



Enzymes for BEVERAGE



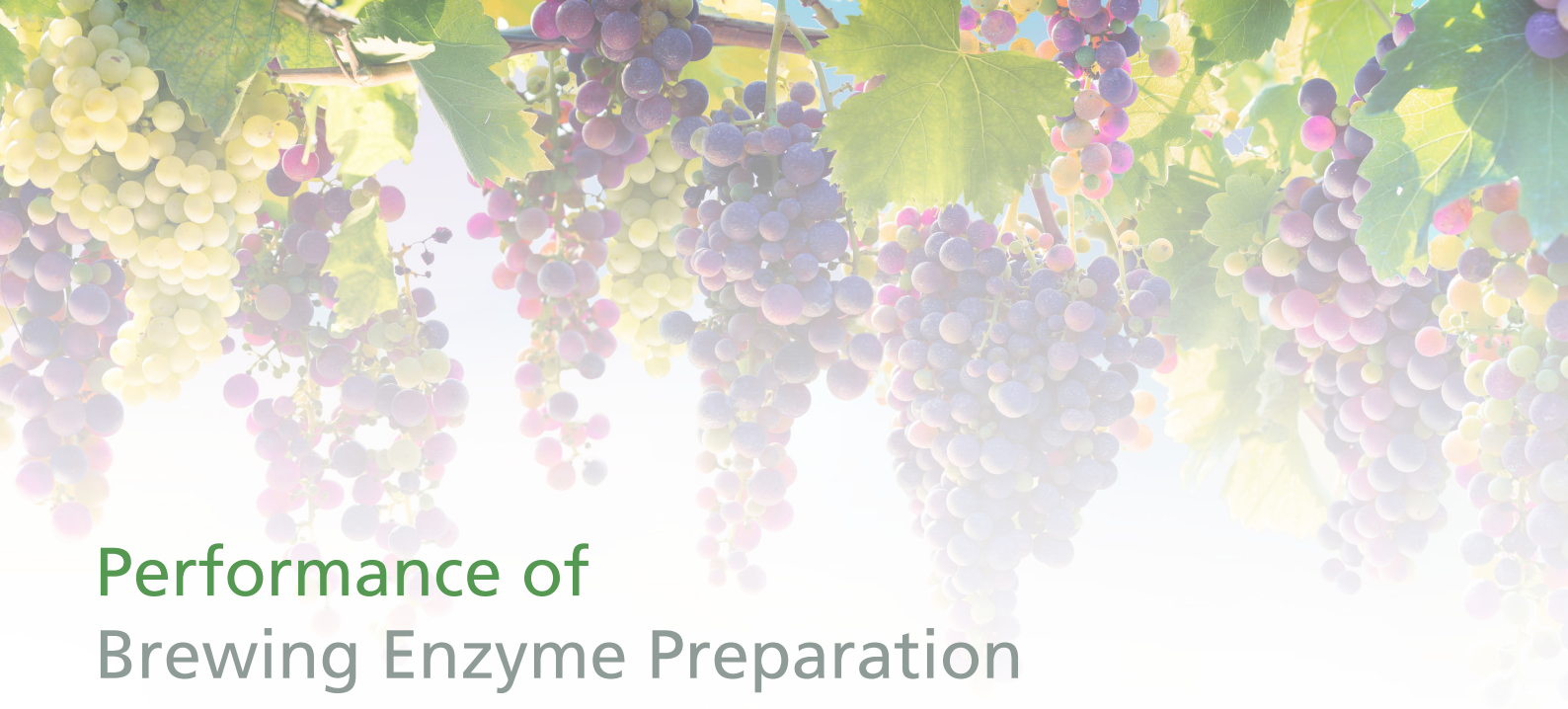


Brewing ENZYMES

Product	Enzyme	Dosage
Brewzym HSAL	Heat Stable Alpha-amylase	300-700 mL/T grain material
LiqueStar 220	Heat Stable Alpha-amylase	150-300 mL/T grain material
SQzyme BAL	Bacterial Alpha-amylase	100-300 mL/T grain material
SQzyme FAL	Fungal Alpha-amylase	200-500 mL/T grain material
SQzyme BTA	Beta-amylase	Dosage to be decided per case
Brewzym AGL	Glucoamylase	300-1500 mL/T grain material
Brewzym BXP	Compound Enzymes	50-400g/T Grist
Brewzym BGL	Beta-glucanase	50-400mL /T Grist
Brewzym NPS	Neutral protease	25-200mL /T Grist
SQzyme PSL	Acid protease	25-100mL /T Grist
Brewzym PRO	Proline protease	2.5-3.5g/hl Wort
Brewzym ALDC	Acetolactate Decarboxylase	0.5-1.5ml/hl Wort

Fruit & Vegetable ENZYMES

Product	Enzyme	Dosage
SQzyme PCL	Pectinase	20-150 mL/T of pulp or juice
SQzyme PC Conc.	Pectinase Powder	4-30 g/T of pulp or juice
SQzyme PC-XL	Pectinase & Pectinesterase	30-150 mL/T of pulp or mash
SQzyme XSL	Xylanase & Beta-glucanase	Dosage to be decided per case
SQzyme CSL	Cellulase & hemi-cellulase	Dosage to be decided per case
SQzyme AGL PF	Glucoamylase	30-70mL/T of juice



Performance of Brewing Enzyme Preparation

Used Process	Product	Advantages and Benefits
Cereal Cooking	SQzyme HSAL	An excellent heat stable alpha-amylase from <i>Bacillus licheniformis</i>
	LiqueStar 220	Highly efficient heat stable alpha-amylase, superior viscosity reduction and outstanding liquefying performance
Saccharification Mash	Brewzym AGL	Classical glucoamylase with great performance
	SQzyme BTA	Extracted beta-amylase from barley, used to improve the saccharification properties by producing maltose
	SQzyme BAL	Concentrated bacterial alpha-amylase from <i>Bacillus subtilis</i> with great performance liquefying at medium temperature
Fermentation Enhancement	Brewzym NPS	Neutral Protease for producing sufficient peptides and amino-acids in the wort to get a proper fermentation
	SQzyme PSL	Acid protease that can work properly at low pH to balance the amino acid profile during fermentation
	SQzyme FAL	Fungal amylase to improve the level of fermentable sugar and to reach higher attenuation limits
	Brewzym ALDC	Alpha acetolactate decarboxylase, which can effectively catalyze the decarboxylation of acetolactate to generate acetoin and control the accumulation of diacetyl, so as to speed up the brewing process and regulating the flavor of the products
	Brewzym PRO	A proline-specific endopeptidase, which can specifically hydrolyze proteins and small proteins that could lead to haziness in the brewing, so as to improve the beer stabilization process
Filtration	Brewzym BXP Brewzym BGL	Highly efficient beta-glucanase with rich side activities of xylanase and cellulase, to reduce the viscosity of wort, speed up filtration, solve potential beta glucans caused haze problems and improve the brightness of beer

All enzymes listed are food grade, Kosher and Halal certified.

Suntaq enzymes are produced according to HACCP in a process controlled by FSSC22000 quality system. It complies with JECFA and FCC recommended requirements.

Performance of Fruit & Vegetable Enzyme Preparation

Used Process	Product	Advantages and Benefits
Mashing	SQzyme PC-XL	Pectinase with higher activity of pectinesterase and polygalacturonase, but with little pectin lyase activity
	SQzyme PCL	Classical pectinase from classical strain <i>Aspergillus niger</i> , highly concentrated in activities of polygalacturonase, pectin lyase, Pectinmethylesterase, arabinase and plenty of other side activities
	SQzyme XSL	High-efficient hemicellulase to reduce the viscosity of mash
Clarification	SQzyme PCL	Classical pectinase from classical strain <i>Aspergillus niger</i> , concentrated in activities of polygalacturonase, pectin lyase, Pectinmethylesterase, arabinase and plenty of other side activities
Filtration	SQzyme PCL	Classical pectinase from classical strain <i>Aspergillus niger</i> , highly concentrated in activities of polygalacturonase, pectin lyase, Pectinmethylesterase, arabinase and plenty of other side activities
	SQzyme CSL	Hemicellulase and Cellulase from <i>Trichoderma reesei</i>
Starch Degradation	SQzyme AGL PF	Classical and preservatives free glucoamylase from classical strain <i>Aspergillus niger</i>
Vegetable Processing	SQzyme PCL	Classical pectinase from classical strain <i>Aspergillus niger</i> , highly concentrated in activities of polygalacturonase, pectin lyase, Pectinmethylesterase, arabinase and plenty of other side activities
	SQzyme CSL	Hemicellulase and Cellulase from <i>Trichoderma reesei</i>

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