

Glucoamyl L-209+

Glucoamylase enzyme for use in saccharification and fermentation

Description

Glucoamyl L-209+ is a purified native glucoamylase that functions by the hydrolysis of terminal 1,4 linked alpha-D-glucose residues from non-reducing ends of polysaccharide chains with release of beta-D-glucose. Its application is to yield monomeric glucose molecules that can be fermented by yeast into biofuels of interest such as ethanol.

Typical Characteristics

Activity: 172,000 – 173,000 u/mL (minimum)

Appearance: Brown liquid

pH: 3.5 – 5.0

Bulk Density: 1.11 – 1.16 g/mL

Unit Definition

One unit of glucoamylase (u) is the amount of enzyme which hydrolyzes soluble starch to liberate 1 milligram of glucose per hour under the conditions of the assay.

Performance Benefits

Glucoamyl L-209+ provides the following benefits to ethanol producers.

- Robust and consistent performance under varied conditions
- Enzyme conversion kinetics match more closely to yeast growth curve
- Increased alcohol concentrations
- Lower residual sugars at end of fermentation
- Reduced glycerol concentrations throughout fermentation

Application Recommendations

Glucoamyl L-209+ is used to saccharify liquefied mashes of whole ground corn. The resultant glucose is fermented by yeast to produce ethanol.

Glucoamyl L-209+ has a broad operating range for enhanced process flexibility, and performs well within the temperature, and pH ranges typical in whole ground corn batch fermentations.

In high gravity fermentations, performance can be further enhanced by the addition of SZM XT-20 Fungal Alpha Amylase and/or SZM AP-1 Acid Protease.

Dosage Recommendation

Glucoamyl L-209+ should be dosed at 0.048 - 0.065% weight enzyme / weight as is corn. The actual dose required will depend upon the conditions of your fermentation: time, initial pH and the level of solids.

Regulatory Status

- ISO 9001 registered company
- Kosher certified
- GRAS (Generally Recognized as Safe)

GM Status

This product is not a GMO.

The enzyme product is manufactured by fermentation of microorganisms that are not present in the final product. The production organisms and the enzyme effectiveness are improved by means of modern technology.

Packaging

Glucoamyl L-209+ is available in totes or bulk tankers.

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Storage

Glucoamyl L-209+ will meet the declared activity upon arrival at your plant. Glucoamyl L-209+ can be safely stored in sealed containers. Enzymes should be stored below 77°F (25°C) and sheltered from direct sunlight for maximum stability.

Shelf Life

The enzymatic activity of Glucoamyl L-209+ remains at ≥ 95% for six months when stored at 77°F (25°C). The recommended dosage may need to be increased if stored for longer than six months.

Safety and Enzyme Handling

Glucoamyl L-209+ contains proteins obtained from large-scale cultures of a mold. Proteins may cause an allergic-type reaction in sensitized individuals that could require immediate medical attention. Prolonged direct contact may cause minor irritation to skin, eyes, or mucus membranes. For detailed handling information, please refer to the appropriate Safety Data Sheet.

Technical Service

CTE Global, Inc. is committed to formulating a productive and mutually beneficial relationship with ethanol producers in order to make their fermentation process as consistent, efficient, and as most cost-effective as possible. More detailed information about the application of this product is available upon request. If you have any questions, please contact us and let us know how we can be of assistance.

For more information contact:

CTE Global, Inc.
630 Dundee Road
Suite 440
Northbrook, IL 60062
Telephone: 847-564-5770
Fax: 847-272-6003
cte-global.com