Food Enzyme

GLUCO-AMYLASE

Angel **High-conversion Efficiency Gluco-amylase** is derived through extraction and refinement from the *Aspergillus niger*, with high enzyme activity and glucose conversion. The product is widely used to produce glucose to saccharify liquefied starch from various sources including corn, wheat, barley, rice, tapioca, potato etc.

Angel
Special Enzyme Division

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CHARACTERISTICS

items	
Physical Appearance	brown liquid
Activity (U/ml)	150,000; 260,000
pH value	3.0-5.0
Specific gravity(g/ml)	1.10-1.20
Working Temperature	30-65℃
Optimum Temperature	55-60℃,
Effective pH	3.0-5.5
Optimum pH	4.0-4.4

MECHANISM

The enzyme is an exo-amylase that has the ability to catalyze successive release of glucose units from the non reducing ends of dextrin and oligosaccharide chains by hydrolyzing linear (1.4-α-D), it also slowly catalyzes branched (1.6-α-D) and (1.3-α-D) glucosidic linkages.

APPLICATION AND USAGE

This product can be used in production of alcohol, starch sugar, monosodium glutamate, antibiotics, citric acid, beer, Chinese rice wine, and other fermentation products. The recommended for optimum industry operation condition is temperature 58～62℃, pH4.0-4.5; commonly adjust pH first, and then add into Gluco-Amylase. The usage of the enzyme comes with the industry, material, technics. We suggest that the concrete usage should be decided by small trials.

1) **Ethanol Industry:** Raw materials are braised and cooled to 58~60℃, and adjusted pH4.0-4.5, then the product is added at recommended dosage, stirred and incubated for 30~60min, then cooled to 30℃ for fermentation with yeast. If the continuous saccharification is adopted, the usage of enzyme is added by mash flux, pay attention to prevent the mash to go short circuit without mashing outflow. During the saccharification process, must be constantly stirring.
2) **Beer industry:** This product can be added before fermentation and saccharification start, which can improve fermentation.
3) **Brewing industry:** In Chinese white, Yellow and koo rice wines industry, it can instead leaven, increase alcohol concentration and shortened fermentation cycles. It can also be applied in vinegar and sauce industry.

SPECIFICATIONS

Liquid
Sealed in Plastic Bucket; Net Weight 30kg/bucket; 1125kg/bucket.

STORAGE

The product if stored at 25℃ below, 6 months shelf life, if under the 4~10℃ cold storage, shelf life is 12 months; under warranty, measured activity not less marked activity. Over shelf life, enzymes may decrease, but can still be used, usage should be increased accordingly.
The product is bio-active substances, so sunlight, temperature, and humidity can cause inactivation of enzymes. Therefore, should transport and store in cool dry place. Avoid direct exposure to sunlight or moisture. Warehouses should be maintained in a clean, cool, and dry.

PRECAUTIONS

1) The product is bio-active substances, inhalation of dust or aerosols may induce sensitization and may cause allergic reactions in sensitized individuals. Unnecessary contact with the product and inhalation of dust should be avoided.
2) In case of contact with the eyes or skin, promptly rinse with the affected area with plenty of water for at least 15 minutes.
3) Starch sources material should contact with the enzyme completely, larger contact area, more time and more benefits, Saccharification mixing fully intermittent, continuous saccharification must flow evenly. To strictly control the temperature 58-60℃, heat preservation temperature, short-term high temperature is strictly prohibited.