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

Prepared at the 55th JECFA (2000) and published in FNP 52 Add 8 (2000), superseding tentative specifications prepared at the 41st JECFA (1993) and published in FNP 52 Add 2 (1993). An ADI was "Acceptable" established at the 31st JECFA (1987).

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: amyloglucosidase, 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

alpha-Amylase activity (Vol. 4)	The sample shows fungal alpha-amylase activity
Glucoamylase activity (Vol. 4))	The sample shows fungal glucoamylase activity