



## Product Information Sheet

# Glucoamylase 200K/AMG 400L

*An Enzyme Supplies high-strength glucoamylase for the starch, alcohol, & ethanol industries*

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### INTRODUCTION

AMG 400L is a highly efficient, concentrated glucoamylase produced by submerged fermentation of *Aspergillus niger*. The enzyme hydrolyses 1,4- $\alpha$ -glucosidic linkages in starch from the non-reducing end to produce glucose, & can also hydrolyse 1,6- $\alpha$ -glucosidic links. At the branch of a 1,6- $\alpha$  link, AMG 400L will hydrolyse 1,6 then 1,4 bonds. The enzyme therefore successively slices off glucose units of amylase from the non-reducing end to rapidly produce glucose.

AMG 400L can also be produced free of Transglucosidase activity. Transglucosidase when added to normal brewery wort, produces predominantly isomaltose, panose and small amounts of isomaltotriose. The isomaltooligosaccharides produced cannot undergo fermentation by brewer's yeast, and the resulting reduction in fermentation decreases the level of alcohol produced. However, the presence of Transglucosidase activity can be beneficial for the production of low carbohydrate and super-attenuated beers, and the presence of this activity can also reduce the formation of acetic acid during high gravity brewing.

### ENZYME PROPERTIES

AMG 400L has an optimum pH range of 4.0-4.5 (effective range 3.0-5.5).

The enzyme is effective over a temperature range from 40°C to 65°C, with an optimum performance at 60°C to 62°C. At temperatures above 65°C the activity of the enzyme decreases rapidly with rising temperature.

### TYPICAL CHARACTERISTICS

Activity minimum 200,000  $\mu$ /ml (where 1 $\mu$ /ml is defined as the amount of enzyme in 1ml enzyme solution to hydrolyze soluble starch to produce 1mg of glucose/ hour at pH 4.6 & 40°C)  
Appearance – brown liquid  
Bulk density 1.15g/ml

## **APPLICATION SCOPE**

AMG 400L is used in the production of alcohol, distilled spirit, ethanol & widely used in the production of various kinds of glucose.

## **PACKAGING**

AMG 400L is available in 25Kg 'non-toxic' plastic barrels or 1 tonne IBC's

## **STORAGE STABILITY**

To maintain optimum activity, AMG 400L should be stored at moderate temperatures (below 25 deg C), in the original containers and with the lid closed. When stored at temperatures below 25 deg C, the activity loss will be less than 10% in 6 months. At temperatures below 5 deg C, the activity loss will be less than 10% in 1 year.

## **SAFETY AND ENZYME HANDLING**

Inhalation of aerosols from liquid enzymes should be avoided. Open in a well-ventilated environment. In case of contact with skin/eyes, promptly rinse with water for at least 15 minutes. Clean any spillages with low-pressure water hoses, avoiding the formation of aerosols. For more detailed information please refer to the Material Safety Data Sheet for this product

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