Agar Granulated

Principle And Interpretation
Agar Granulated, is recommended for culture media, disc diffusion susceptibility test where salts have been reduced to minimum. It is also suitable for electrophoretic and immunodiffusion assay including Vitamin assays and tissue culture work.

Quality Control

Appearance
Cream coloured coarse, 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 34-37°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

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 - 37°C

Melting range
>=85°C

Water (KF)
<=20%

Calcium
<= 25 ppm

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 Granulated 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.

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