Specification

Isotonic solution for the cellular suspensions according to ISO normative.

Formula * in g/L

Sodium chloride.....2,250
Potassium chloride..... 0,105
Calcium chloride, Anhy.....0,06
Sodium bicarbonate..... 0,050

Note: Due to the low ionic strength
of this medium the pH is not specified.

* Adjusted and /or supplemented as required to meet performance criteria

Directions

To obtain an isotonic solution for prokariote cells, dissolve 2.5 g of powder in 1 L of distilled water.
Distribute into suitable containers and sterilize in the autoclave at 121ºC for 15 minutes.

Description

Ringer saline solution is an isotonic medium which is more balanced than a simple sodium chloride saline solution, and its formulation permits autoclaving without producing any precipitation.

Technique

For routine work with bacteria the solution is diluted one in four (Ringer 1/4), and is employed to prepare cell suspensions or dilution banks.
To dilute food samples or substances that have undergone thermal treatment, it is more advisable to use Peptone Water for the dilutions, since the Peptone Water acts as a revitalizer.

Quality control

Incubation temperature: 35°C ±2,0 **Incubation time:** Recovery 24 h

Inoculum: 1000-10000 CFU / tube (Productivity) at T0, 45 minutes and 1 h. (20-25ºC) ; according ISO 11133:2014/Amd 1:2018

Microorganism	Growth	Remarks
Salmonella typhimurium ATCC® 14028	Recovery ±30% T0	Recovery TSA
Staphylococcus aureus ATCC® 6538	Recovery ±30% T0	Recovery TSA
Escherichia coli ATCC® 8739	Recovery ±30% T0	Recovery TSA
Candida albicans ATCC® 10231	Recovery ±30% T0	Recovery TSA
Pseudomonas aeruginosa ATCC® 9027	Recovery ±30% T0	Recovery TSA

References

· ISO 6887-1: 2017 Microbiology of 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 - Part 2 (2003): Specific rules for the preparation of meat and meat products.
· ISO Standard 8199 (2018) Water Quality - General requirements and guidance for microbiological examinations by culture.
· ISO 8261: 2001 Standard. Milk and milk products - General guidance for the preparation of test samples, initial suspension and decimal dilution for microbiological examination.
· ISO Standard 10718:2015 Cork stoppers — Characterization of a low-in-germs stopper, through the enumeration of colony-forming units of yeasts, moulds and bacteria, capable of both being extracted and growing in alcoholic medium
· ISO Standard 11133:2014 Microbiology of food, animal feed and water. Preparation, production, storage, and performance testing of culture media.
· ANONYMOUS (1937) Bacterial Tests for Graded Milk. Memo 139-Foods. Dept. of Health and Social Security. London.
· DAVIS, J.G. (1956) Laboratory Control of Dairy Plant. Dairy Industries Ltd., London.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).

Packaging