

# Natunase™ BG

An Efficient Solution for Brewery Industry

Natunase BG is a food grade complex of enzymes produced by fermentation of selected strains of *Trichoderma reesei* and *Penicillium funiculosum*. The multi-component blend exhibits significant activity towards cellulose, hemicellulose,  $\beta$ -glucans and arabinoxylans. The enzymes in Natunase BG hydrolyze these NSP's and related carbohydrates often found in plant-derived substrates. Natunase BG is specifically formulated to hydrolyze the non-starch polysaccharides of barley, wheat, soy and other plant-derived substrates. Typical applications for Natunase BG include raw material processing, hydrolysis of plant-derived gums and treatment of fermentation media.

## BENEFICIARY FUNCTIONS

- Natunase BG is effective for the hydrolysis of cellulose, hemi-cellulose,  $\beta$ -glucan, arabinoxylans and other non-starch polysaccharides that can cause viscosity problems in industrial processes.
- Treatment of non-starch polysaccharides with Natunase BG will reduce viscosity and improve process efficiency for unit operations such as filtration, ultra filtration or centrifugation.

## PRODUCT APPLICATION

Beta-Glucanase represents a group of carbohydrase enzymes which break down glycosidic bonds within beta-glucan. It performs hydrolysis of cellulose during drying of beans. Beta-Glucanase is used in textile industry as a fading agent. The preparation is mainly used in Malt extraction & beer-brewing in the mashing process to ensure efficient breakdown of  $\beta$ -glucans, pentosans and other gums. This reduces the viscosity of the solution and thereby increases the filtration rate of both wort and beer and haze is avoided. The enzyme is normally inactivated and removed during the industrial production process.



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## PRODUCT CHARACTERISTICS

Declared Activity	NLT 3900 CMC-DNS U/g
Production Strain	Trichoderma reesei and Penicillium funicolosum
Occurrence	Powder
Appearance	Creamy (Off White)

## DOSING

0.4-0.6 kg per MT of solids

## PACKAGING

Available in 25 Kg HDPE drums

## PRODUCT SHELF LIFE

Below 20°C	Recommended storage condition
Preferred	Refrigerated and sheltered condition against sunlight

## PRODUCT HANDLING

- Enzymes are proteins. Inhalation of dust or aerosols may induce sensitization and may cause allergic reactions in sensitized individuals. Some enzymes may irritate the skin, eyes and mucous membranes upon prolonged contact. The product may create easily inhaled aerosols if splashed or vigorously stirred.
- Spilled product may dry out and create dust. Spilled material should be flushed away with water. Avoid splashing. Left over material may dry out and create dust.
- Wear suitable protective clothing, gloves and eye/face protection
- Contaminated cloths should be properly washed
- MSDS is supplied with the product. Follow MSDS safety instructions for more details.

NATUNASE BG



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