TM 2255 – NORRIS GLUCOSE NITROGEN FREE MEDIUM

INTENDED USE

For the cultivation of chemoheterotrophic bacteria that can fix atmospheric nitrogen.

PRODUCT SUMMARY AND EXPLANATION

The survival of microorganisms in the laboratory as well as in nature depends on their ability to grow under certain chemical and physical conditions. An understanding of these conditions enables us to characterize isolates and differentiate between different types of bacteria. Such knowledge can also be applied to control the growth of microorganisms in practical situations. Organisms that are generally organotrophic, may also be termed chemoorganotrophs. These organisms may use a variety of organic compounds as both carbon and energy sources. A common sugar used is glucose. ATP is generated by either substrate-level or oxidative phosphorylation.

COMPOSITION

Ingredients	Gms / Ltr
Glucose (Dextrose)	10.000
Dipotassium hydrogen phosphate	1.000
Magnesium sulphate	0.200
Calcium carbonate	1.000
Sodium chloride	0.200
Sodium molybdate	0.005
Ferrous sulphate	0.100

PRINCIPLE

The medium consists of glucose that serves as the carbon source. Sodium molybdate in the medium increases the fixation of nitrogen. Different salts in the medium serve as buffer as well as essential ions to the chemoheterotrophic bacteria.

INSTRUCTION FOR USE

- Dissolve 12.5 grams in 1000 ml purified/distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense into tubes or flasks as desired.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
  Note: Due to the presence of calcium carbonate, the prepared medium forms opalescent solution with white precipitate.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Off-white to yellow homogeneous free flowing powder

Appearance of prepared medium : Light yellow coloured clear to slightly opalescent solution with slight precipitate.

pH (at 25°C) : 7.0 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Alternaria solanii	2101	50-100	Luxuriant	25-30°C	48-72 Hours

PACKAGING:

In pack size of 100 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.

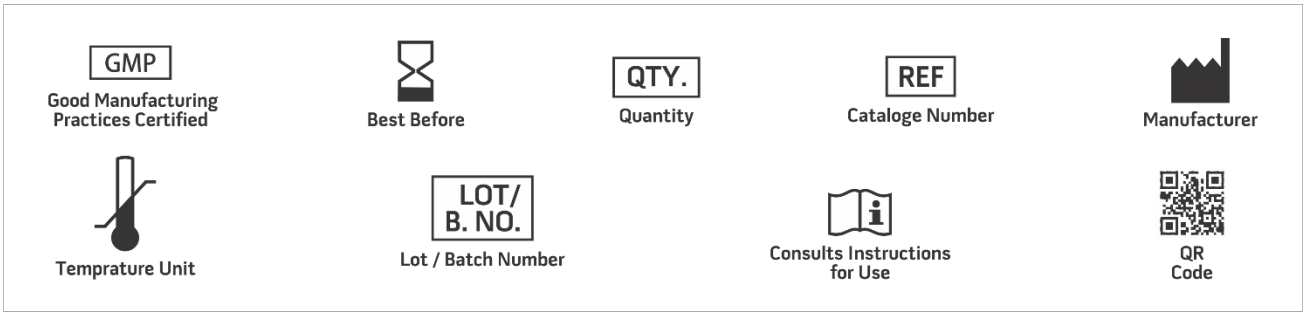
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. 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.
3. Ranganayaki S., Mohan C., Effect of Sodium molybdate on microbial fixation of nitrogen, Z. Ally. Microbiol 1981; 21 (8): 607-10.
4. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.



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

***For Lab Use Only**

Revision: 08 Nov., 2019