

PRODUCT DESCRIPTION - PD 215997-9.1EN

AMYLEX® 3T

Description

AMYLEX® 3T is a thermostable bacterial alpha-amylase enzyme preparation derived from *Bacillus licheniformis*.

Application areas

Brewing and potable alcohol production

Potential benefits

- BREWING:
- Efficient starch liquefaction at elevated temperatures
- POTABLE ALCOHOL PRODUCTION:
- Efficient starch liquefaction at elevated temperatures
- Rapidly reduces viscosity
- Suitable for jet cooker operations

Usage levels

Typical dosage rate	
In the cereal cooker	0.4-0.8 kg/MT of cereal
In potable alcohol production	0.6-0.8 kg/MT of grist

Directions for use

It is recommended to add AMYLEX® 3T to the cereal cooker before cooking.

For potable alcohol production it is recommended to add AMYLEX® 3T before cooking and/or at liquefaction dependent on the process

Composition

AMYLEX® 3T is composed of:

- | | |
|-------------------|-----------------|
| • Water | 71 - 75 % (w/w) |
| • Sodium chloride | 17 % (w/w) |
| • Sorbitol | 7.0 % (w/w) |
| • Alpha-amylase | 1 - 5 % (w/w) |

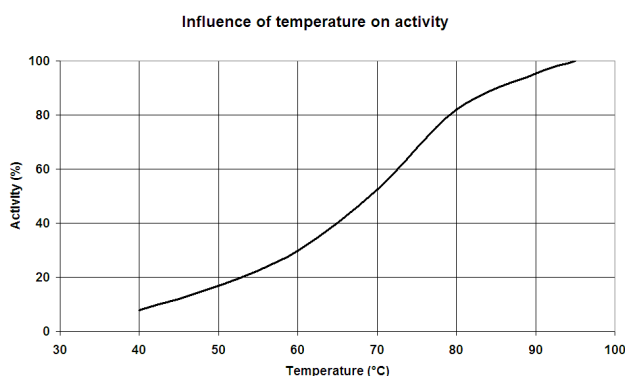
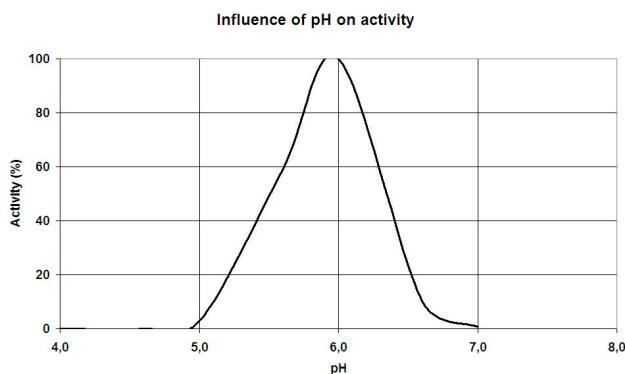
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Physical/chemical specifications

Physical form	liquid
Specific gravity	1.18 +/- 0.03 kg/l
Colour*	brown
Activity	min. 940 GSAU/g

*Colour may vary from batch to batch.



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 30 /ml
E. coli	absent in 25 ml
Salmonella species	absent in 25 ml
Lactic acid bacteria	less than 10 /ml
Yeast	less than 100 /ml
Mould	less than 100 /ml
Antibiotic activity	negative by test

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	35/150 kcal/kJ
Protein	less than 5 g
Fat	less than 1 g
Carbohydrates	5-10 g
Moisture	70-80 g
Ash	15-20 g

Storage

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

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Packaging

28 kg plastic can
225 kg plastic drum
1125 kg transparent container

Purity and legal status

AMYLEX® 3T 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.

AMYLEX® 3T 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

AMYLEX® 3T is certified kosher pareve by Union of Orthodox Jewish Congregations of America (OU).

GMO status

The microorganisms used for production of AMYLEX® 3T are developed by the recombinant DNA technique called self-cloning according to the definition of Directive 2009/41/EC on the contained use of genetically modified micro-organism.

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	Soy flour (used in fermentation)*
	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/AmfepstatementScopeAllergyLabellingDirf>