

## Product Description

Beerzym BG is a special liquid enzyme for glucan degradation in brewing mashes of a temperature up to 90 °C (194 °F). The enzyme is produced from a specially selected strain of *Talaromyces emersonii*. The main activity of the enzyme is based on a thermostable  $\beta$ -glucanase (endo-1,3(4)- $\beta$ -D-glucanase: EC 3.2.1.6 and endo-1,4- $\beta$ -glucanase: EC 3.2.1.4).

Beerzym BG is tested by specialized laboratories for purity and quality.

**Thermostable  
fungal  $\beta$ -glucanase  
for glucan degradation  
in brewing  
mashes**

## Aim of Treatment

Glucan degradation in brewing mashes for improvement of lautering and filtration.

## Product and Effect

As an endo-enzyme Beerzym BG hydrolyzes 1,4- $\beta$ -glycosidic bonds in cellulose, lichenins and other glucans which occur especially in barley. In this process glucose units are split off.

## Dosage

Beerzym BG is necessary in beer brewing when problems in the quality of the beer are to be expected, due to seasonal conditions affecting the malt used, or when part of the malt is replaced by adjunct (e.g. barley). The dosage of the enzyme depends on the quality of the raw material, the temperature and the reaction time. Guide value: 200-400 ml/ton malt.

## Application

Dilute Beerzym BG with cold water. The enzyme dilution is added directly after milling and mashing in of the malt and/or the adjuncts into the mash tun or the mash copper. The enzyme is best active within the pH-range of the mash. Beerzym BG is active from mashing in until wort boiling up to maximally 90 °C (194 °F), in the final phase of wort boiling the enzyme is inactivated.

## Storage

Beerzym BG keeps its declared activity up to 36 months if stored optimally (0-10 °C/32-50 °F). Higher storage temperatures result in a shorter shelf life. Temperatures above 25 °C (77 °F) are to be avoided. Re-seal opened packagings tightly and use up as soon as possible.

- please turn over -

## General Characteristics

Enzyme characteristics: the activity range of the enzyme is between pH 2.0 and pH 6.5, the optimum is at pH 4.5. The temperature range of the enzyme is between 15 °C and 95 °C (59 and 203 °F), the optimum is at 75-85 °C (167-185 °F).

The diagrammes 1 and 2 show the influence of temperature and pH-value on the enzyme activity of Beerzym BG.

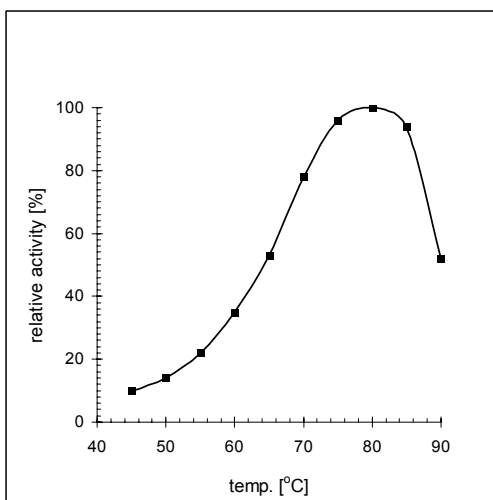


Fig 1: Influence of temperature on activity (barley- $\beta$ -glucan, pH 4.5).

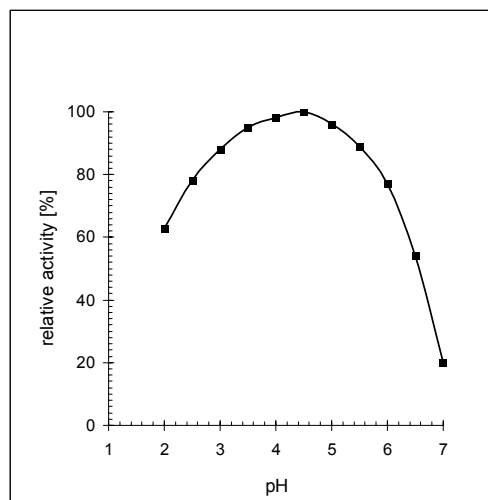


Fig 2: Influence of pH-value on activity (barley- $\beta$ -glucan, 75 °C/167 °F).

## Please note:

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