



Peptone Saline Solution

M2185I

Intended use

Recommended as a protective and isotonic diluent used for maximal recovery of microorganisms from a variety of sources. The composition and performance criteria of this medium are as per the specifications laid down in ISO 8199:1988 (E).

Composition**

ISO specification - Peptone Saline Solution		Peptone Saline Solution - M2185I	
Ingredients	g/ L	Ingredients	g/ L
Peptone	1.000	Peptone	1.000
Sodium chloride	8.500	Sodium chloride	8.500
Final pH (at 25°C)	7.0±0.1	Final pH (at 25°C)	7.0±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 9.50 gram in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Peptone Saline Solution is formulated as recommended by ISO Committee (1,2,3) for use as an isotonic diluent. Standard methods for the examination of foodstuffs require sample dilution to be carried out accurately to estimate the number of microorganisms. Peptone Saline Solution combines protective effect of Peptone (4) with the osmotic balance of physiological saline (5). The low concentration of peptone helps to maintain the organisms for 1-2 hours of dilution without multiplication. The isotonic property of the diluent ensures the recovery of organisms from various sources, which may be vulnerable in distilled water or aqueous suspensions.

Type of specimen

Water samples.

Specimen Collection and Handling:

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (3,6).

Preparation of test sample of water- ISO 5667-2, ISO 5667-3: The sample should be mixed thoroughly by vigorous agitation to achieve uniform distribution of microorganisms and, depending on the nature of the water and the bacterial content anticipated, any dilutions necessary made at this stage. Prepare tenfold dilutions of water samples as per ISO 6887. After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Further biochemical testing is required for identification of species.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

White to pale yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear solution without any precipitate

Reaction

Reaction of 0.95% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

Diluent : Cultural response was observed after an incubation at 20°C - 25°C for 45 mins to 1hour. Recovery is considered on TSA

Organism	Inoculum (CFU)	Growth
<i>Escherichia coli</i> ATCC 25922 (00013)*	50-100	±30% colonies of the original count
<i>Escherichia coli</i> ATCC 8739 (00012*)	50-100	±30% colonies of the original count
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 25923 (00034*)	50-100	±30% colonies of the original count

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (7,8).

Reference

1. International Organization for the Standardization (ISO), ISO/DIS 6649.
2. ISO 8199:1988 (E)-Microbiology of the food chain — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and decimal dilutions.
3. ISO 8199:2018-Water quality — General requirements and guidance for microbiological examinations by culture.
4. Patterson J. W. and Cassells J. A., 1963, J. Appl. Bacteriol., 26:493.
5. Straker R. P. and Stokes J. L., 1957, Appl. Microbiol., 5:2.
6. Lipps WC, Braun-Howland EB, Baxter TE, eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.
7. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
8. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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