

Technical Information



abv Alphamylase FA (AFA 511) Fungal Amylolytic Enzyme

Description

abv Alphamylase FA is a liquid fungal alpha-amylase obtained from a selected strain of *Aspergillus oryzae*. (EC 3.2.1.1)

abv Alphamylase FA hydrolyses the α -1,4 glucosidic linkages in starch, producing large amounts of maltose.

Benefits

Enables a higher level of fermentable sugars in wort fermentations.

Eliminates residual starch in wort.

Allows control of attenuation of brewery fermentations.

Facilitates removal of starch hazes in beer.

Can be used for liquefaction and saccharification of gelatinised starch.

In the starch industry, abv Alphamylase FA can be used for the production of high maltose syrups (45-60%)

In the alcohol industry, abv Alphamylase can be used in the saccharification stage.

Dose rate

Carbohydrate haze removal in beer 0.5 – 4ppm

Correction of slow fermentation 5 – 20ppm

Improving attenuation limit 20 – 75ppm

Application

abv Alphamylase FA can be added during fermentation to improve the attenuation limit, correct slow or sluggish fermentation and to prevent starch haze formation. It can be added in the brewhouse when the attenuation needs adjusting.

Activity

abv Alphamylase FA is standardised at 2500 FAU/g. (minimum activity 2300 FAU/g)

One FAU is defined as the amount of enzyme which hydrolyses 1g of starch per hour at pH 4.8 and 30°C.

The optimum pH is 5.0 and optimum temperature between 50 and 55°C.

abv Alphamylase FA is completely inactivated after 10 minutes at 80°C.

Appearance

Brown liquid, specific gravity 1.1

(Colour may vary from batch to batch)

Stabilizers and Activators

Calcium ions are present in the structure of the enzyme molecule and are necessary for its stability. Consequently EDTA or other calcium chelating agents can reduce the activity of the enzyme.

Microbiological specification

Total Viable Count	< 50000/g
Salmonella sp.	absent in 25g
Coliforms	< 30/g
Staphylococcus aureus	absent in 25g
Anaerobic sulphate reducers	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 Alphamylase FA conforms to the specifications laid down by the joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Food Chemicals Codex (FCC)

Packaging and storage

abv Alphamylase FA is available in 25 kg or 1000 kg containers and should be stored in a dry cool area (max.10°C) and not exposed to direct sunlight. Maintains declared activity for minimum 6 months under these conditions.

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.