COROLASE® 7089
Description and Specification

Description

COROLASE® 7089 is a neutral protease that contains exclusively endo-peptidase activity. It is obtained from Bacillus subtilis cultures. COROLASE® 7089 hydrolyses high molecular protein into low molecular peptides.

- IUB-No.: 3.4.2x.xx
- CAS-No.: 9001-92-7

Properties

COROLASE® 7089 has the following characteristics:

a) liquid product
b) light brown colour with characteristic smell
c) specific weight: 1.15 g/ml

COROLASE® 7089 is active at pH 6 – 9 with an optimum at 7 - 8 and at temperatures up to 65°C with an optimum at 55°C.

Activity

COROLASE® 7089 contains a declared minimum activity of 840 U/Hb g⁻¹.
A description of the analysis method is available on request.

Application

- COROLASE® 7089 can be used for the following applications:

  > Protein hydrolysis:
  COROLASE® 7089 is used for the hydrolysis of proteins from several sources. Typical applications include the production of hydrolysates of wheat gluten, soya protein, gelatine, upgrade of fish protein from by-products and milk proteins. COROLASE® 7089 is used either as a single enzyme or in combination with other proteinases.
Application continued

- **Distilling:**
  Depending on the type of cereals used for alcohol production and depending on the quality of the grain, the enzymatic hydrolysis of starch may partially be blocked by the existence of a protein-starch-matrix. This may lead to poor alcohol yields. The use of COROLASE® 7089 improves the separation of protein from starch and increases the alcohol yield.
  COROLASE® 7089 forms low molecular peptides, which do not sediment at the wall of the mash tun, the fermenters or the distilling equipment and therefore incrustations in these equipments are reduced or avoided.

- **Brewery:**
  In the brewery COROLASE® 7089 is used to supply the missing protease activity when processing barley or low-quality malt. COROLASE® 7089 is not inhibited by barley-protease-inhibitors and therefore high values of α-amino-nitrogen are achieved.
  The addition is carried out during the mashing.

The low molecular peptides formed through the action of COROLASE® 7089 are a valuable nutrient for the yeast in distilleries and breweries that leads to a faster and improved fermentation.

**Dosage**

The dosage depends on the reaction conditions such as substrate, protein content, pH value, temperature and requested degree of hydrolysis.

Typical dosages are:

- **Protein hydrolysis:**
  0,01 – 0,5% based on the protein content

- **Distilling:**
  50 – 100 g / t starch

- **Brewery:**
  50 – 250 g / t raw material

**Specification**

The product complies with the recommended specifications of the FAO/WHO's Joint Expert Committee on Food Additives (JECFA) and the Food Chemicals Codex (FCC) for food-grade enzymes.

The total viable counts are within the upper limit of 5 x 10⁴ / g.

**Composition**

Water, glycerol qs, sorbitol qs, Protease.
Packaging

COROLASE® 7089 is available in 25-kg PE cans and in 1.000-kg IBC – container.

Storage

When stored at cool and dry conditions (< 10°C) in original packaging COROLASE® 7089 is best used within 24 months from the date of production.

Handling

Avoid the formation of aerosol and dust of the product. Repeated inhalation of enzyme aerosol or dust may cause sensitisation and may cause allergic type reactions in sensitised individuals. Proteases are irritating to eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. For detailed information please refer to the Material Safety Data Sheet (MSDS).