



Product Data Sheet June 2005 Update

Product Name: Hitempase 2XL
Product Code: 5B00218
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General Description

Hitempase 2XL is a heat stable alpha amylase derived from a self cloned strain of *Bacillus licheniformis*. The enzyme is not genetically modified. **Hitempase 2XL** is an endo-amylase which randomly hydrolyses the alpha 1,4 glycosidic linkages in amylose and amylopectin, resulting in the production of dextrins.

Application

Hitempase 2XL is used in the brewing industry for effective liquefaction of starch in grists containing up to 100% unmalted cereal (0.05-0.1% on weight of dry grist) . It is also used during wort boiling in beer production for the elimination of starch positive worts and to prevent alpha glucan hazes - dose rate 0.01-0.025% on volume of wort.

In the starch industry, **Hitempase 2XL** is used for the high temperature liquefaction of starch in the production of starch syrups. The recommended dose rate is 0.25-0.5 Kg/tonne of starch (dry weight) for complete liquefaction within 90 mins at 95°C-100°C. It is added to the cereal cooker on mashing in and rapidly breaks down starches to soluble maltodextrins.

Specification

Bacterial alpha amylase : min. 114,000 BAA u/ml

Legal Status

Hitempase 2XL meets requirements for food grade enzymes as designated by JECFA/FCC.

Local food regulations should always be consulted with respect to specific applications and necessary declarations. Legislation may vary from country to country.

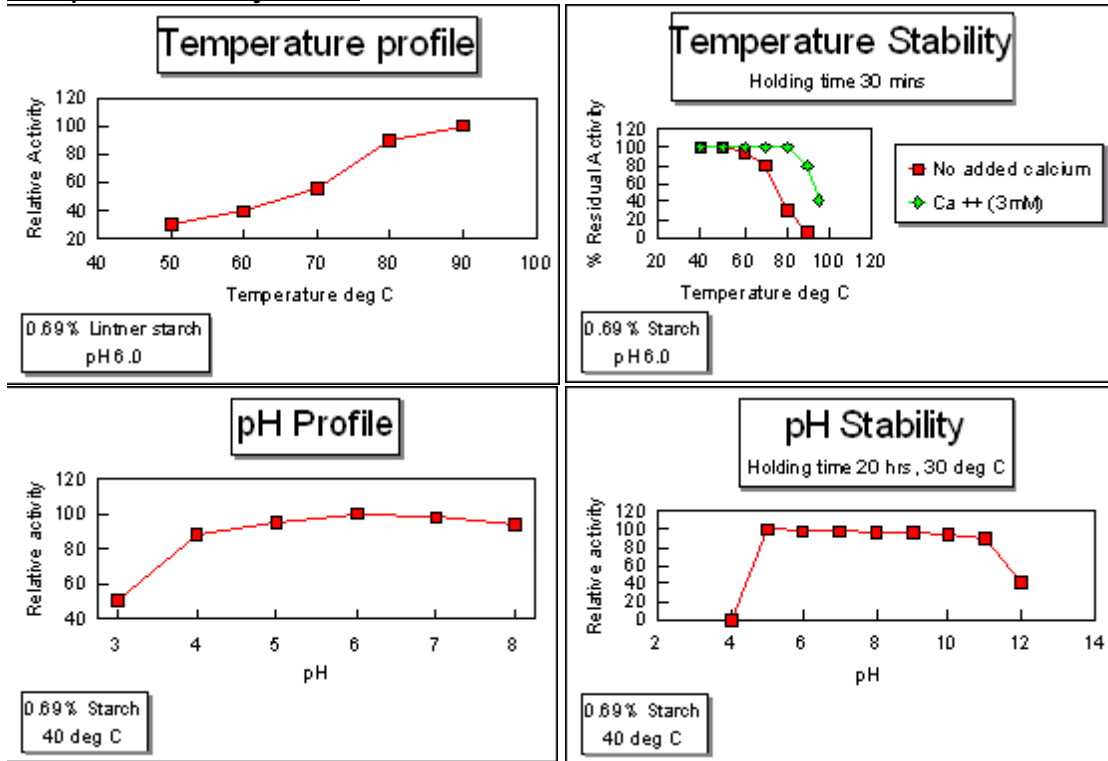
Packaging & Storage

Hitempase 2XL is available in 25 Kg plastic drums and, when stored at 18°C or below, will maintain at least 95% activity for a minimum of 12 months. After this time period, reassay is advisable. It should not be stored at temperatures above 25°C.

Handling Precautions

Enzymes may cause skin or eye irritation and inhalation of aerosol can result in sensitisation of susceptible individuals. Standard handling procedures should be followed to prevent direct contact with the product or inhalation of aerosol. A separate Material Safety Data Sheet (MSDS) is available on request.

Hitempase 2XL Activity Profiles



Temperature Profile

Hitempase 2XL has a temperature optimum of 90°C with greater than 80% of its maximum activity between 75°C and 92°C. The activity of

Hitempase 2XL is stabilised at high temperatures in the presence of calcium ions (50 - 150ppm). It should not be stored at temperatures above 25°C.

Effective temperature range :	Up to 100°C
Optimum temperature range :	75-92°C
Optimum temperature:	90°C

pH Profile

Hitempase is active over a wide pH range with greater than 80% of its maximum activity between pH 5.0 and 8.0. Within this broad pH range,

Hitempase 2XL demonstrates optimum hydrolysis between pH 5.50-7.00. For optimum stability **Hitempase 2XL** should be stored at less than 18°C and the enzyme remains stable in the pH range 5.0-9.5.

Effective pH range:	5.0-8.0
Optimum pH range:	5.5-7.0
pH stability :	5.0-9.5

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