PRODUCT SPECIFICATION SHEET

Alkaline Peptone Water (DM009SO)

Intended Use
Alkaline Peptone Water is used for detection of Vibrio species. It is also recommended by ISO Committee under the specification ISO 8914:1990.

Product Summary and Explanation
This Alkaline Peptone Water is a pre-enrichment medium specially suited and standardised for Vibrio cholera and vibrio species from food, water feces and for clinical studies. This medium has been recommended by APHA, ISO AOAC and FDA to increase the recovery of vibrio species in fecal material and other samples[3-7]. Clinical materials containing small numbers of Vibrio should be inoculated into an enrichment medium prior to plating onto a selective medium, such as TCBS Agar (DM253). Further steps like plating onto a solid medium to study morphology, biochemical and serological properties are recommended in official methods. Clinical samples like swabs and faeces can be added directly to the medium as described by Janda et al.[1] This medium is recommended by APHA[4] for enrichment of *Vibrio* species from seafood, infectious materials and other clinical specimens such as faeces[5]. Add 10 grams of seafood to 90ml of Alkaline Peptone Water and incubate for up to 18-20 hours at 37°C. Prolonged incubation will cause the suppressed contaminating organisms to develop[9]. Alkaline Peptone Water is a suitable enrichment broth for this purpose [1-3]. The relatively high pH of the medium (approx. 8.6) provides a favourable environment for the growth of *Vibrio*s.

Principles of the Procedure
The original formula of Alkaline Peptone Water was developed by Shread, Donovan and Lee to be used as an enrichment broth for the cultivation of Aeromonas species[10] and Cruickshank reported that when the pH is increased, the medium can be used to cultivate Vibrio species [1].
Peptic digest of animal tissue provides nitrogenous, carbonaceous, and other important nutrients. The high concentration of sodium chloride promotes the growth of Vibrio cholerae. The relatively high pH value of the medium suppresses the accompanying microbial flora.

Formula / Liter

Ingredients	Gms / Litre
Peptic digest of animal tissue	20.00
Sodium chloride	30.00
Final pH: 8.6 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions
1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.
3. Observe approved hazard precautions and asceptic techniques.
4. Product to be used by adequately trained and qualified personnel.
5. Sterilize all biohazard waste before disposal.

Directions
1. Suspend 50 g of the medium in one liter of distilled water.
2. Heat if necessary, to dissolve the medium completely. Distribute into tubes as desired.
3. Autoclave at 121°C , 15 psi pressure, for 15 minutes / validated cycle.

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Quality Control Specifications

Dehydrated Appearance	Cream to yellow colored, homogeneous, free flowing powder
Solution	5.0% Solution in Distilled or deionized water is soluble on boiling, Light amber to yellow colored, and very slightly to slightly opalescent.
Prepared Medium	Light Amber to yellow colored clear solution without any precipitate
Reaction of 5.0% Solution	pH 8.6 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response: Cultural response on Alkaline Peptone Water observed after incubation at 36°C ± 1°C for 24 hours.

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	*Vibrio parahaemolyticus* ATCC 17802	50 -100	luxuriant
2.	*Vibrio cholerae* ATCC 15748	50 -100	luxuriant
3.	*Vibrio vulnificus* ATCC 27562	50 -100	luxuriant
4.	*Vibrio furnissii* ATCC 11218	50 -100	luxuriant
5.	*Escherichia coli* ATCC 25922	50 -100	inhibited
6.	*Streptococcus pneumoniae* ATCC 6301	50 -100	inhibited

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

Test Procedure

Add 10 grams of seafood to 90 ml of Alkaline Peptone Water and incubate for upto 18-20 hours at 37°C.

Results

After incubation record growth of organism as follows:

1. Growth in tubes is indicated by turbidity compared to an un-inoculated tube (control).
2. Growth from the enrichment broth is used for plating on selective media.
3. Prolonged incubation will result in growth of the suppressed contaminating organisms to develop [6].

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

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

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

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Packaging
Product Name : Alkaline Peptone Water.
Product Code : DM009SO
Available Pack sizes : 100gm / 500g

References

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7. U.S. Food & Drug Administration (FDA), Bacteriological Analytical Manual, Chapter 9, Vibrio cholera, V. parahaemolyticus, V. vulnificus and other Vibrio spp., 8th Edition, Revision A (1998)
8. Environment Agency, The Microbiology of Drinking Water Part 10, Methods for the Isolation of Yersinia, Vibrio and Campylobacter by Selective Enrichment (2002)
9. S.M. Finegold, W.J. Martin, Bailey and Scott's Diagnostic Microbiology 6th ed., St. Louis, The C.V. Mosby Company (1982)
10. P. Shread, T.J. Donovan, J.V. Lee, Soc. Gen. Microbiol., Q. 8, 184 (1991)

Further Information

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