

PRODUCT DESCRIPTION - PD 231773-10.1EN

LAMINEX® Super 3G

Description

LAMINEX® Super 3G is an enzyme complex hydrolysing beta-glucans and non-starch polysaccharides like arabinoxylans

LAMINEX® Super 3G is produced by fermentation with selected strains of *Trichoderma reesei* and *Penicillium funiculosum*.

Application areas

Brewing

Potential benefits

- BREWING:
- Reduces risk of haze in beer originating from non-starch polysaccharides
- Efficient mash and beer filtration separation
- Reduces wort viscosity

Usage levels

Typical dosage rate
In mash 0.05-0.25 kg/MT of grist

Directions for use

For optimal effect it is recommended that LAMINEX® Super 3G is added directly into the mash at or right after mashing-in.

Composition

LAMINEX® Super 3G is composed of:

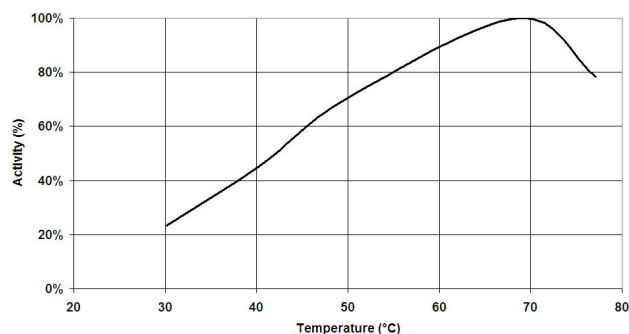
- Water 77.5 - 82.5 % (w/w)
- Cellulase 10-15 % (w/w)
- Sorbitol 5.5 % (w/w)
- Sodium chloride 1.7 % (w/w)
- Sodium benzoate 0.3 % (w/w)

Physical/chemical specifications

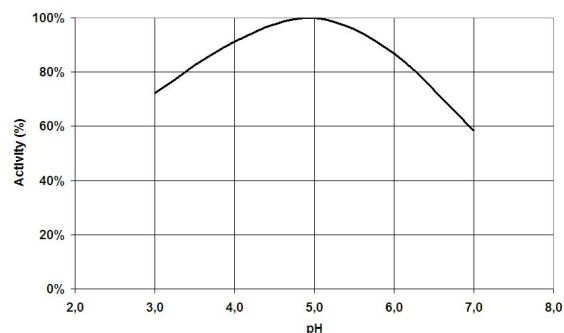
Physical form	liquid
Colour*	clear brown
Specific gravity	1.08 +/- 0.03 kg /l
Activity	min. 7680 CMC-DNS U/g

*Colour may vary from batch to batch.

Influence of temperature on activity



Influence of pH on activity



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The data for the graphs are generated under laboratory conditions and may not reflect performance in the application. It is therefore recommended to evaluate the performance under the specific local conditions.

Microbiological specifications

Total viable count	less than 10000 /ml
Coliforms	less than 15 /ml
E. coli	absent in 25 ml
Salmonella species	absent in 25 ml
Lactic acid bacteria	less than 5 /ml
Yeast	less than 10 /ml
Mould	less than 10 /ml
Mycotoxins*	negative by test
Antibiotic activity	negative by test

* Aflatoxin B1, ochratoxin A, sterigmatocystin, T-2 toxin, zearalenone

Heavy metal specifications

Arsenic	less than 3 mg/kg
Lead	less than 5 mg/kg
Heavy metals (as Pb)	less than 30 mg/kg

Nutritional data

Calculated values per 100 g

Energy	6/25 kcal/kJ
Protein	less than 5 g
Fat	less than 1 g
Carbohydrates	less than 1 g
Moisture	95-98 g
Ash	less than 5 g

Storage

LAMINEX® Super 3G should be stored dry and cool (max. 10°C/50°F) and sheltered against direct sunlight

Packaging

1100 kg transparent container
220 kg plastic drum
25 kg pail

Purity and legal status

LAMINEX® Super 3G meets the specifications laid down by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Food Chemicals Codex (FCC) and is GRAS (Generally Regognised as Safe) in the US. When used as a processing aid under 21 CFR 101.00, it may exempt from FDA labelling requirements and is typically not labelled.

LAMINEX® Super 3G is approved by most countries for use in food. However, as legislation regarding its use in food may vary from country to country, local food regulations should always be consulted concerning the status of this product. Advice regarding the legal status of this product may be obtained on request.

Safety and handling

Avoid unnecessary contact with enzyme preparations during handling. In case of spillage, rinse with water. Additional information can be found in the Material Safety Data Sheet.

Kosher status

LAMINEX® Super 3G is certified kosher pareve by Union of Orthodox Jewish Congregations of America (OU).

GMO status

The microorganisms used for production of LAMINEX® Super 3G have not been genetically modified according to the definition of Directive 2009/41/EC on the contained use of genetically modified microorganisms

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Allergens

The table below indicates the presence (as added component) of the following allergens and products thereof (according to US Food Allergen and Consumer Protection act (FALCPA), 2004 and Directive 2000/13/EU as amended).

Yes	No	Allergens	Description of components
	X	Wheat	
(X)		Other cereals containing gluten	Glucose (used in fermentation)* Sorbitol. This level was below quantification level of 5ppm, based on ELISA analysis. This component is exempted from allergen labeling in the EU.
	X	Crustaceans	
	X	Eggs	
	X	Fish	
	X	Peanuts	
	X	Soybeans	
	X	Milk (incl. lactose)	
	X	Nuts	
	X	Celery	
	X	Mustard	
	X	Sesame seeds	
	X	Sulphur dioxide and sulphites (>10mg/kg)	
	X	Lupin	
	X	Molluscs	

*Danisco has determined that fermentation nutrients are outside the scope of US and EU food allergen labeling requirements^{1, 2, 1}

Position paper sent by ETA to the FDA on September 12, 2005 (www.enzymetechnicalassoc.org/Allergen%20psn%20paper-2.pdf).

² Summarized in the position paper of the Association of

Manufacturers and Formulators of Enzyme products:

http://www.amfep.org/documents/AmfepstatementScopeAllergyLabellingDirfinal_000.pdf