

Thermotolerant fungal
pentosanase and fungal
 β -glucanase to prevent
viscosity increases

Product Description

Distizym[®] GL is a special enzyme which is applied during alcohol production for pentosan and β -glucan degradation in starch-containing mashes from rye. The enzyme is produced from a genetically modified strain of *Trichoderma reesei*. The main activities are based on different thermotolerant hemicellulases (hemicellulase: endo 1,4- β -D-mannanase: EC.3.2.1.78, endo 1,4- β -D-xylanase: EC 3.2.1.8, endo 1,3- β -D-xylanase: EC 3.2.1.32 and exo 1,4- β -D-xylosidase: EC 3.2.1.37) and a thermotolerant β -glucanase (endo 1,3(4)- β -D-glucanase: EC 3.2.1.6 and endo 1,4- β -glucanase: EC 3.2.1.4).

Distizym[®] GL is tested by specialized laboratories for purity and quality.

Aim of Treatment

Pentosan and β -glucan degradation in distilling mashes from rye to prevent viscosity increases.

Product and Effect

As endo enzyme Distizym[®] GL hydrolyses 1,4- β -glycosidic bonds in hemicelluloses and pentosans (arabinoxylan), cellulose, lichenins, as well as in other glucans which occur particularly in rye. Hexoses and pentoses are hereby split off.

Dosage

The following standard dosages are recommended:

50 mL Distizym[®] GL/tonne rye flour.

In case of a deviation from standard conditions a higher or lower dosage might be required.

Application

Digestion of starch without pressure

Distizym[®] GL is dosed into the mash tank after doughing or milling in the rye flour. Before addition the enzyme is diluted with cold water in the ratio of 1:1. Addition is made before or at the start of the heating phase. Distizym[®] GL can be applied up to 85 °C and in a pH-range of pH 5.0-6.5. The enzyme can also be added in the cooling phase (as of 80 °C). The nearer the mash pH at the optimum of pH 5.0, the better the temperature stability of the enzyme (max. 90 °C).

High Pressure Cooking Methods and special pressure/thermo processes:

After blowing out, or in the cooling phase, Distizym[®] GL is added - diluted with cold water – as soon as the temperature has dropped below 80°C. Addition is best made together with the saccharification amylases Distizym[®] AG or Distizym[®] AG ALPHA.

Storage

Optimum storage conditions at 0-10 °C. Higher storage temperatures result in a shorter shelf life. Temperatures above 25 °C must be avoided. Reseal opened packagings tightly and use up as soon as possible.

General Characteristics

Enzyme characteristics: the activity range of the enzyme is between pH 5.0 and 8.0, the optimum is at pH 5.5-6.5. The temperature range is between 30 °C and 90 °C, the optimum is at 55-70 °C. The values equally apply to pentosanase activity and to β -glucanase activity.