

Malt Extract (i23506)

Used in the culture media for fungi, as much as enrichment as a true nutritive base, because very often it substitutes the peptone.

Industry: Ingredients for culture media / Fermentation

Principles & Uses

Malt Extract Powder is derived from an aqueous extract of malted grains, carefully dried at low temperatures to preserve the carbohydrates and nitrogenous substances naturally present in the malt. It serves as a valuable ingredient for culture media.

Malt extract undergoes rigorous purification steps to remove all enzymatic activity, resulting in a nearly colorless solution. It is particularly well-suited for cultivating yeasts and molds, supporting mold sporulation, especially in *Aspergillus* and *Penicillium*. This extract is rich in carbohydrates, making it essential for culture media where it provides carbon, protein, and nutrients.

Furthermore, malt extract stands out as one of the few peptones not solely valued for its nitrogen content; instead, it's highly regarded for its carbohydrate and vitamin content.

It is abundant in reduced sugars, particularly maltose and various hexoses such as glucose and fructose, alongside sucrose and other carbohydrates. In addition to carbohydrates, it contains nitrogenous components like peptides, amino acids, purines, and vitamins.

Chemical Characteristics

Loss on drying	8.5%
Maltose	9.5%
Residue on ignition	4.0%
Chlorides	5.5%

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 opaque.

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

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

Cultural Response

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

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

Storage

Keep container tightly closed at 15-30 °C.