



Beerzym[®] MINICAL

Product Description

Beerzym MINICAL is a special liquid enzyme for the saccharification of residual dextrins to fermentable glucose and thus to improve the final fermentation degree in dietetic beer brewing with minimized calorie content. The enzyme is produced from a specially selected strain of *Aspergillus niger*. The main activity of the enzyme is based on a glucoamylase (exo-1,4- α -D-glucosidase: EC 3.2.1.3).

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

Aim of Treatment

Saccharification of residual dextrins to the largest possible extent to improve the final fermentation degree in dietetic beer brewing.

Product and Effect

Beerzym MINICAL gradually hydrolyzes 1,4- α -D-glycosidic bonds in starch, dextrins and oligosaccharides starting from the non-reducing chain end. In this process D-glucose units are split off. The enzyme equally splits up the 1,6- α -D-glycosidic bonds of amylopectin.

Dosage

Beerzym MINICAL is applied in brewing if during the brewing of dietetic beer the utilizable residual dextrins shall be reduced. The dosage of the enzyme depends on the brewing technology, the temperature and the reaction time.

Guide value: 2-5 ml/100 l green beer

Application

Dilute Beerzym MINICAL with cold water. The enzyme dilution is dosed to the green beer during tunnage and is active throughout maturation in the storage tank. It is true that at the standard temperatures in the tank beer enzyme activity is slowed down, however, the lowered activity due to temperature is taken into consideration by including the contact time into the calculation of the dosage so that a residual dextrin saccharification to fermentable glucose to the largest possible extent is also assured at temperatures around 2 °C (35.6 °F).

Storage

Beerzym MINICAL 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. Reseal opened packagings tightly and use up as soon as possible.

**Fungal
glucoamylase for
the saccharification
of residual dextrins
in the course of
dietetic beer
production**

- please turn over -

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6 senses for your success

General Characteristics

Enzyme characteristics: the activity range of Beerzym MINICAL is between pH 2.5 and pH 6.5, the optimum is at pH 3.8-4.2. The temperature range of the enzyme is between 2 °C (35.6 °F) and 80 °C (176 °F), the optimum is at 65 °C (149 °F).

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

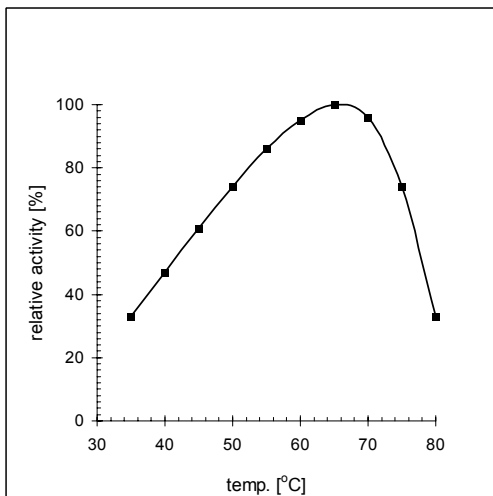


Fig 1: Influence of temperature on activity
(30% maltodextrin DE18, pH 4.0).

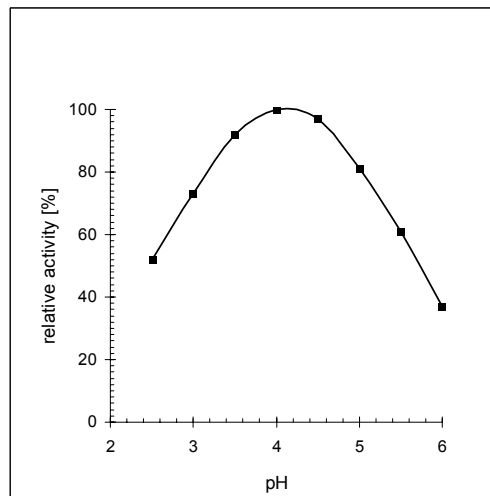


Fig 2: Influence of pH-value on activity
(30% maltodextrin DE18, 60 °C/140 °F).

Please note:

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