



## Agar Powder, Extra Pure, Bacteriological Grade

RM301

Being extra pure it is recommended for use in media employed for nutritional studies, tissue culture procedures, immunological diffusion studies, etc. Due to low gelling temperature, it is conveniently used in Blood and Serum Agar. It is used in following concentrations. For Routine Media: 1.2 - 1.7% ,For Soft Media: 0.5% ,For Semisolid Media: 0.15% , For Media with Reduced Oxygen Tension: 0.05 - 0.1% , For Extra Hard Gels, to inhibit swarming of Proteus species: 2.0%

### Principle And Interpretation

Agar Powder, Extra Pure is extensively purified by exhaustively extracting Agar with water and organic solvents to remove all nitrogenous compounds, inorganic salts and vitamins. It has low calcium and magnesium levels and is compatible with all culture media. It is recommended for antimicrobial diffusion studies especially for disc diffusion susceptibility tests where low mineral/metal content is desirable to allow free diffusion of antimicrobial substances. It is a cream coloured powder that forms clear solution when dissolved in boiling water. It has particle size that can pass through 40 ASTM Screen.

### Quality Control

#### Appearance

Cream coloured, homogenous free flowing powder.

#### Solubility

Freely soluble in hot water at temperatures above 85°C. Insoluble cold water.

#### Clarity

A firm solid, clear to slightly opalescent gel is formed at a concentration of 1.5% at 34-36°C.

#### Dye Diffusion

Agar dye diffusion :- 18-20mm

#### Reaction

Reaction of 1.5% w/v aqueous solution at 25 °C

#### pH

6.50 - 7.50

#### Identification test

As per method specified in USP 37,NF32;

A: Infrared absorption.

B: With Iodine, some fragments of agar appear bluish black, with some areas reddish to violet.

C: Agar forms a clear liquid, which congeals at 30 to 39°C to form a firm resilient gel, which does not melt below 80°C.

#### Microbial Load

##### Total aerobic microbial count (cfu/gm)

By plate method when incubated at 30-35°C for not less than 3 days.

Total aerobic microbial count : <= 1000 CFU/gram

##### Total Yeast and mould count (cfu/gm)

By plate method when incubated at 20-25°C for not less than 5 days.

Total yeast & mould Count : <= 100 CFU/gram

#### Test for Pathogens

1. *Escherichia coli*-Negative in 10 gms of sample 2. *Salmonella* species-Negative in 10 gms of sample 3. *Pseudomonas aeruginosa*- Negative in 10 gms of sample 4. *Staphylococcus aureus*- Negative in 10 gms of sample 5. *Candida albicans*- Negative in 10 gms of sample 6. *Clostridia*- Negative in 10 gms of sample

#### Test for Water absorption

As per method specified in USP 37,NF32 NMT 75 ml of water is absorbed by 5.0 g of agar

#### Test for Gelatin

As per method specified in USP 37,NF32 No formation of yellow precipitate

#### Test for Starch

As per method specified in USP 37,NF32 No Formation of blue colour on addition of iodine

#### Growth Promotion Test

As per method specified in USP 37,NF32

**Chemical Analysis****Gelling temperature**

34-36°C

**Melting range**

≥85°C

**Water(KF)**

≤20%

**Calcium**

≤ 0.1%

**Heavy metals (as Pb)**

≤ 40 ppm

**Lead**

≤ 10 ppm

**Arsenic**

≤ 3 ppm

**Total ash**

≤6.5%

**Acid insoluble matter (on dry basis)**

≤0.5%

**Foreign organic matter**

≤1.0%

**Foreign insoluble matter**

≤15 mg in 7.5 gm of Agar

**Cultural Response**

Cultural response observed after an incubation at 35-37°C for 18-24 hours by preparing Nutrient Agar (M001) using Agar Powder, Extra pure as an ingredient.

**Organism****Growth***Escherichia coli* ATCC 25922

Luxuriant

*Pseudomonas aeruginosa* ATCC 27853

Luxuriant

*Staphylococcus aureus* ATCC 25923

Luxuriant

*Salmonella* Typhi ATCC 6539

Luxuriant

*Streptococcus pyogenes* ATCC 19615

Luxuriant

**Storage and Shelf Life**

Store below 30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

**Disclaimer :**

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