

## CARBOHYDRASE from *RHIZOPUS ORYZAE*, var.

*Prepared at the 15th JECFA (1971), published in NMRS 50B (1972) and in FNP 52 (1992) An ADI 'not limited' was established at the 15th JECFA (1971)*

### SOURCES

Commercial enzyme preparations are produced by the controlled fermentation of *Rhizopus oryzae*, var.

#### Active principles

1. alpha-Amylase (Glycogenase)
2. Pectinase
3. Glucoamylase (Amyloglucosidase, Glucan 1,4-alpha-glucosidase)

#### Systematic names and numbers

1. 1,4-alpha D-Glucan glucanohydrolase (EC 3.2.1.1)
2. Poly (1,4-alpha D-galactouronide) glycanohydrolase (EC 3.2.1.15)
3. 1,4-alpha D-Glucan glucohydrolase (EC 3.2.1.3)

#### Reactions catalyzed

1. Hydrolysis of 1,4-alpha-glucosidic linkages in polysaccharides (starch, glycogen) yielding dextrans and oligo- and mono- saccharides.
2. Hydrolysis of 1,4-alpha-galactouronide linkages in pectin.
3. Hydrolysis of 1,4-alpha and 1,6-alpha-glucosidic linkages in polysaccharides (starch, glycogen) yielding glucose.

### DESCRIPTION

Off-white to tan amorphous powders; also as liquid preparations, the aqueous solutions usually being tan to dark brown; practically insoluble in ethanol, chloroform and ether.

### FUNCTIONAL USES

Enzyme preparation  
Used in the preparation of starch syrups and fruit juices, and manufacture of glucose.

### 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

Pectinase activity

The sample shows pectinase activity

Glucoamylase activity  
(Vol. 4)

The sample shows glucoamylase activity