

Enzyme Treatment Panzym® Pro Clear

Special Enzyme for the Depectinization of Apple and Pear Juice

Panzym Pro Clear enzyme is a highly active enzyme preparation with polygalacturonase main activity. The product was created from an *Aspergillus* species by combining different pectolytic enzymes from two different conventional fermentation techniques (submerge and solid phase fermentation).

The main aim is very fast degradation of pectin structures regardless of pH value and the degree of ripeness of the fruit. The product also ensures complete removal of arabans.

Application and Effect

Due to the special activity spectrum of the pectolytic main activity, Panzym Pro Clear enzyme can easily be integrated into any processing technology.

Panzym Pro Clear enzyme can thus be added to the juice flow downstream of the flavor recovery system or the pasteurization system.

Effect on the juice:

- Brilliant alcohol test
- Full, quick removal of pectin
- High temperature stability (up to 131 °F (55 °C))
- High efficiency at low pH values

Dosage

For juice enzyme treatment the product is added continuously into the juice line via a metering pump or in portions to the tank, ideally after heating or de-flavoring < 122 °F (< 50 °C). A 10% enzyme solution (aqueous enzyme solution) should be used for this purpose.

Application	Dosage fl oz/1,000 gal (ml/1,000 l)	Temperature & time
Apple/pear juice	2.56 – 6.4 (20 – 50)	122 – 131 °F (50 – 55 °C)/ 1 – 2 hours

Shorter or longer maceration times are possible. Full pectin breakdown can be verified by an alcohol test (pectin test).

Special Notes

The enzyme efficiency is temperature-dependent. Optimum activity is between 113 and 131 °F (45 and 55 °C). The reaction speed drops with a decrease in temperature. While activity is generally maintained, the effect is delayed. Panzym Pro Clear enzyme becomes inactive at temperatures exceeding 140 °F (60 °C).

Before proceeding with downstream processing steps (e.g. fining, filtration), it is advisable to use an alcohol test (pectin test) to verify that pectin has been completely broken down.

Safety and Purity

Panzym Pro Clear enzyme complies with the FAO/WHO (JECFA and FCC) specifications for enzymes in the food industry.

Panzym Pro Clear enzyme is filled aseptically following sterile filtration and is therefore virtually germ-free. Panzym Pro Clear enzyme is a brownish, liquid enzyme preparation that has the typical odor of fermented products.

Panzym Pro Clear enzyme is characterized as follows:

- Production organism:
 - *Aspergillus niger*
 - *Aspergillus aculeatus*
- Specified activity: 8600 PGNU/g (Polygalacturonase)

When used as directed and handled correctly, there are no known unfavorable effects associated with this product.

Further information on safety can be found in the Material Safety Data Sheet, which is available for download from our website.

Storage

The product should be stored with the packaging intact away from sunlight at a temperature of 32 to 50 °F (0 to 10°C).

Unfavorable storage conditions (exposure to direct sunlight, higher storage temperatures) may require a higher dosage.

Once opened, the product should be used up as soon as possible.

Delivery Information

Panzym Pro Clear enzyme has the article number 95.263 and is supplied in the following packaging unit:

44 lb (20 kg) PE canister

HS customs tariff no: 3507 90 90

Certified Quality

Panzym Pro Clear enzyme is inspected regularly during the production process to ensure consistently high product quality.

Strict controls also take place immediately before and during final packaging

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