

## CM 21,316 – NUTRIENT AGAR, (pH 7.0)

### INTENDED USE

For cultivation of Salmonella species.

### PRODUCT SUMMARY AND EXPLANATION

Nutrient Agar is a basic culture medium used for maintenance or to check purity of subcultures prior to biochemical or serological tests from water and Dairy. Many bacteria have the optimum pH growth range of 6.6 to 7.0. This medium may be used as slants or plates for routine work with non-fastidious organisms. Wetmore and Gochenour maintained cultures of *Malleomyces* and *Pseudomonas* on Nutrient Agar to which glycerol was added. Greenberg and Cooper employed this medium in cultivation of *Staphylococci* for the preparation of vaccines and antigens. Nutrient Agars have relatively simple formulation which provides the necessary nutrients for the growth of many microorganisms which are not very fastidious.

### COMPOSITION

| Ingredients  | Gms / Ltr |
|--------------|-----------|
| Peptone      | 5.000     |
| Meat extract | 3.000     |
| Agar         | 15.000    |

### PRINCIPLE

The medium consists of Meat extract which provide the necessary organic nitrogen compounds, vitamins, salts and little carbohydrates. Peptone in the medium provides amino acids and long chain peptides for the organisms.

### INSTRUCTION FOR USE

Dissolve 23.0 grams in 1000 ml purified/distilled water.

Heat to boiling to dissolve the medium completely.

Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C. If desired, the medium can be enriched with 5 - 10% v/v sterile defibrinated blood

Mix well and pour into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

|                               |                                                                           |
|-------------------------------|---------------------------------------------------------------------------|
| Appearance of Powder          | : Cream to yellow coloured homogeneous free flowing powder                |
| Appearance of prepared medium | : Yellow coloured clear to slightly opalescent gel forms in Petri plates. |
| pH (at 25°C)                  | : 7.0 ± 0.2                                                               |

### INTERPRETATION

Cultural characteristics observed after incubation.

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Incubation Temperature | Incubation Period |
|---------------|------|-------------------|--------|----------|------------------------|-------------------|
|---------------|------|-------------------|--------|----------|------------------------|-------------------|



|                                     |       |        |           |       |         |             |
|-------------------------------------|-------|--------|-----------|-------|---------|-------------|
| Enterococcus faecalis               | 29212 | 50-100 | Luxuriant | >=70% | 35-37°C | 18-24 Hours |
| Salmonella Typhimurium              | 14028 | 50-100 | Luxuriant | >=70% | 35-37°C | 18-24 Hours |
| Escherichia coli                    | 25922 | 50-100 | Luxuriant | >=70% | 35-37°C | 18-24 Hours |
| Salmonella Enteritidis              | 13076 | 50-100 | Luxuriant | >=70% | 35-37°C | 18-24 Hours |
| Staphylococcus aureus subsp. aureus | 25923 | 50-100 | Luxuriant | >=70% | 35-37°C | 18-24 Hours |
| Shigella flexneri                   | 12022 | 50-100 | Luxuriant | >=70% | 35-37°C | 18-24 Hours |
| Yersinia enterocolitica             | 23715 | 50-100 | Luxuriant | >=70% | 35-37°C | 18-24 Hours |
| Salmonella Typhi                    | 6539  | 50-100 | Luxuriant | >=70% | 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

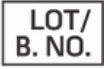
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

#### REFERENCES

1. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.



2. Greenberg and Cooper, 1960, Can. Med. Assn. J., 83:143.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. 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.
5. Pelczar, Chan and Kreig, 1986, Microbiology, 5th ed., McGraw-Hill Book Company, New York.
6. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
7. Standard Methods for the Examination of Dairy Products, 1978, 14th ed., APHA, Washington D.C. 8. Wetmore and Gochenour, 1956, J. Bact., 72:79.

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|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <br>Good Manufacturing<br>Practices Certified | <br>Best Before        | <br>Quantity                          | <br>Catalogue Number | <br>Manufacturer |
| <br>Temperature Unit                          | <br>Lot / Batch Number | <br>Consults Instructions<br>for Use | <br>QR<br>Code       |                                                                                                     |

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

\*For LabUse Only

