



# ABV GLUCOAMYLASE 400 (GAG 511)

abv Glucoamylase 400 is a food grade saccharifying glucoamylase or amyloglucosidase enzyme derived from a selected strain of *Apergillus niger*. It is an exoglucosidase capable of hydrolyzing both the  $\alpha$ -1,6 and  $\alpha$ 1,4 glucosidic linkages of starch, liberating single glucose units.



## BENEFITS

Maximizes the conversion of starch containing substrates to fermentable sugars.

Minimizes residual carbohydrates.

Provides a high degree of attenuation.



## DOSE RATE & APPLICATION

A typical dosage of:

0.5 – 1 kg/t of grist added in the brew house.

3 – 5 g/hl wort added during fermentation.

abv Glucoamylase 400 can be used to produce low calorie beers. In this application it can be added directly to the mash vessel at the mashing-in stage. Alternatively, it can be added to cooled worts after yeast pitching.

abv Glucoamylase 400 can also be used in the starch industry in the production of maltodextrins, glucose, and high fructose syrups.



## SPECIFICATIONS

### PHYSICAL & CHEMICAL

#### PHYSICAL FORM

Liquid with a SG of 1.0-1.2

#### COLOR

Brown (color may vary from batch to batch)

#### ACTIVITY

400 AMGP/g

One AMG unit is defined as the amount of enzyme which hydrolyses one  $\mu$ mol of p-nitrophenyl  $\alpha$ -glucopyranoside per minute at 37C and pH 4.4

### MICROBIOLOGICAL

TOTAL VIABLE COUNT < 50000/g

SALMONELLA SP absent in 25g

COLIFORMS < 30/g

ANAEROBIC SULPHATE REDUCERS < 30/g

STAPHYLOCOCCUS AUREUS absent in 1g

ANTIBACTERIAL ACTIVITY negative by test

MYCOTOXINS negative by test

### HEAVY METALS

ARSENIC < 3 mg/kg

LEAD < 5 mg/kg

MERCURY < 0.5 mg/kg

CADMIUM < 0.5 mg/kg



## PACKAGING & STORAGE

abv Glucoamylase 400 is available in 25kg or 1000kg containers that should be stored in a dry cool area and protected from exposure to direct sunlight. abv Glucoamylase 400 is stable for 6 months when the storage temperature does not exceed 20C. If stored at 5C the product will maintain the declared activity for 12 months.



## SAFETY & HANDLING

Avoid unnecessary contact with enzyme preparation during handling. In case of spillage rinse with water. Additional information can be found in the Material Safety Data Sheet.



## CONFORMITY TO STANDARDS

abv Glucoamylase 400 complies with the current recommended specifications for food grade enzymes given by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Food Chemicals Codex (FCC).



## ADDITIONAL INFORMATION

abv Glucoamylase 400 can be used between pH 3.5 and pH 5.0 (the optimum being pH 4.0-4.4) and a temperature between 20-65C.

Total inactivation is obtained by heating at 95C for 10 minutes or at 100C for 3 minutes.

Typical beer pasteurization temperatures will not totally inactivate abv Glucoamylase 400.

### CONTACT US

For more information, please visit us online at  
[www.lallemandbrewing.com](http://www.lallemandbrewing.com)

For any questions, you can also reach us via email at  
[abvickers@lallemand.com](mailto:abvickers@lallemand.com)