

Enzyme Treatment

Panzym® XXL



Complete Depectinization, Particularly of Apple Juice, Pear Juice, and Vegetable Juices

Panzym XXL enzyme from Eaton's Begerow Product Line is a pectolytic, liquid enzyme preparation, produced through submerged fermentation of an *aspergillus species*. The newly developed pectinase product is particularly suitable for the depectinization of apple and pear juice. Panzym XXL enzyme is well-balanced and optimized for the essential enzyme activities.

Applied to fruit juices, Panzym XXL enzyme achieves excellent alcohol test performance and complete removal of araban. The resulting juice is easy to filter and satisfies all relevant juice quality standards.

Application and Function

Panzym XXL enzyme is capable of breaking down pectin substances in plant material. Panzym XXL enzyme can be used in fruit juice industry, where quick and complete depectinization of fruit juices is required. The main application is in the production of apple and pear juice concentrates. Panzym XXL enzyme is exceptionally good for selective degrading soluble pectins with different degrees of esterification, for depectinization, clarification, and viscosity reduction. The product gives an excellent alcohol test. Its well-balanced enzyme spectrum gives fruit juices that satisfy all relevant quality standards.

The active components of Panzym XXL enzyme are readily soluble in water at all concentrations that occur in normal usage. Any turbidity that may occur in the enzyme preparation has no influence on the volumetric activity or the handling characteristics of the product.

The enzyme is preferably diluted with tap water and added to the depectinization tank after aroma recovery or a pasteurization step as a 10% solution, either in portions or via a metering pump.

Effect on depectinization

- Complete removal of the pectin → excellent alcohol test
- Increased process robustness:
 - Heat stable product
 - Temperature fluctuations less significant
 - pH-stable product
 - Raw material variations less significant

- Effect on downstream process due to less unwanted polysaccharides in the juice:
 - Juice is easy to filter
 - Savings in production costs
 - Juice can be easily blended with other juices, since very little galacturonic acid is generated
 - Complete removal of arabans
 - no downstream problems

Dosage

Application	Dosage fl oz/1,000 gal (ml/1,000 l)	Dwell time/ temperature
Apple/pear juice ~12 °Bx	2.5 – 5 (20 – 40)	1 – 2 h/131 – 140 °F (55 – 60 °C) or 4 – 8 h/approx. 68 °F (20 °C)

The dosage strongly depends on the pectin content of the juice and on the operating parameters.

Holding time

Shorter or longer holding times are possible. Completion of the enzyme reaction should be carefully checked.

Temperature

Due to the reduced enzyme activity, temperatures below 50 °F (10 °C) should be avoided.

Prior to commencing the next processing stage (e.g. fining, filtration), it is advisable to use an alcohol test (pectin test) to verify that pectin was broken down completely.

Panzym XXL enzyme is inactivated either during the concentration stage or during the pasteurization stage.

Safety and Purity

Panzym XXL enzyme complies the specifications of FAO/WHO (JECFA and FCC) for enzymes in the food industry. When used and handled correctly, there are no known health risks associated with the product.

Panzym XXL enzyme is produced using the self-cloning process. According to the German Genetic Engineering Act (Gentechnikgesetz - implementing Directive 90/219/EEC), the Austrian Genetic Engineering Act (BGBL 510/1994) and the Swiss regulations "Handling of organisms in the environment SR 14.911", the product is not classified as genetically modified.

Panzym XXL enzyme has a standard activity of 36,900 PECTU/fl dr (10,000 PECTU/ml, pH 3.5).

Further safety information can be found in the relevant Material Safety Data Sheet, which can be downloaded from our website.

After sterile filtration, Panzym XXL enzyme is bottled aseptically and is therefore practically germ-free.

Panzym XXL enzyme is a brown, liquid enzyme preparation. It is free from preservatives and has a density of approx. 10,015 lb/gal (1.2 g/ml) and the typical odor of fermented products.

Storage

The recommended storage conditions are 32 – 50 °F (0 – 10 °C) in intact packaging, and protected from sunlight. The product is formulated for optimum stability. However, enzymes gradually lose their activity over time. Prolonged storage and/or adverse storage conditions, including higher temperatures, may mean that a higher dosage is required.

Delivery Information

Panzym XXL enzyme is sold under article no. 95.213.250 and is available in the following package size:

6.6 gal (25 l) PE canister

HS customs tariff: 3507 90 90

Certified Quality

Panzym XXL enzyme is regularly monitored for uniformly high product quality during the production processes. These inspections cover technical function criteria as well as conformance with relevant laws governing the production and sale of foodstuffs. Strict controls are carried out immediately before and during final packaging.

Panzym® is a registered trademark of Novozymes A/S.

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For more information, please e-mail us at filtration@eaton.com or visit us online at eaton.com/filtration for a complete list of Eaton's filtration products.

Not all products in Eaton's Begerow Product Line are available in all regions. Please contact your local Eaton Filtration office to determine availability.

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