 8. 184.


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