

## TM 1053 – NITROFURANTOIN BROTH BASE

### INTENDED USE

For isolation and enrichment of *Pseudomonas* species.

### PRODUCT SUMMARY AND EXPLANATION

Selective and differentiating media consisting of simple chemical components have been developed, both in solid and in liquid form, for culturing *Pseudomonas aeruginosa*. Nitrofurantoin, in the form of Macrochantin, has been shown to be active against most strains of *Escherichia coli*, *Staphylococcus aureus* and *Enterococcus faecalis* both in vitro and in clinical infections. Nitrofurantoin is not active against most strains of *Proteus* species or *Serratia* species. It has no activity against *Pseudomonas* species. Therefore, nitrofurantoin incorporated in medium can be used as a selective medium for culturing of *Pseudomonas* species.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone	7.500
Tryptone	7.500
Sodium chloride	5.000

### PRINCIPLE

Peptone and Tryptone in the medium provide the essential nutrients especially nitrogenous sources. Nitrofurantoin, 1-[(5-nitrofurfurylidene) amino] hydantoin, is a synthetic antibacterial agent which is effective against most common gram negative and gram-positive urinary tract pathogenic bacteria.

### INSTRUCTION FOR USE

- Dissolve 20 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to room temperature and aseptically add 50 ml sterile 0.2% nitrofurantoin solution.
- Mix well and dispense in tubes or flasks as desired.
- Sterile nitrofurantoin solution (0.2%) is prepared by dissolving 1 gm Nitrofurantoin in 500 ml polyethylene glycol 300.

Note: Auto sterilization takes place in 3 months. This solution can be stored for 6 months or longer.

### QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : Cream to yellow homogeneous free flowing powder.

**Appearance of prepared medium** : With added nitrofurantoin : Fluorescent yellow coloured clear solution without any precipitate.

**pH (at 25°C)** : 7.2 ± 0.2

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	$\geq 10^3$	Inhibited	35-37°C	18-24 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Good-luxuriant	35-37°C	18-24 Hours
<i>Staphylococcus aureus subsp. aureus</i>	25923	$\geq 10^3$	Inhibited	35-37°C	18-24 Hours

**PACKAGING:**

In pack size of 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.







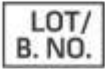


**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

1. Clinical and Laboratory Standards Institute, 2006, Performance standards for antimicrobial susceptibility testing. Approved standard M100-S15, Vol. 25, CLSI, Villanova, Pa.
2. Chamberlain R. E., 1976, Chemotherapeutic properties of prominent nitrofurans, J. Antimicrob. Chemother. 2:325336.
3. 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.
4. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
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