Product Sheet

Fungamyl ® 800 L

Description

Fungamyl 800 L is a fungal alpha-amylase obtained from a selected strain of *Aspergillus oryzae*. The systematic name is 1,4-α-D-glucan glucanohydrolase (EC 3.2.1.1).

Product Properties

Appearance

Fungamyl 800 L is available as a brown liquid with a density of approx. 1.25.

Product type

Fungamyl 800 L .....800 FAU/g

Activity

One Fungal alpha-Amylase Unit (FAU) is the amount of enzyme which breaks down 5.26 g starch per hour at Novozymes' standard method for determination of alpha-amylase. See the Analytical Method for further information.

Food-grade status

Fungamyl 800 L complies with FAO/WHO JECFA and FCC recommended purity specifications.

Standard Packaging

See the standard Packaging List for more packaging information.

Application

The enzyme hydrolyzes 1,4-a-glucosidic linkages in amylose and amylopectin; a prolonged reaction results in the formation of large amounts of maltose.
In the starch industry, Fungamyl 800 L is used for production of high maltose syrups, 45-60% maltose (2-7% glucose) or in combination with Novozymes' glucoamylase AMG, high conversion syrups, DE: 60-70, 35-43% glucose, 30-37% maltose. The high maltose syrup can be prepared from an enzyme-liquefied starch. The high conversion syrup can be prepared from an enzyme-liquefied syrup or a regular acid-converted 42 DE syrup using a combination of Fungamyl 800 L and AMG.

In the brewing industry, Fungamyl 800 L is added during fermentation in order to increase fermentability of the wort. Fermentability can be increased by 2-5%, and the alpha-1,6 limit dextrins remain in the beer.
In the alcohol industry, Fungamyl 800 L may be used for liquefaction of starch in a distillery mash, if the existing equipment favours low-temperature liquefaction (55-60°C or 131-140°F).

Reaction Parameters

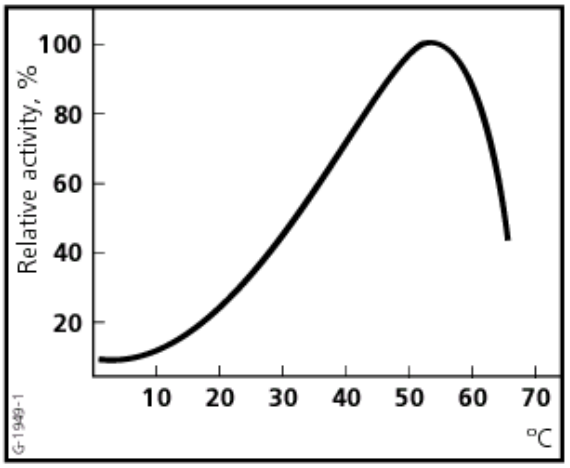

Fig. 1. The effect of temperature on activity of Fungamyl 800 L at pH 4.7.

Method of analysis: Novozymes' standard method used at various temperatures

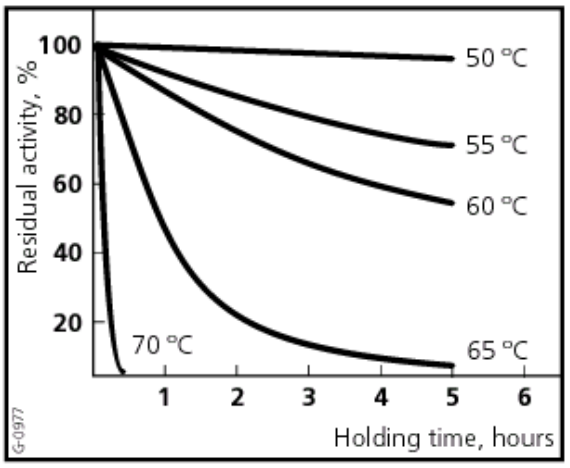

Fig. 2. The effect of temperature on stability of Fungamyl 800 L.

Substrate: 30% w/w high maltose syrup
pH: 5.0

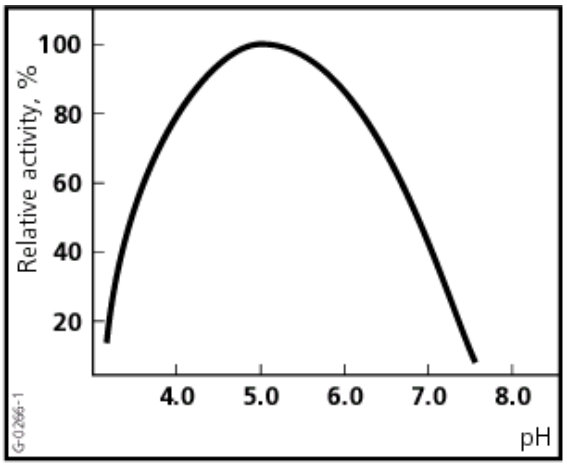

Fig. 3. The effect of pH on activity of Fungamyl 800 L.

Method of analysis: Novozymes' standard method used at appropriate pH values

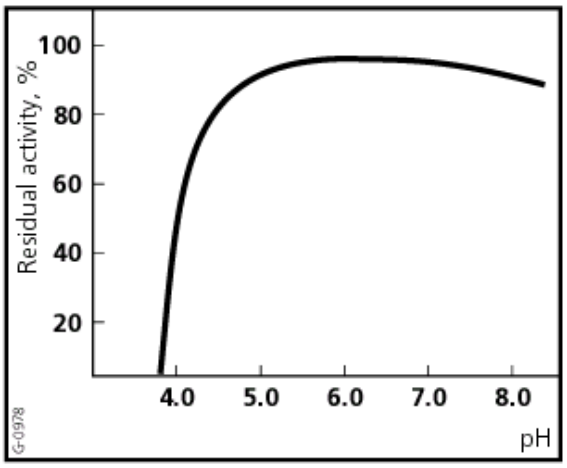

Fig. 4. The effect of pH on stability of Fungamyl 800 L.

Substrate: 30% w/w high maltose syrup
Temperature: 50°C (122°F)
Holding time: 4 hours

Safety

Enzymes are proteins and inhalation of dust or aerosols may induce sensitization and may cause allergic reactions in sensitized individuals. Some enzymes may irritate the skin, eyes and mucous membranes upon prolonged contact.

The product may create easily inhaled aerosols if splashed or vigorously stirred. Spilled product may dry out and create dust.

Spilled material should be flushed away with water (avoid splashing). Left-over material may dry out and create dust.

A Material Safety Data Sheet is supplied with all products. See the Safety Manual for further information regarding how to handle the product safely.

Storage

Enzymes gradually lose activity over time depending on storage temperature. Cool and dry conditions are recommended. When stored in closed containers at 25°C (77°F), the product will maintain its declared activity for 3 months. When stored in closed containers at 0-10°C (32-50°F), the product will maintain its declared activity for 6 months. Extended storage and/or adverse conditions, including higher temperature or high humidity, may lead to higher dosage requirement.

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