**α-AMYLASE and GLUCOAMYLASE from ASPERGILLUS ORYZAE, var.**


**SYNONYMS**
INS No. 1100

**SOURCES**
Produced by the controlled fermentation of non-toxicogenic and non-pathogenic strains of *Aspergillus oryzae* and isolated from the growth medium.

Active principles
- alpha-Amylase (synonyms: diastase, ptyalin, glycogenase)
- Glucan 1,4-alpha-glucosidase (synonyms: amylglucosidase, acid maltase, lysosomal alpha-glucosidase, exo-1,4-alpha-glucosidase)

Systematic names and numbers
1,4-alpha-D-Glucan glucanohydrolase (EC 3.2.1.1)

**Reactions catalyzed**
- alpha-Amylase hydrolyzes 1,4-alpha-glucosidic linkages in polysaccharides yielding dextrins, oligosaccharides and glucose.
- Glucoamylase hydrolyzes 1,4-alpha- and 1,6-alpha-glucosidic linkages in polysaccharides yielding glucose.

Secondary enzyme activities
- Lipase (EC 3.1.1.3)
- Tannase (EC 3.1.1.20)
- Cellulase (EC 3.2.1.4)
- Endo-1,3-beta-glucanase (EC 3.2.1.6)
- Pectinase (EC 3.2.1.15)
- Maltase (EC 3.2.1.20)
- Lactase (EC 3.2.1.23)
- Endo-1,4-beta-mannanase (EC 3.2.1.78)
- Protease

**DESCRIPTION**
Typically tan amorphous powders or tan to dark-brown liquids that may be dispersed in food-grade diluents and may contain stabilizers and preservatives; soluble in water and practically insoluble in ethanol and ether.

**FUNCTIONAL USES**
Enzyme preparation
Used in the hydrolysis of cereals and starch; in the preparation of fruit and vegetable products, beverages, sugar, confectionery and bakery products; and in honey.

**GENERAL SPECIFICATIONS**
Must conform to the General Specifications for Enzyme Preparations Used in Food Processing (See Volume Introduction)

**CHARACTERISTICS**

**IDENTIFICATION**
<table>
<thead>
<tr>
<th>Enzyme Activity</th>
<th>Activity Description</th>
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<tbody>
<tr>
<td>alpha-Amylase activity (Vol. 4)</td>
<td>The sample shows fungal alpha-amylase activity</td>
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<tr>
<td>Glucoamylase activity (Vol. 4)</td>
<td>The sample shows fungal glucoamylase activity</td>
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