

TMV 239 – NITRATE BROTH (VEG.)

INTENDED USE

For detection of nitrate reduction and enumeration of *Bacillus cereus*.

PRODUCT SUMMARY AND EXPLANATION

Nitrate Broth (Veg) is prepared by completely replacing animal based peptones with vegetable peptones, which makes the media free of BSE/TSE risks. Nutritionally rich in nitrogen source, veg peptone and Veg extract is used against Gelatine peptone and Beef extract respectively in Nitrate Veg Medium. It is a modification of conventional Nitrate Medium prepared in accordance with the formula published in 'Pure Culture Study of Bacteria' of the Society of American Bacteriologist.

COMPOSITION

Ingredients	Gms / Ltr
Veg Peptone	5.000
Veg extract	3.000
Potassium Nitrate	1.000

PRINCIPLE

Potassium nitrate in the medium acts as a substrate for determining nitrate reduction by bacteria. Certain bacteria convert nitrate to nitrite, ammonia or nitrogen gas. The presence of nitrites can be detected by the addition of 0.5 ml each of sulphanilic acid and alpha-naphthylamine solution. The development of red violet colour, due to the formation of a red diazonium dye i.e. p-sulphobenzene-azo-a-naphthylamine, indicates nitrate reduction to nitrite.

Note: Nitrate reduction is not a confirmatory test. Complete identification of bacteria should include the morphology, gram reaction, biochemical and serological tests. Addition of excess zinc may result in false negative reaction.

INSTRUCTION FOR USE

- Dissolve 9 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Allow the tubes to cool in a slanted position.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Yellow coloured may have slightly greenish tinge, homogeneous, free flowing powder.
Appearance of prepared medium	: Light amber coloured, clear to slightly opalescent gel forms in tubes as slants, clear solution in tubes.
pH (at 25°C)	: 7.0 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Nitrate reduction	Incubation Temperature	Incubation Period
<i>Enterobacter aerogenes</i>	13048	50-100	Luxuriant	Development of distinct red or pink colour	35-37°C	18-24 Hours
<i>Acinetobacter calcoaceticus</i>	19606	50-100	Luxuriant	No change in colour or no development of red or pink colour	35-37°C	18-24 Hours
<i>Salmonella serotype Typhimurium</i>	14028	50-100	Luxuriant	Development of distinct red or pink colour	35-37°C	18-24 Hours
<i>Escherichia coli</i>	25922	50-100	Luxuriant	Development of distinct red or pink colour	35-37°C	18-24 Hours

PACKAGING:

In pack size of 100 gm and 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. Society of American Bacteriologist, 'Pure Culture Study of Bacteria, 1944, 12 : Leaflet 11:8.
2. Ewing, 1986, Edwards and Ewings Identification of Enterobacteriaceae, 4th ed., Elsevier Science Pub. Co., Inc., N.Y.
3. MacFaddin J.F., 2000(ed), Biochemical Tests for Identification of Medical Bacteria, 3rd edition, Lippincott Williams and Wilkins, New York.

 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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