



# Beerzym® AMYL

Bacterial  $\alpha$ -amylase for starch liquefaction in beer production from malt with raw grain portions

## Product description

Beerzym® AMYL is a liquid special enzyme for starch liquefaction in brewing with malt and raw grain portions (adjuncts) in infusion mashing. The main activity of the enzyme is based on an  $\alpha$ -amylase (1.4- $\alpha$ -D-glucan-glucanohydrolase: EC 3.2.1.1). Liquefaction of the gelatinized, broken down starch in brewing mashes up to 80 °C (176 °F).

As an endo-enzyme Beerzym® AMYL hydrolyzes 1.4- $\alpha$ -D-glycosidic bonds within the starch molecule. Products formed hereby are  $\alpha$ -limit dextrines and oligosaccharides.

When applying Beerzym® AMYL 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 4.0 and 8.0, the optimum is at pH 5.8 - 6.0 in the presence of substrate and calcium. The temperature range is between 30 °C (86 °F) and 90 °C (194 °F), the temperature optimum is at 70 - 80 °C (158 - 176 °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.

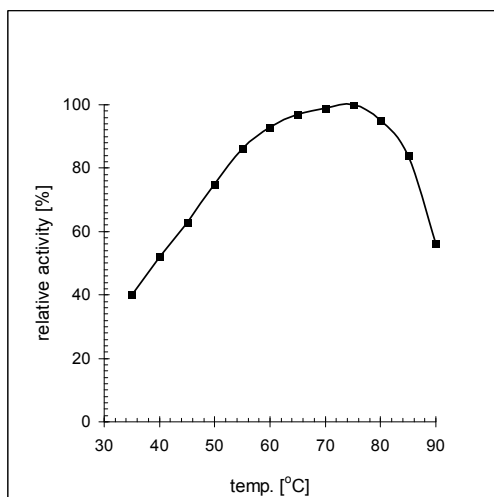


Fig 1: Influence of temperature on activity  
(16 % starch; pH 6.0).

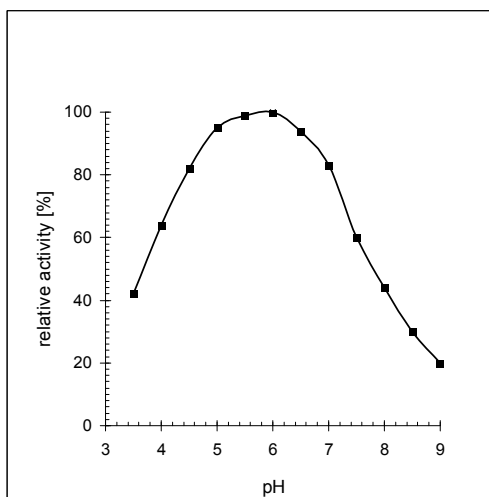


Fig 2: Influence of pH-value on activity  
(16 % starch; 70 °C /158 °F).

## Dosage

Beerzym® AMYL is needed in the brewing process when, due to the utilization of raw grain (barley, rice, corn) the activity of the  $\alpha$ -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: 150 - 350 mL/ton adjunct

Dilute Beerzym® AMYL with cold water. The enzyme dilution is added directly in the mash-in-water, before addition of the grist or The enzyme is active within the pH-range of the mash up to 80 °C (176 °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.

ERBSLÖH Geisenheim GmbH • Erbslöhstraße 1 • 65366 Geisenheim, Germany  
Tel.: +49 6722 708-0 • Fax: +49 6722 6098 • info@erbsloeh.com • www.erbsloeh.com

**ERBSLÖH**  
Fortschritt macht Zukunft®