



Beerzym® AMYL HT

Thermostable bacterial α -amylase for starch liquefaction in beer production with malt and adjuncts

Product description

Beerzym® AMYL HT is a liquid special enzyme for the liquefaction of starch in beer production with malt and adjuncts in starch degradation by decoction mashing method or in starch degradation with a cereal cooker at temperatures up to 95 °C (203 °F).

The main activity of the enzyme is based on a thermostable α -amylase (1,4- α -D-glucan-glucohydrolase: EC 3.2.1.1).

Liquefaction of the gelatinized, broken down starch in brewing mashes at temperatures up to 95 °C (203 °F).

As an endo-enzyme Beerzym® AMYL HT hydrolyzes 1,4- α -D-glycosidic bonds within the starch molecule. Products formed hereby are α -limit dextrines and oligosaccharides.

When applying Beerzym® AMYL HT the food regulations of the individual countries currently in force have to be adhered to.

Enzyme characteristics: the activity range of the enzyme is between pH 5.0 - 9.0, the optimum is at pH 6.5 in the presence of substrate and calcium. The temperature range reaches from 30 °C (86 °F) to 100 °C (212 °F), max. 105 °C (221 °F), the optimal temperature is within the range of 90 - 95 °C (194 - 203 °F) in the presence of substrate, calcium and optimal pH-value. The diagrammes 1 and 2 show the influence of temperature and pH-value on the enzyme activity of Beerzym® AMYL HT.

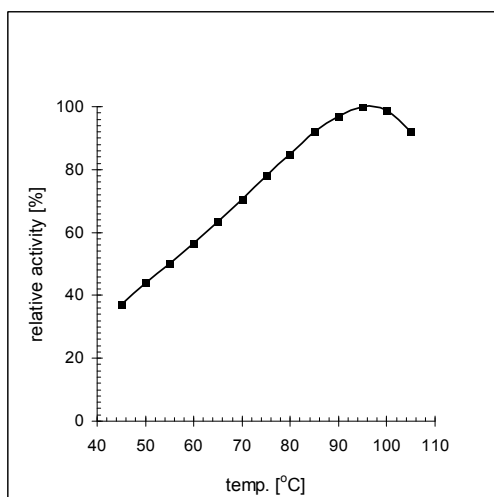


Fig 1: Influence of temperature on activity (10 % soluble starch; pH 6.5).

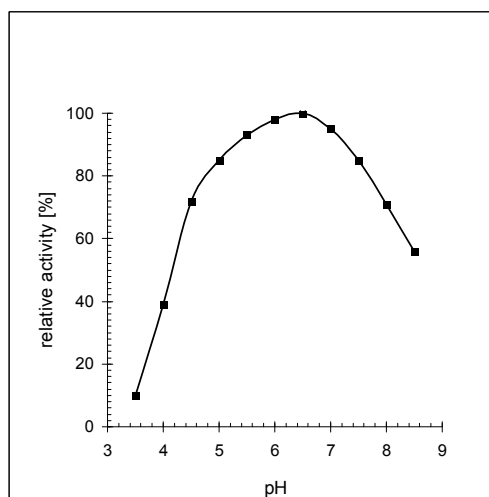


Fig 2: Influence of pH-value on activity (10 % soluble starch; 90 °C/194 °F).

Dosage

Beerzym® AMYL HT is needed in the brewing process when, due to the utilization of adjuncts (barley, rice, corn) the activity of the α -amylase of the malt portion is not sufficient to liquefy the starch. The dosage of the enzyme depends on the quality of the raw material, the temperature and the contact time.

Guide value: 80 - 240 mL/ton adjunct

Dilute Beerzym® AMYL HT with cold water. In case of the decoction mashing method the enzyme dilution is added directly in the mash-in-water, before addition of the grist or, when using a cereal cooker, it is added to the already refined adjunct. The enzyme is active within the pH-range of the mash up to 95 °C (203 °F).

Storage

Optimal storage is at 0 - 10 °C / 32 - 50 °F. Higher storage temperatures lead to reduced shelf life. Avoid temperatures above 25 °C (77 °F). Reseal opened packagings tightly and use up soon.



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