

TECHNICAL SHEET

B270	NITRATE BROTH	
Formula		
Ingredients:	gms/lit.	
Peptic digest of animal tissue	5.00	
Meat extract B #	3.00	
Potassium nitrate	1.00	
# Equivalent to Beef Extract		
Final pH (at 25°C) :	7.0 ± 0.2	
Directions:		
Suspend 9 gms. in 1000 ml. distilled water. Boil to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.		
Principles:		
Meat Extract B and Peptone are sources of carbon, protein and nutrients. Potassium Nitrate is a source of nitrate. Nitrate reduction is a valuable criterion for differentiating and identifying various types of bacteria. Certain bacteria reduce nitrates to nitrites only, while others are capable of further reducing nitrite to free nitrogen or ammonia.		
Preparation of Nitrate Test Reagents: 1. Sulfanilic Acid: Dissolve 8 grams of sulfanilic acid in 1 litre 5 N acetic acid.		
2. Alpha-Naphthylamine reagent: Dissolve 5 grams of alpha-naphthylamine in 1 litre 5 N acetic acid.		
For the test: Add few drops of each reagent i.e., sulphanilic acid (BA078) and a-naphthylamine solution (BA069) into the tube containing culture to be tested. A distinct red or pink colour indicates nitrate reduction. A control (un-inoculated) tube should also be tested.		
QC Tests - (I) Dehydrated Medium		
Colour :	Cream to yellow	
Appearance:	Homogeneous Free Flowing powder	
(II) Rehydrated medium		
pH (post autoclaving/heating):	7.0 ± 0.2	
Colour (post autoclaving/heating):	Light amber	
Clarity (post autoclaving/heating):	Clear	
(III) Q.C. Test Microbiological		
Cultural characteristics observed after 18 - 24 hrs at 35 - 37°C. Nitrate reduction observed on addition of 0.5ml of sulphanilic acid (BA078) and 0.5ml of Alpha-naphthylamine Solution (BA069).		
MICROORGANISM (ATCC)	GROWTH	NITRATE REDUCTION
Acinetobacter calcoaceticus (19606)	Luxuriant	Negative reaction
Enterobacter aerogenes (13048)	Luxuriant	Positive reaction, distinct red-pink colour developed within 1-2 minutes.
Escherichia coli (25922)	Luxuriant	Positive reaction, distinct red-pink colour developed within 1-2 minutes
Salmonella typhimurium (14028)	Luxuriant	Positive reaction, distinct red-pink colour developed within 1-2 minutes
Precautions :	<ol style="list-style-type: none"> 1. For Laboratory Use. 2. Follow proper, established laboratory procedures in handling and disposing of infectious materials. 3. IRRITANT. Irritating to eyes, respiratory system and skin. Avoid contact with skin and eyes. Do not breathe dust. Wear suitable protective clothing. Keep container tightly closed. Target organ(s) : Blood, Nerves. 	
Limitations :	<ol style="list-style-type: none"> 1. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium. 2. The addition of too much zinc dust may cause a false - negative reaction or a momentary colour reaction. 3. The nitrate test is very sensitive. An uninoculated nitrate control should be tested with reagents to determine whether the medium is nitrate free and that the glassware and reagents have not been contaminated with nitrous oxide. 4. The inoculum should not be taken from broth suspension of the organisms. 	

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Use :	For detection of nitrate reduction by bacteria.				
Storage :	Dehydrated medium- below 30°C Prepared medium– Between 2 to 8°C.				
Packing :	500 gm. bottle				
Product profile:	Reconstitution	Quantity on Preparation (500g)	pH (25°C)	Supplement	Sterilization
B270	9g/l	55.55L	7.0 ± 0.2	NIL	121°C / 15 minutes

Disclaimer:

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related BIOMARKLABORATORIES publications.

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