

Enzyme Treatment

Panzym[®] Super E Liquid

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05/2006

Mash, Clarification and Filtration Enzyme

Description

Panzym[®] Super E is a highly concentrated special pectinase preparation for fruit juice treatment. Due to its very broad activity spectrum comprising pectinases, hemicellulases, cellulases and arabanases, the product can be used universally for mash treatment, juice depectinization and filtration improvement. As a result of the specific temperature behaviour, the product is also highly suitable for cold enzymation. The high arabanase activity reliably prevents araban haze.

Panzym[®] Super E Liquid is obtained from a selected strain of *Aspergillus niger* and is available as a clear, brown liquid with a slight smell, typical of fermented products.

Application and Mode of Action

During the enzyme treatment of fruit mashes, Panzym[®] Super E Liquid hydrolyzes the mash extensively without causing harmful foaming. The product is best added during the crushing process or to the mash pipeline.

In so doing, all the valuable constituents will be released and the yield of juice containing few solid particles will be optimized. The outflow of juice from the mash will be facilitated, leading to maximum press capacities.

For juice depectinization, Panzym[®] Super E Liquid is ideally added to the first juice portions in the enzyme treatment tank. The dissolved pectin that stabilises the haze, together with small quantities of starch, are broken down completely.

As a result, clarification is made easier and filtration can be carried out without difficulty with long filter lives. The juices have a high degree of stability.

Dosage

Type of fruit	Mash enzyme treatment ml/100 kg	Juice depectization ml/100 l
Apples, pears	10 – 15	2 – 4
Blackcurrants	10 – 20	6 – 10
Red grapes	4 – 6	3 – 5
White grapes	2 – 4	2 – 3
Other berry fruit	4 – 7	3 – 5
Stone fruit	4 – 8	3 – 6

Enzyme treatment period:

Enzyme treatment of mash:
0.5 – 1.5 h (apples, pears, 15 – 30 °C)
1.0 – 2.0 h (other fruit 45 – 55 °C)

Juice depectinization
4.0 – 8.0 h (15 – 25 °C)
1.0 – 2.0 h (45 – 55 °C)

The effectiveness of the enzyme is temperature-dependent. The activity optimum occurs at 45 – 55 °C. As the temperature falls, the rate of reaction falls. Although the activity remains unchanged, in principle, the effect is greatly delayed. At temperatures lower than 15 °C, therefore, an increased dosage should invariably be used. Panzym[®] Super E Liquid is inactivated at temperatures exceeding 60 °C and by contact with bentonite.

Safety and Purity

Panzym[®] Super E Liquid complies with the specifications of FAO/WHO (JECFA and FCC) for food-grade enzymes. If used according to the instructions and processed correctly, the use of this enzyme does not entail any health hazards.

The pectolytic activity is standardized to 3000 PECTU/ml. Descriptions of the analytical methods and EU safety data sheets are available on request.

Storage

Panzym[®] Super E Liquid must be stored in a cool (0 – 10 °C) and dry place, do not expose to the sun light. Under these conditions it will maintain its declared activity for at least 1 year. At storage temperatures of 20 °C, Panzym[®] Super E Liquid will maintain the declared activity for at least 3 months, after which a loss of activity of 1 – 2 % per month must be expected. Once opened, packages should be used up immediately.

Delivery Information

1 l PE-Bottle (BEGEROW article no. 95.100.010)

12 x 1 l PE-Bottles per box

25 l PE-Jerrycans (BEGEROW article no. 95.100.250)

HS customs tariff: 3507 90 90

Cerified Quality

Panzym® Super E Liquid is produced by Novo Nordisk Ferment Ltd., Neumatt, CH-4243 Dittingen, and is regularly monitored throughout the manufacturing process to ensure consistently high product quality. These tests cover both technical functional criteria and absolute safety under foodstuff legislation. Additional strict controls are carried out immediately before and during the final packing stage.



Reg. No. 000480 QM

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