

Dairyzym

Lactase

Dairyzym is an enzyme obtained by fermentation of conventional micro-organisms.

Dairyzym is free from side activities, which prevents off-tastes.

Dairyzym is available in liquid or powder form and with activity in an acid or neutral medium.

Benefits

- Removes lactose from fluid foods and feed.
- Assists digestion in persons with lactose intolerance.
- Prevents crystallization of lactose in ice cream and sweets containing milk.
- Processing aid, and therefore exempt from declaration.



Dairyzym Y 50 L

Liquid lactase derived from yeast

Description

Dairyzym Y 50 L is a lactase produced by controlled fermentation of a non-genetically-modified *Saccharomyces marxianus*, var. *lactis* strain (E.C. 3.2.1.23, β -galactosidase). A special processing technique ensures that **Dairyzym Y 50 L** is extremely pure and free from all side activities which might cause an off-taste.

Dairyzym Y 50 L is a clear, colourless or slightly yellowish liquid with a neutral odour. The enzyme preparation is miscible with water and has a density of 1.15–1.25 g/ml.

Dairyzym Y 50 L is supplied with an activity of 54,000 ONPG U/ml. **Dairyzym Y 50 L** is stable and most effective at a pH of 6.5 and 40–45 °C. Higher temperatures can be used for a short time, but the product's efficacy is greatly reduced.

Dairyzym Y 50 L should be used in dairy products with a neutral pH. The stability of the enzyme and the efficiency of the lactose hydrolysis start to decline at a pH of 6. The amount of the enzyme required is calculated from the possible process temperature, the reaction time and the desired degree of lactose hydrolysis. High processing temperatures have the advantage that less time and a lower dosage of the enzyme are needed for complete hydrolysis. The disadvantage is the risk of infections in the milk.

Information on applications and usage levels

At a dosage of 0.8–1.2 ml per litre of milk and a temperature of about 5 °C, **Dairyzym Y 50 L** hydrolyses the lactose completely within 24 hours. At the same dosage and 40 °C, hydrolysis of the lactose is complete after only 6 hours. However, this temperature involves a risk of microbial contamination. In ice cream, sweetened evaporated or condensed milk and "dulce de leche"-type products, 0.3–0.4 ml per litre of milk is sufficient to prevent crystallization of the lactose and thus a gritty mouth feel when the end product is consumed.

Storage

Dairyzym Y 50 L should be stored in the original pack at a temperature below 10 °C in order to minimize loss of activity.

Packaging

Dairyzym Y 50 L is available in 25 kg PE cans and 1,000 kg IBCs.

Influence of temperature and pH on lactose hydrolysis

