Nitrate Broth BIS

Intended Use
Nitrate Broth is used for detection of nitrate reduction by bacteria in compliance with BIS specification IS:5887 (Part IV)-1976.

Summary
Nitrate Broth is recommended for the detection of nitrate reduction. Reduction of nitrate is generally an anaerobic respiration in which an organism derives its oxygen from nitrate. In presence of nitrate reductase enzyme nitrate reduces to nitrite, which can be tested for by an appropriate colorimetric reagent. Nitrate Broth is prepared in accordance with the formula published in 'Pure Culture Study of Bacteria' of the Society of American Bacteriologist and present modified formula is recommended by BIS.

Principle
Peptic digest of animal tissue and meat extract provide the essential nutrient for growth of bacteria while potassium nitrate is the source of nitrate. Sodium chloride maintains osmotic equilibrium of the medium.

Formula*

Ingredients	**g/L**
Peptic Digest of Animal Tissue	5.0
Meat Extract	3.0
Potassium Nitrate	1.0
Sodium Chloride	30.0
Final pH (at 25°C)	7.0 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Water samples and Clinical samples.

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 39.00 g of powder in 1000 mL purified / distilled water. Soak for 5 minutes.
2. Warm slightly with frequent agitation to dissolve the powder completely. DO NOT OVERHEAT.
3. Dispense in a tubes or adequate containers and sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control
Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder.
Prepared Appearance: Light yellow coloured, clear solution without any precipitate.
Cultural Response: Cultural characteristics observed after an incubation at 30°C-35°C for 18-24 hours.

Organism (ATCC)	Growth	Nitrate Reduction
Klebsiella aerogenes (13048)	Good	+
Escherichia coli (25922)	Good	+
Escherichia coli (8739)	Good	+
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (14028)	Good	+
Salmonella enterica subsp. *enterica* serovar *Typhimurium* (23564)	Good	+

Interpretation of Results

Refer to appropriate references and procedures for results.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Mackie & McCartney's Practical Medical Microbiology. 14th edition.
2. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201140010100	Dehydrated Culture Media	100 g
201140010500	Dehydrated Culture Media	500 g