



MSM Broth Base

M1864

MSM Broth Base is recommended as an enrichment medium for *Salmonella* species.

Composition**

Ingredients	Gms / Litre
Sodium chloride	0.500
Potassium phosphate monobasic (KH ₂ PO ₄)	3.000
Magnesium sulphate, anhydrous (MgSO ₄)	0.120
Calcium chloride dihydrate (CaCl ₂ .2H ₂ O)	0.013
Yeast extract	3.000
Sodium phosphate dibasic (Na ₂ HPO ₄)	6.000

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 12.63 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. 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 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 (2). It was noted by Edel and Kampelmacher (1) 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.

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.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
<i>Salmonella Enteritidis</i> ATCC 50-100 13076		good-luxuriant	>=50%
<i>Salmonella Typhi</i> ATCC 6539	50-100	good-luxuriant	>=50%
<i>Salmonella Typhimurium</i> ATCC 14028	50-100	good-luxuriant	>=50%

Storage and Shelf Life

Please refer disclaimer Overleaf.

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.Edel and Kampelmacher, 1973, Bull. W.H.O., 48:167.
- 2.Todar's Online Book of Bacteriology. Salmonella and Salmonellosis.

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