

Technical Data

MSM Broth Base

M1864

Intended Use:

Recommended as an enrichment medium for Salmonella species.

Composition**

g / L
0.500
3.000
0.120
0.013
3.000
6.000

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 12.63 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Aseptically add the contents of one vial of Growth Supplement I for MSM (FD287) and one vial of Growth Supplement II for MSM (FD288). Mix well and dispense into sterile tubes or flasks as desired.

Principle And Interpretation

MSM Broth Base is an enrichment medium free from inhibitors and is well buffered and provides conditions for recovery of injured cells. *Salmonella* infections are zoonotic and can be transferred between humans and non-human animals. In humans, *Salmonella* are the cause of two diseases called salmonellosis: enteric fever (typhoid), resulting from bacterial invasion of the bloodstream, and acute gastroenteritis, resulting from a foodborne infection/intoxication (1). It was noted by Edel and Kampelmacher (2) that sub-lethal injury to *Salmonella* may occur due to food preservation techniques involving heat, desiccation, high osmotic pressure, preservatives or pH changes. Sodium chloride maintains the osmotic balance and phosphates buffer the medium. The phosphate buffer system prevents bacterial damage due to changes in the pH of the medium. Yeast extract provides carbon and nitrogen source.

Type of specimen

Clinical samples: faeces, urine; etc. Food and dairy samples; Water samples

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4).

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (5,6,7). For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (8). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use. For professional use only. 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 clinical 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. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.
- 3. The medium is selective for Salmonella may not support the growth of other microorganisms.
- 4. Final confirmation of suspected colonies must be carried out by serological and biochemical tests.

Please refer disclaimer Overleaf.

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

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured, clear solution without any precipitate

Cultural Response

Cultural characteristics observed with added Growth Supplement I for MSM (FD287) and Growth Supplement II for MSM (FD288), after an incubation at 35 - 37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth R	ecovery
Salmonella Enteritidis ATCC 13076 (00030*)	50-100	good-luxuriant >	=50%
Salmonella Typhi ATCC 6539	50-100	good-luxuriant $>$	=50%
<i>Salmonella</i> Typhimurium ATCC 14028 (00031*)	50-100	good-luxuriant $>$	=50%

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

- 1. Todar's Online Book of Bacteriology. Salmonella and Salmonellosis.
- 2. Edel and Kampelmacher, 1973, Bull. W.H.O., 48:167.
- 3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- 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.
- 5. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
- 6. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, American Public Health Association, Washington, D.C.
- Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
- Lipps WC, Braun-Howland EB, Baxter TE, eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.

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IVD



-30°C Storage temperature

> Do not use if package is damaged

Disclaimer :

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In vitro diagnostic

medical device

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