

Ringer Salt Solution, Granulated

GM525

Intended Use:

Recommended as an isotonic diluent for food, milk and dairy products during microbiological examinations.

Composition**

Ingredients	Gms / Litre
Sodium chloride	8.500
Potassium chloride	0.200
Calcium chloride anhydrous	0.200
Sodium bicarbonate	0.010
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 8.91 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Any diluent used in microbiological examination should be isotonic with the cells to be suspended. It should also preferably contain a buffer and certain ions necessary for the optimal maintenance of cells. Ringer Salt Solution Powder is recommended as an isotonic diluent for microbiological examination of foods (1,2).

Ringer Salt Solution is isotonic with bacteria and thus prevents them from being subjected to osmotic stress when they are removed from their customary environment. It is physiologically superior to physiological saline for sensitive organisms. Ringer Salt Solution is used as an isotonic diluting fluid and suspending fluid which preserves the cells in their original condition. The salts in the medium balances the osmotic equilibrium of the medium, thereby protecting the organisms from osmotic stress caused due to change in environment.

Type of specimen

Food samples; Water samples

Specimen Collection and Handling:

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (3).

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (4).

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. It is physiologically superior to physiological saline for sensitive organisms, however the viability has to be checked.

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 cream coloured granular medium

Colour and Clarity of prepared medium

Colourless clear solution without any precipitate

Reaction

Reaction of 0.891% w/v aqueous solution at 25°C. pH : 7.0±0.2

Please refer disclaimer Overleaf.

pH

6.80-7.20

Cultural Response

Satisfactory results are obtained when used as a diluent during bacteriological examination of foods, milk, dairy products as well as for serial dilutions of pure cultures of bacteria.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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 (5,6).

Reference

- 1.Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), 1996,Mackie and McCartney, Practical Medical Microbiology, 14th Edition, Churchill Livingstone.
- 2.Finegold S. M and Baron E. J, 1986, Bailey and Scotts Diagnostic Microbiology, 7th Edition, The C.V. Mosby Co.
- 3.Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
- 4.Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
- 5.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- 6.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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Disclaimer :

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