



CraftZYM® onyx

Special enzyme for the degradation of beta-glucans in beer with seasonal quality fluctuations of the crop

Product description

CraftZYM® onyx is a special enzyme which is applied in beer production for the degradation of betaglucan, which could incur problems as, for instance, increased cloudiness in beer or bad filter throughput by clogging the lauter process in the Brewhouse or the filter. The enzyme is obtained by specially selected strains of *Trichoderma reesei*. The main activity of the enzyme is based on a thermotolerant beta-glucanase (endo-1.3(4)- β -D-glucanase: EC. 3.2.1.6), a pentosanase (endo-xylanase: n.v.). CraftZYM® onyx is tested by specialized laboratories for purity and quality.

Aim of treatment

CraftZYM® onyx is specially applied whenever the raw material malt causes problems which require the degradation of betaglucans.

Product and effect

As an endo-enzyme CraftZYM® onyx hydrolyzes 1.4- β -glycosidic bonds in cellulose, lichenins and other β -glucans, as well as in pentosans which occur especially in malted and unmalted cereals. In this process, glucose units are split off. The enzyme is active within a broad temperature range of 20 – 70 °C and at pH-values of pH 2.0 – 6.0.

Dosage

The following standard dosages are recommended:

130 mL CraftZYM® onyx/ton wheat, barley or malt (with losses in quality)

150 mL CraftZYM® onyx/ton rye/dinkel (spelt wheat) / sorghum

10 – 25 mL CraftZYM® onyx/hL green beer or beer in ageing

In case of a deviation from standard conditions a higher or lower dosage might be required.

Very important: The dosing point of the enzyme will be in the “mash-in-water” before the grist will be mashed in and as a 2nd parameter; the Calcium content in the brewwater must be higher than 35mg/L to ensure a 100% activity of the enzyme.

Application

CraftZYM® onyx is diluted with cold water, yet the pH-value should not exceed pH 5.5.

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 packaging tightly and use up soon.



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General characteristics

Enzyme characteristics: the CraftZYM® onyx activity range of the β -glucanase/pentosanase is between pH 2.5 – 7.0, the optimum is at pH 5.0, the activity range of the acidic proteinase is between pH 1.5 – 6.5, with the optimum at pH 3.0. The temperature range of the enzyme is between 25 – 75 °C (77 – 167 °F) regarding the β -glucanase/pentosanase. The diagrams 1 and 2 show the influence of temperature and pH value on the β -glucanase/pentosanase activity of CraftZYM® onyx.

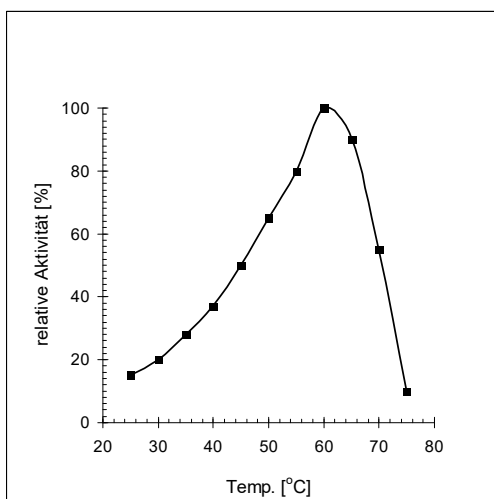


Fig. 1: Influence of temperature on the β -glucanase/xylanase activity (barley glucan/xylan, pH 5.0).

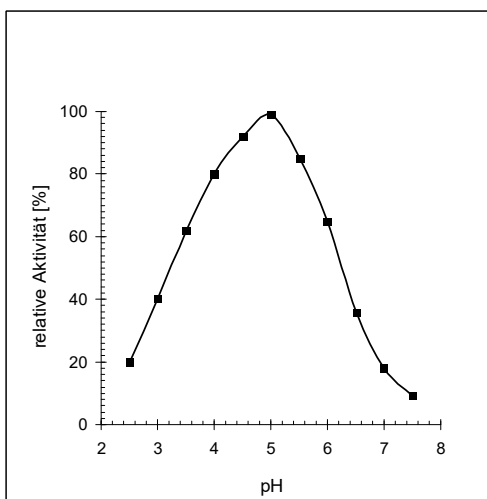


Fig. 2: Influence of the pH-value on the β -glucanase/xylanase activity (barley glucan/xylan, 55 °C).

Please note

When applying CraftZYM® onyx the food regulations of the individual countries currently in force have to be adhered to.