Yeast Extract (i23198)

For use in culture medium as a source of nitrogen and water-soluble B vitamins.

Industry: Fermentation / Ingredients for culture media

Principles & Uses

Yeast Extract, as defined by the USP, is derived from *Saccharomyces* yeast cells through a controlled process of proteolytic autolysis, with a subsequent heat treatment to halt this enzymatic activity. This meticulous approach preserves its natural B-complex vitamins. Yeast Extract plays a pivotal role in various applications, such as fermentations and cultures of bacterial, mammalian, and insect cells. Its versatility as a growth-enhancing nutritive substrate is evident.

This extract is particularly rich in B-complex vitamins and is commonly used in culture media, typically at concentrations ranging from 0.3% to 0.5%. It finds special utility in media designed for cultivating microorganisms commonly found in dairy products.

The manufacturing process of Yeast Extract ensures that it retains all of its nutritive components, including amino acids, vitamins (especially those from the B group), and growth factors. This Yeast Extract is characterized by its low salt content and is highly recommended for microbiological media and large-scale cultivation of diverse microorganisms.

What's significant is that Yeast Extract is derived from non-animal sources, making it an invaluable component in non-animal formulations for bacterial, fungal, mammalian, and insect cell cultures.

Chemical Characteristics

Loss on drying	< 5,10 %
Total nitrogen (TN)	10,00 %
Aminic nitrogen (AN)	5,00 %
Residue on ignition	14,8 %
Chloride Sodium (ClNa)	< 1,00 %

Quality Control

Dehydrated Appearance: Yellow to light yellow, homogenous, free flowing powder, having Characteristic odor but not putrescent.

Solubility: Freely soluble in distilled/purified water, insoluble in alcohol and ether.

Solution Appearance (1X): Yellow and clear.

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.

pH of 2% solution at 25 °C: 6.5- 8.0

Test for pathogens

E. coli	Negative in 10 gr
Salmonella spp.	Negative in 10 gr
Pseudomonas aeruginosa	Negative in 10 gr
Staphylococcus aureus	Negative in 10 gr
C. albicans	Negative in 10 gr
Clostridia	Negative in 10 gr

Cultural Response

The cultural response was assessed by preparing culture medium with the inclusion of Yeast Extract as an ingredient, followed by incubation at 35-37°C for 18-24 hours.

Organism (ATCC*)	Recovery
Escherichia coli (25922)	Good to excellent
Bacillus subtilis (6633)	Luxuriant
Saccharomyces cerevisiae (9080)	Luxuriant

Storage

Keep container tightly closed at 15-30 °C.