



Soya Peptone

Principle And Interpretation

Soya Peptone is the soluble end product of the enzymic digestion of soyabean meal. Because of the stimulatory properties associated with soya peptone, it is ideally recommended as a growth stimulant for the cultivation of fastidious microorganisms.

Quality Control

Appearance

Light yellow to brownish yellow, may have a slight green tinge homogenous free flowing powder, having characteristic odour of protein, derived from vegetable source.

Solubility

Freely soluble in distilled/ purified water, insoluble in chloroform.

Clarity

1% w/v aqueous solution is clear without any haziness after autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Reaction

Reaction of 2% w/v aqueous solution at 25°C.

pH

6.00- 7.00

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 : <= 2000 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

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

Nitrite test

As per method specified in USP 35 NF 30, Negative: No development of pink or red colour.

Microbial Content

As per method specified in USP 35 NF 30, <=Total of 50 microorganisms or clumps in 10 consecutive fields.

Bacteriological Testing

Bacteriological tests carried out as per USP 35 NF 30, where respective medium is prepared by using Soya peptone under test.

Test for fermentable carbohydrate

Medium: 2% Soya peptone w/phenol red broth w/durhams tube. After inoculation with test culture and incubation at 35-37°C for 24 hours.

Escherichia coli ATCC 25922 Acid production, (Positive test)

Streptococcus liquefaciens No acid production, (Negative test)

Production of acetyl methyl carbinol

Medium :0.1% Soya peptone and 0.5% of dextrose in water. After inoculation with test culture and incubation at 35-37°C for 24 hours.

Enterobacter aerogenes ATCC 13048 Formation of pink colour (Positive test).

Escherichia coli ATCC 25922 No formation of pink colour (Negative test).

Production of H₂S

Medium: 1% Soya peptone in water. After inoculation with test culture and incubation at 35-37°C for 24 hours.

Salmonella Typhi ATCC 6539 The lead acetate test paper shows brownish blackening (lead sulphide)

Production of Indole

Medium: 0.1% Soya peptone in water. After inoculation with test culture and incubation at 35-37°C for 24 hours.

Escherichia coli ATCC 25922 Appearance of distinct pink to red colour ring (Positive test).

Enterobacter aerogenes ATCC 13048 No formation of pink to red coloured ring (Negative test).

Cultural response

Cultural response observed after incubation at 35-37°C for 24 hours by using 2% Soya peptone, 0.5% sodium chloride and 1.5% agar in water, pH 7.2-7.4

Cultural Response**Organism****Growth****Cultural response**

<i>Escherichia coli</i> ATCC 25922	Characteristic, luxuriant growth
<i>Pseudomonas aeruginosa</i> ATCC 27853	Characteristic, luxuriant growth
<i>Enterobacter aerogenes</i> ATCC 13048	Characteristic, luxuriant growth
<i>Salmonella</i> Typhi ATCC 6539	Characteristic, luxuriant growth
<i>Staphylococcus aureus</i> ATCC 25923	Characteristic, luxuriant growth
<i>Streptococcus pyogenes</i> ATCC 19615	Luxuriant w/ beta haemolysis (With addition of sterile 5% sheep blood in above medium after 48 hours of incubation at 35-37°C)
<i>Neisseria gonorrhoeae</i> ATCC 19424	Luxuriant w/ beta haemolysis (With addition of sterile 10% sheep blood to above medium heated to 80 to 90°C until blood has turned to chocolate and incubated in 10% CO ₂ atmosphere after 48 hours of incubation at 35-37°C)

Chemical Analysis

Total Nitrogen	>= 9.0%
Amino Nitrogen	>= 1.80%
Sodium chloride	<= 5.0%
Loss on drying	<= 5.0%
Residue on ignition	<= 15%

Storage and Shelf Life

Store below 30°C. Use before expiry date on the label.

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