



## Asparagine Gelatin Lactate Medium Base

M725

Asparagine Gelatin Lactate Medium is used for the isolation of sulphur bacteria.

### Composition\*\*

Ingredients	Gms / Litre
Asparagine	1.000
Dipotassium phosphate	0.500
Magnesium sulphate	1.000
Ferric ammonium sulphate	0.001
Gelatin	150.000
Final pH ( at 25°C)	7.0±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 152.5 grams in 1000 ml warm distilled water. Add 5 grams of sodium lactate. Heat to boiling to dissolve the medium completely. Dispense in flasks or tubes, sterilize by autoclaving at 116°C for 15 minutes.

### Principle And Interpretation

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 (1).

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.

### Quality Control

#### Appearance

Off-white to yellow homogeneous free flowing powder

#### Gelling

Semisolid, comparable with 15.0% Gelatin gel

#### Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in tube as butt

#### Reaction

Reaction of 15.25% w/v aqueous at 25°C. pH : 7.0±0.2

#### pH

6.80-7.20

#### Cultural Response

M725: Cultural characteristics observed after an incubation at 30°C for 7 days.

Organism	Inoculum (CFU)	Growth
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*Desulfovibrio desulfuricans* 50-100      good-luxuriant  
*ATCC 13541*

### Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on label.

### Reference

1. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.

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#### Disclaimer :

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