



# Beerzym® Rapid

Special enzyme which prevents the formation of diacetyl during fermentation and storage

## Product description

Beerzym® Rapid is a special enzyme which prevents the formation of diacetyl during fermentation and storage. The main enzymatic activity is based on an alpha-acetolactate decarboxylase (alpha-acetolactate decarboxylase: EC.4.1.1.5). Prevents the formation of diacetyl in beer by direct conversion of  $\alpha$ -acetolactate into acetoin.  $\alpha$ -acetolactate, the precursor for diacetyl, is produced during fermentation and storage. Beerzym® Rapid decomposes  $\alpha$ -acetolactate preventing it from reacting and forming diacetyl.

Beerzym® Rapid is a slightly cloudy liquid enzyme suspension. When applied in brewing the enzyme shortens maturation time freeing storage vessels and increasing brewery capacity. Beerzym® Rapid is a  $\alpha$ -acetolactate decarboxylase, active at low temperatures, which is added to cold wort at the very beginning of fermentation. Beerzym® Rapid therefore leads to quicker taste harmonization and green beer maturation, considerably shortening the maturation period.

Please follow all federal, state, and local rules, and regulations when applying Beerzym® Rapid.

## Dosage

The dosage of Beerzym® Rapid can vary based on the temperature and method of application, and on the brewing equipment. Recommended dosage: 0.8 - 1.0 mL/hL (0.9 - 1.2 mL/Bbl) of cold wort

The enzyme is added into the fermentor as soon as pump back begins, or with the pitched yeast.

Shake Beerzym® Rapid well before using to insure even distribution. The enzyme has a tendency to settle during storage. Next, dilute the homogeneous enzyme suspension with cold water and add to the fermentor as early into pump-back as possible or in the pitched yeast.

Enzyme characteristics: the activity range of the enzyme is between pH 3.0 and pH 7.5, with the optimum at pH 5.5. The temperature range of the enzyme is between 4 °C and 65 °C (39 to 149 °F), with the optimum at 45 °C (113 °F).

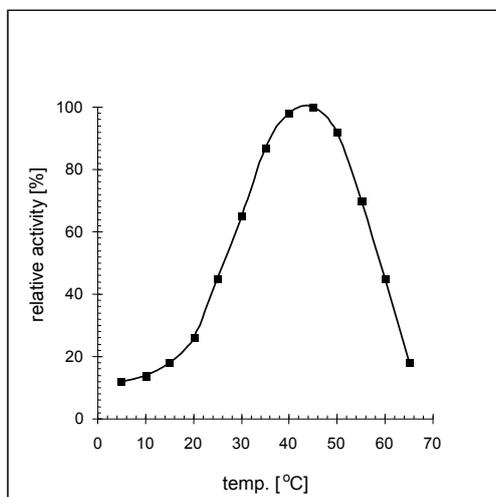


Fig. 1: influence of temperature on activity (ethyl 2-acetoxy-2-methyl-acetoacetate-substrate, 45 °C).

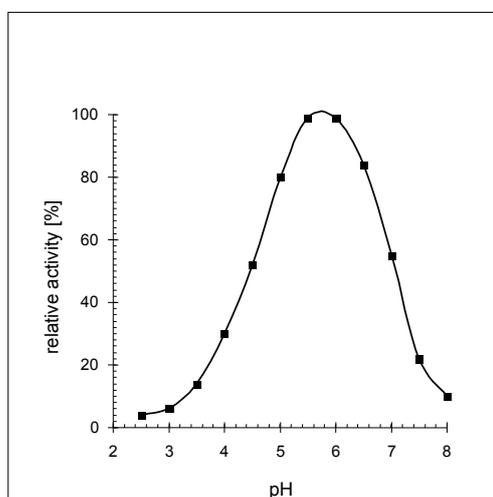


Fig. 2: influence of pH-value on activity (ethyl 2-acetoxy-2-methyl-acetoacetate-substrate, pH 5.5).

## Storage

Optimal storage is 0 - 10 °C (32 - 50 °F). Higher storage temperatures lead to reduced shelf life.

Avoid temperatures above 25 °C (77 °F). Tightly reseal opened packages and use up as soon as possible.

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

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