

PRODUCT SPECIFICATION SHEET



Alkaline Peptone Water (DM009BS)

Intended Use

Alkaline peptone water is used for the enrichment of vibrio species in compliance with BIS specification IS 5887 (Part 5) 1976, reaffirmed 1986.

Product Summary and Explanation

Alkaline peptone water is used for the enrichment of vibrio cholera and vibrio species from food, water feces and clinical studies. This medium has been recommended by OMS, APHA⁽¹⁾ and various authors to increase the recovery of vibrio species in fecal material and other samples. The enrichment in liquid is necessary for isolation of vibrio from feces for the control of carriers and for the examination of drinks, food or sewage. The high values of slows down the development of common contaminants, so that after 6-7 hours of incubation, vibrio, if present, stand out on microscopical examination in dark field.

Principles of the Procedure

Alkaline peptone water is pre-enrichment for vibrio species. Vibrio should be inoculated into an enrichment medium prior to plating onto a selective medium. Alkaline peptone water is a suitable enrichment broth for the enrichment of vibrio species.⁽²⁻⁴⁾ High pH of the medium^(6,4) provides a suitable environment for the growth of vibrios. Peptic digest of animal tissue provides nitrogenous, carbonaceous, and other important nutrients. Sodium chloride maintains osmotic equilibrium. The high pH, promotes the growth of vibrio species and suppresses the growth of microbial flora.

Formula / Liter

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.00
Sodium chloride	5.00
Final pH: 8.0 ± 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 aseptic techniques.
4. Product to be used by adequately trained and qualified personnel.
5. Sterilize all biohazard waste before disposal.

Directions

1. Suspend 15 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.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow colored, homogeneous, free flowing powder
Solution	1.5% Solution in Distilled or deionized water is soluble on boiling, Light yellow colored, and very slightly to slightly opalescent.
Prepared Medium	Light yellow colored clear solution without any precipitate
Reaction of 1.5% Solution	pH 8.0 ± 0.2 at 25°C
Gel Strength	Not Applicable

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Expected Cultural Response: Cultural response on Alkaline Peptone Water observed after incubation at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Vibrio parahaemolyticus</i> ATCC 17802	50 -100	luxuriant
2.	<i>Vibrio cholerae</i> ATCC 15748	50 -100	luxuriant
3.	<i>Vibrio vulnificus</i> ATCC 27562	50 -100	luxuriant
4.	<i>Vibrio furnissii</i> ATCC 11218	50 -100	luxuriant

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 2 - 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.

Packaging

Product Name : Alkaline Peptone Water.

Product Code : DM009BS

Available Pack sizes : 100gm / 500gm

References

1. Gilligan, Janda, Karmali and Miller, 1992, Cumitech 12A, Laboratory Diagnosis of Bacterial Diarrhea, Coord. Ed., Nolte, American Society for Microbiology, Washington, D.C.
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3. Isenberg, (Ed.), 1992, Clinical Microbiology Procedures Handbook, Vol. I, American Society for Microbiology, Washington, D.C.
4. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
5. Cruikshank R., 1968, Medical Microbiol., 11th Ed., Livingstone Ltd., London
6. Finegold S. M. and Martin W. J., 1982, W. J. Bailey and Scotts Diagnostic Microbiol, 6th Ed., C.V. Mosby Co., St. Louis, p. 242
7. U.S. Food & Drug Administration (FDA), Bacteriological Analytical Manual, Chapter 9, *Vibrio cholerae*, *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)

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Further Information

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