



0.1% Peptone Salt Solution

M1748

0.1% Peptone Salt Solution is used as diluent for different test method.

Composition**

Ingredients	Gms / Litre
Bacteriological Peptone	1.000
Sodium chloride	8.500
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 9.50 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes i.e. validated cycle.

Principle And Interpretation

0.1% Peptone Salt solution is recommended as a diluent for dilution of sample by different test methods widely used for examination of foodstuffs. Standard methods for the examination of foodstuffs require sample dilution to be carried out accurately for enumerating the microorganisms. This medium is also recommended by ISO Committee (1) for use as an isotonic diluent.

It contains peptone at low concentration which provides nutrients for survival of microorganisms and hence protecting the organisms (2). Sodium chloride at 0.85% concentration maintains osmotic balance of medium thereby maintaining cell morphology and integrity (3). The pH of this diluent medium is near neutral range optimum for viability of microorganisms. Therefore it can be successfully used as a diluent for carrying out dilutions of different samples.

It is recommended to use 10 gm of test sample along with 90 ml of 0.1% Peptone salt solution for enumeration. The prepared dilution may be blended at 15,000 to 20,000 revolutions per minute. Further a ten fold dilution may be prepared using 1 ml of it in 9ml of sterile diluent within 15 minutes and mixed well. This is considered as 10^{-1} dilution. Sequential dilutions can be prepared using same diluent and counts obtained by spread plate or pour plate technique. Tests may be performed in duplicates as described in technique and checked for equivalent yields of organisms between the diluent batches.

Incubate the tubes with test organisms. At time of zero minutes and after 30 minutes and 2 hours, subculture an inoculum (approximately 0.01ml) or a loop full onto Soyabean Casein Digest Agar (M290) using streak plate technique. If desired SCDA may be also enriched with 5% v/v sheep blood depending on intended organisms to be isolated. Incubate plates at $35\pm 2^{\circ}\text{C}$ for 18-24 hours.

Quality Control

Appearance

Off white to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Cream to pale yellow clear solution in tubes

Reaction

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

pH

6.80-7.20

Cultural Response

Cultural characteristics observed on Soyabean Casein Digest Agar (M290), after an incubation at 35-37°C for 18-48 hours of cultures suspended in 0.1% Peptone Salt solution for 30 minutes.

Cultural Response

Organism	Inoculum (CFU)	Recovery (after 30 minutes)
Cultural Response		
<i>Escherichia coli</i> ATCC 25922	50-100	no change in numbers
<i>Staphylococcus aureus</i> ATCC 25923	50-100	no change in numbers

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2–8°C. Use before expiry date on the label.

Reference

1. International Organization for Standardization (ISO), ISO/DIS 6649.
2. Straker R.P. and Stokes J.L., 1957, *Appl. Microbiol.*, 5:21.
3. Patterson J.W. and Cassells J.A., 1963, *J. Appl. Bacteriol.*, 26:493.

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