

## Product Description

Distizym® INU-ex is a highly concentrated enzyme preparation in powder form for the optimal digestion of inulin in distilling mashes from tubers, such as particularly topinambour.

Permitted according to the laws and regulations currently in force. Purity and quality are proved by specialized laboratories.

## Aim of Treatment

Degradation of the reserve substance inulin stored in the tubers, thus optimal alcohol yield.

## Product and Effect

Distizym® INU-ex is an enzyme preparation with a high specific activity of inulinase, leading to complete saccharification and optimal alcohol yield in the course of the fermentation of tubers especially of topinambour.

Distizym® INU-ex completely breaks down the reserve substance inulin of which the amount contained in the topinambour tubers comes up to approx. 20 % and thus assures an optimal alcohol yield of about 6-8 L/100 kg mash (calculation depending on raw material and excluding water addition during mashing-in). To avoid the usually necessary water addition, it is advisable to additionally apply a macerating pectolytic enzyme (e.g. Distizym® FM-TOP, 20-30 mL/100 kg mash). The mash can also be stirred easier then and is better pumpable.

Mash liquefaction and inulin degradation facilitate the onset of fermentation, improve the fermenting through of the mash and thus lead to an optimal yield of alcohol.

For the application of the enzyme acid addition to the mash is not required. Yet an acidity correction adjusting the pH-value to pH 3.0-3.2 is recommended for microbiological reasons (so-called acid protection), by an addition of Erbslöh-pH-Senker (pH-reducer).

## Dosage

Enzyme dosages depend on raw material, its degree of ripeness, temperature and contact time. The dosages mentioned below refer to a treatment temperature of 20 °C.

fruits	g/100 kg mash
topinambour	4 - 6
other tuberous plants/roots	3 - 5

## Application

Distizym® INU-ex is diluted with cold tap water to a 5-10% solution and is best added directly into the mill during mashing-in. When the enzyme solution is added into the mash vessel as first component or afterwards, then in either case the enzyme has to be mixed thoroughly by stirring intensely. Repeated brief stirring during the first hours promotes the efficiency.

## Storage

Store in a cool and dry place. Distizym® INU-ex keeps its declared activity up to 36 months if stored optimally (0-10 °C). Higher storage temperatures result in a shorter shelf life. Temperatures above 25 °C are to be avoided. Reseal open packagings tightly and use up as soon as possible.

**Concentrated  
special enzyme for  
the digestion of  
inulin in distilling  
mashes from  
tubers, particularly  
topinambour**

## General characteristics

Enzyme characteristics: the activity range of the enzyme is between pH 2.5 – 8.0, the optimum is at pH 5.0 in the presence of substrate. The temperature range is between 25 and 75 °C, the optimum is at 65 °C in the presence of substrate.

The diagrammes 1 and 2 show the influence of temperature and pH-value on the enzyme activity of Distizym<sup>®</sup> INU-ex.

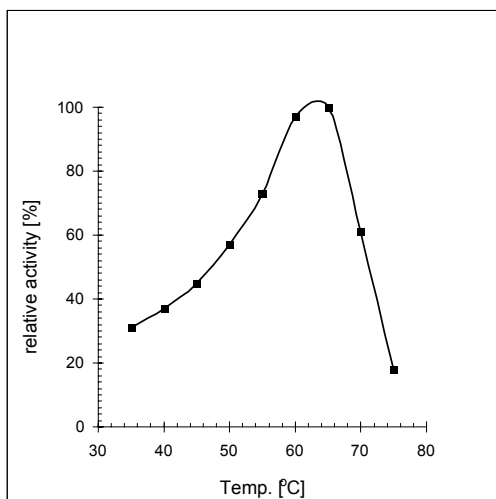


Fig. 1: Influence of temperature on activity (0.5% soluble inulin, pH 5.0).

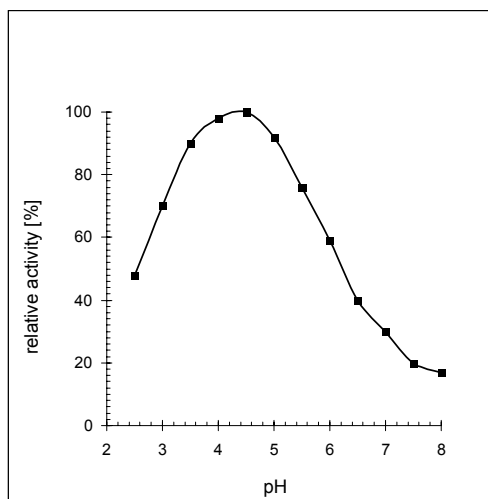


Fig. 2: Influence of pH-value on activity (0.5% soluble inulin, 50 °C).