

TM 665 – ASPARAGINE GELATIN LACTATE MEDIUM BASE

INTENDED USE

For isolation of sulphur bacteria.

PRODUCT SUMMARY AND EXPLANATION

The bulk of soil sulphur is in the organic form which is metabolized by soil microorganisms to make it available in an inorganic state for plant nutrition. Sulphur is bound in organic state in proteins of vegetable and animal origin and in the protoplasm of microorganisms in the form of sulphur containing amino acids (cystine and methionine) and B-vitamins. The conversion of organically bound sulphur to the inorganic state is termed as mineralization of sulphur and is mediated through microorganisms. The sulphur thus released is either absorbed by plants or escapes to the atmosphere in the form of oxides. In the absence of oxygen, certain microorganisms produce hydrogen sulphide from organic sulphur substrates especially in water logged soils. Sulphur bacteria or sulphate reducing bacteria comprise several groups of bacteria that use inorganic sulphate as an oxidizing agent and reduce it to hydrogen sulphide. This may diminish the availability of sulphur for plant nutrition and thus influence agricultural production. *Desulfovibrio* species belonging to this class of bacteria is an obligate anaerobe, capable of producing hydrogen sulphide at a rapid rate. Asparagine Gelatin Lactate Medium is used for the isolation of sulphur bacteria.

COMPOSITION

Ingredients	Gms / Ltr
Asparagine	1.000
Dipotassium hydrogen phosphate	0.500
Magnesium sulphate	1.000
Ammonium ferric sulphate	0.001
Gelatin	150.000

PRINCIPLE

Asparagine is the nitrogen source and is readily available for microbial energy and growth while the salts in medium help for growth of microorganisms. Gelatin acts as solidifying agent.

INSTRUCTION FOR USE

- Dissolve 152.5 grams in 1000 ml warm purified / distilled water.
- Add 5 grams of sodium lactate. Heat to boiling to dissolve the medium completely.
- Dispense in tubes or flasks as desired.
- Sterilize by autoclaving at 10 psi pressure (116°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Off-white to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Yellow coloured clear to slightly opalescent gel forms in tube as butt.
pH (at 25°C)	: 7.0±0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>Desulfovibrio desulfuricans</i>	13541	50-100	Good-luxuriant	30°C	7 Days

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. Subba Rao, 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., India.

 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 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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