

# Alcolase™ 146

Saccharifying Enzyme For Use  
in Fuel Ethanol Production

CONVERGENCE™

## DESCRIPTION AND USE

Glucoamylase is intended for the production of glucose from liquefied starch. Alcolase™ 146 enzyme is a 1,4  $\alpha$ -D-glucan glucohydrolase (EC 3.3.1.3), usually referred to as a glucoamylase or amyloglucosidase. Glucoamylase is produced by controlled fermentation of a selected strain of *Aspergillus niger*.

## CHARACTERISTICS

Alcolase™ 146 catalyzes the release of successive glucose units from non-reducing ends of dextrin and oligosaccharide chains by hydrolyzing both linear (1,4- $\alpha$ -D) and branched (1,6- $\alpha$ -D) glycosidic linkages

- Highly concentrated, lower dosage
- Contains standardized enzyme side activities that improve fermentation performance
- Optimal for Simultaneous Saccharification and Fermentation (SSF) processes
- High ethanol yields at industrial scale
- Operates over a broad pH and temperature range

## SPECIFICATIONS

Activity: 1400 LGU/mL

Appearance: Clear brown liquid

pH: 3.5 - 5.5

Specific Gravity: 1.05 - 1.30 kg/L

Formulation: Food-grade

## INGREDIENTS

Clear brown liquid consisting of glucoamylase, water, glucose and food grade stabilizers.

## APPLICATIONS

Glucoamylase is used to saccharify liquefied starch from various sources including corn, wheat, tapioca, barley, rice, and potatoes. The resultant glucose product is fermented by yeast to produce alcohol. Alcolase 146 enzyme is active under typical fuel ethanol fermentation temperature 30°C - 38°C (86°F - 100.4°F) and pH conditions (4.0 - 5.5).

## PACKAGING

Available in 1125 kg (2480.2 lb) totes

## DIRECTIONS FOR USE

Alcolase 146 enzyme is generally added at a level of 0.03% to 0.05% w/w grain as-is. The actual enzyme requirement is dependent on operating conditions (i.e. temperature, reaction time, pH, and solids) and desired results. Contact your Lallemand Biofuels & Distilled Spirits Technical Representative for more details.

## STORAGE & HANDLING

Enzyme should be stored below 20°C (68°F) for maximum stability, preferentially refrigerated at 5°C (41°F) and sheltered against direct sunlight. When stored under these conditions, the product is stable for 12 months from the date of manufacture.

## PRECAUTIONS

- Inhalation of enzyme dust and mists should be avoided. In case of contact with the skin or eyes, promptly rinse with water for at least 15 minutes.
- Use proper protective equipment while handling any enzyme product.
- Color may vary per batch, but in no way affects the performance of the product.



1815 SATELLITE BLVD., BLDG. 200 • DULUTH, GA 30097  
678-474-4590 PH • 678-474-4595 FAX  
[www.lbds.com](http://www.lbds.com)