



DELTABREW® Attenumax PL

Product Data Sheet

Date of issue: 1 March 2023

Complex of enzymes for mash tun to obtain high attenuation degree

Description: DELTABREW® Attenumax PL is a glucoamylase preparation combined with a pullulanase to enhance the production of glucose from amylopectin. The enzymes catalyse the hydrolysis of the α -1,6-glycosidic linkages in amylopectin liberating linear α -1,4-dextrins to speed up the production of glucose.

Properties:

Enzyme:	glucoamylase, pullulanase	IUBMB:	3.2.1.3, 3.2.1.41
Activity:	>400 AMG units/g >600 PLA units/g	Form:	liquid
Density:	1.05–1.20 g/ml	Colour:	brown

Colour and appearance may vary from batch to batch. Colour intensity or turbidity is not an indication of enzyme activity.

Application: DELTABREW® Attenumax PL is a glucoamylase and pullulanase preparation that has been specially developed for extra high generation of glucose in the mash tun or during beer fermentation.

Conditions of use: DELTABREW® Attenumax PL has shown to best perform when used under the following conditions:

Application	Dosage	Recommendation
Mash tun	0.8-1.2 kg/t of grist	pH 4.5-6.0 and 50-72 °C
Fermentation	2-5 gr/hl	8-12 °C

GM Status: The product and its constituent enzymes are not genetically modified. Enzyme proteins are produced by fermentation of classical microorganisms, which are removed and not present in the final product. Only agricultural raw materials of non-genetically modified (non-GM) origin are used for the fermentation process and in the final formulation.

Composition: DELTABREW® Attenumax PL is stabilised with glycerol and preserved with small amounts of potassium sorbate and sodium benzoate.

Packaging and storage: DELTABREW® Attenumax PL is available in 25 kg polyethylene drums or IBCs. The product is best stored in the original and unopened packaging under refrigerated conditions (4–8 °C) in order to retain maximum activity during storage. Under optimum conditions shelf life is 24 months.

Safety and caution: Enzyme products need to be handled with care. Please consult the separately available Safety Data Sheet for further information.



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Compliance and legal: Our enzyme products are used as processing aids in the food manufacturing process and are thus free from any labelling provisions in the European Union. The product does not fall within the scope of EU regulations (EC) 1829/2003 and (EC) 1830/2003 on genetically modified food and feed.

The product is manufactured to comply with recommended purity specifications given by the Joint FAO/WHO Expert Committee on Food Additives (JECFA), and conforms with the recommended specifications of the Food Chemical Codex for food enzymes.

Purity criteria:	Total plate count	< 50 000 CFU per g
	Yeasts & Moulds	< 1 000 CFU per g
	Total Coliforms	< 30 CFU per g
	Salmonella	absent in 25 g
	Escherichia coli	absent in 25 g
	Heavy Metals (as Pb)	< 30 ppm
	Lead	< 5 ppm
	Arsenic	< 3 ppm
	Cadmium	< 0.5 ppm
	Mercury	< 0.5 ppm
Special diet information:	Kosher:	Certified
	Halal:	Certified
	Vegan/Vegetarian:	enzyme product or any constituents are not of animal origin

Certification: WeissBioTech GmbH has a certified quality management system according to ISO 9001:2015 and a certified Food Safety Management System according to FSSC 22000 incl. HACCP, which are reviewed in regular audits.

Made by WeissBioTech GmbH, Germany

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This document contains product specifications that may be altered without prior notice