Agar Agar Type I

Principle And Interpretation

Agar Agar Type I is produced for use in bacteriological routine laboratory work, plant tissue culture media, pharmaceutical preparations, where clarity, compatibility are not of prime importance. When suspended in cold water, it swells but does not dissolve. However, it readily dissolves in boiling water and solubility is facilitated by soaking the powder in cold water.

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 38-41°C.

Dye Diffusion
Agar dye diffusion :- 18-20mm

Reaction
Reaction of 1% w/v aqueous solution at 25°C.

pH
6.0-7.0

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.
Bacterial 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.
Yeast & mould Count : <= 100 CFU/gram

Test for Pathogens

Chemical Analysis

Gelling temperature
38-41°C

Melting range
>=85°C

Total Nitrogen
<= 0.125%

Water(KF)
<=20%

Total ash
<=6.5%
Foreign organic matter
<=1.0%
<=0.5%
Foreign insoluble matter
<=15 mg in 7.5 gm of Agar

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

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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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