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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Mannitol Salt Agar Base

Principle

Mannitol salt agar is a medium used for the detection and enumeration of *Staphylococci*. It was described by Chapman and prepared in accordance with the harmonized principles of USP/IP/JP as medium for microbial limit testing of pharmaceutical products and raw material used in pharmaceutical industries. Mannitol salt agar contains pancreatic digest of casein, peptic digest of animal tissue and meat extract (equivalent to beef extract) as sources of carbon, nitrogen, vitamins and minerals. Sodium chloride, in high concentration (7.5%), act as selective agent, allow only to grow the *Staphylococci* and halophilic *Enterobacteria* and inhibit other bacteria. Phenol red is the pH indicator. D-Mannitol is the carbohydrate source. Mannitol fermentation with an accumulation of acid products, detected by the phenol red indicator which turns yellow and produces a yellow halo surrounding the presumptive pathogen colonies. Characteristic non-pathogenic *Staphylococci* do not ferment mannitol and form red colonies. Since, this medium exploits the correlation between the pathogenic and fermentative capacity of mannitol of staphylococci, for a presumptive diagnosis.

Use: For selective isolation of pathogenic Staphylococci from clinical and non-clinical samples.

Contents*

Ingredients	Gram/Litre
Pancreatic Digest of Casein	5.000
Peptic Digest of Animal Tissue	5.000
Meat Extract	1.000
D-Mannitol	10.000
Sodium Chloride	75.000
Phenol Red	0.025
Agar	15.000
pH at 25˚C	7.4 ±0.2

*** Formula adjusted for optimum performance and parameters**

Directions: Dissolve 111.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 min, cool it to 42-45 °C, and distribute in sterile petri plates and allow to solidify. Ensure complete solidification and inoculate test sample aseptically.

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Specimens' types analyzed

Pharmaceutical samples, clinical and non-clinical samples etc.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	**Light pink beige colored free flowing, homogeneous powder**
Reaction of 11.0% solution	**7.40 ±0.2 at 25 ˚C**
pH	**7.10- 7.60**
Gelling	**Firm comparable with 1.5% agar gel**
Color and clarity of ready medium	**Orange to red colored slightly opalescent gel**
Growth Promotion properties	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
Indicative properties	**Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h**
Negative control	**Performed using sterile distilled water**

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Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 18-24 hours. Inoculum 50-100 CFU.

Organism	ATCC	Growth	Recovery	Colony color
Staphylococcus aureus	25923	Luxuriant	≥ 60%	White to Yellow colonies surrounded by yellow zone
Staphylococcus epidermidis	12228	Luxuriant	≥ 60%	Red color
Escherichia coli	8739	Inhibited	-	-
Klebsiella aerogenes	13048	Inhibited	-	-

Storage and Shelf Life: **The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.**

Disposal: **To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.**

Reference

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7. ***The United States Pharmacopoeia*, (2014), The United States Pharmacopeial Convention. 12601 Twinbrook Parkway, Rockvukke, MD 20852.**

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