

Technical Information



abv Glucoamylase 400 (GAG 511)

Glucoamylase for starch hydrolysis

Description

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

Benefits

Maximises the conversion of starch containing substrates to fermentable sugars and minimises residual carbohydrates. Provides a high degree of attenuation.

Dose rate

Brewhouse	0.5 – 1 kg/t of grist
Fermentation	3 – 5 g/hl wort.

Application

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.

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

Activity

abv Glucoamylase 400 is standardised at 400 AMGP/g. One AMG unit is defined as the amount of enzyme which hydrolyses one μ mol of p-nitrophenyl α -glucopyranoside per minute at 37°C and pH 4.4

Properties

abv Glucoamylase 400 can be used between pH 3.5 and pH 5.0 (the optimum being pH 4.0 – 4.4) and at temperatures between 20°C and 65°C.

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

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

abv Glucoamylase 400 is a brown liquid with a specific gravity of 1.0 -1.2

Colour may vary from batch to batch.

Microbiological specification

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 specification

Cadmium	< 0.5 mg/kg
Mercury	< 0.5 mg/kg
Arsenic	< 3 mg/kg
Lead	< 5 mg/kg

Conformity to standards

abv Glucoamylase 400 conforms to the specifications laid down by the joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Food Chemicals Codex (FCC)

When used as a processing aid under 21 CFR 101.00, it may be exempt from FDA labelling requirements and is usually not listed.

Packaging and storage

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

Safety and handling

Avoid unnecessary contact with enzyme preparations during handling. In the event of spillage, rinse with water. Additional information can be found in the MSDS.