

## Pectinase 444L - P444L

- High pectin lyase activity
- High arabanase
- Low methanol levels
- Rapid clarification
- Excellent low pH stability

Pectinase 444L is a unique blend of pectinases designed to provide economical de-pectinisation of fruit juices. It can be added to either the pulp or juice to provide a controlled disintegration of the fruit and rapid reduction in viscosity. It promotes improved juice yield, full flavour recovery and rapid clarification of the juice.

Pectinase 444L has a low Polygalacturonase (PG) to Pectin Lyase (PL) ratio, high arabanase activity, a high maceration index and low level of pectin esterase.



The high levels of arabanase prevent haze formation in fruit juice concentrates and the low level of pectin esterase (PE) ensures that only minimal levels of methanol are produced by the demethylation of pectin.

Pectinase 444L demonstrates excellent stability at low pH and is particularly suited for the processing of high acidity fruit.

### S P E C I F I C A T I O N

Activity	Endogalacturonase 600 U/g
Biological Source	<i>Aspergillus sp.</i>
Form	Brown liquid
Working pH	2.5 - 5.5
Temperature Optimum	45 - 55°C

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## APPLICATION & DOSAGE

Pectinase 444L can be added to the pulp to be pressed or to the juice before concentration or fermentation. The normal pH and constituents of apple and pear juices and pulp are ideal for all the activities in Pectinase 444L. The product can be used for fruit juice extraction and juice clarification. As a guide, juice extraction can be carried out at a dose rate of 200 - 300 ml/tonne in the crusher/pulper stage. Juice clarification is carried out at a dose rate of 10 - 20 ml/tonne in the holding tank. Reactions are typically carried out for 8 - 16 hours in a stirred vessel at 40 - 50°C. Trials are recommended to determine the exact conditions necessary to achieve the desired effect. Exposure to temperature above 75°C will inactivate the product in minutes. In common with other pectinases, Pectinase 444L activity is reduced by bentonite and it is recommended that the enzyme action is allowed to complete before the bentonite treatment is performed.

### HEALTH AND SAFETY

Always read the Health and Safety sheet (MSDS) before use and retain. If you are in any doubt about recommended product handling and safety, please contact Biocatalysts before use. Generally, when using enzymes avoid contact with the skin and eyes and do not breathe dusts or aerosols containing them.

### STORAGE

Activity will remain above the minimum analysis specification for at least 6 months from the date of the Batch Certificate of Analysis, when stored below 20°C. Refrigeration is advantageous but not essential.

### ALLERGENS

No allergens are present in this product.

### FOOD STATUS

Prepared from enzymes of GRAS status and manufactured to FCC/JECFA/WHO/FAO recommendations for enzymes used in food processing.

### QUALITY

#### 1. Food Safety Policy

The company operates a Hazard Analysis at Critical Control Points (HACCP) system. This ensures that ingredients and the production environment are regularly monitored for contamination and that the processes are designed to produce safe products every time.

#### 2. Good Manufacturing Practice (GMP)

The company's integrated management system encompasses Total Quality, Health and Safety, Food Safety and GMP.

#### 3. ISO9001

Biocatalysts Ltd is certified to BS ISO9001: 2000. Regular Audits are carried out by the British Standards Institute (BSI) to ensure continuing compliance with the standard.

### AVAILABILITY

Liquids: standard 25kg nett plastic jerry cans. Non-standard quantities of 215kg and 1000kg are also available for some products, please enquire.



The production micro-organism used in this product is not a GMO. Within the proposed guidelines of the European Union regarding Genetically Modified products, the above product would be classed as GMO free.

