

Papain (200)

Description

Papain is a natural enzyme present in relatively high concentration in the green peel and seeds of the Carica papaya fruit. It is essential for the plants natural defense against varmint. The enzyme shows a wide proteolysis activity and therefore belongs to the class of cysteine proteases. It is used to make meat more tender. The textile industry uses papain as an expedient in wool and silk production to avoid matting and shrinking. Traditionally the papain milk juice was used to clean contaminated wounds. Later it was shown that papain shows vermicial properties. In combination with other ingredients of the immature papaya it shows furthermore antimicrobial and antioxidative activities and is used in transfusion medicine. Papain is used as a therapeutic agent to heal open wounds. It is supposed to reduce fibrin on the vascular inner wall and therefore reduce the occurrence of thromboses. It is also supposed to bleach teeth, but with lack of sufficient data. Due to papain's high activity and good heat stability, it is widely applied in food applications, pharmaceutical drug development, daily chemical applications, leather and textile industry products etc. In cosmetics it is often used as an effective ingredient in enzymatic peeling applications.

Papain (200) is produced based on physical methods in a pure natural, safe and high-effective process. The methods used involve microfiltration, ultrafiltration, and freeze-drying.

Efficacy

- shows anti-inflammatory effects
- acts as an antioxidant
- enhances skin and wound healing
- in washing powders, soaps and detergents: removes stains more efficiently
- helpful for the absorption and digestion in food supplements
- shows disinfection and sterilization properties

Appearance

white or light yellow powder

INCI

Papain

Registration

CAS-No.....9001-73-4

EC-No.....232-627-2

Raw material approved by ECOCERT GREENLIFE, conform to the COSMOS Standard.

Preservatives / Stabilizers

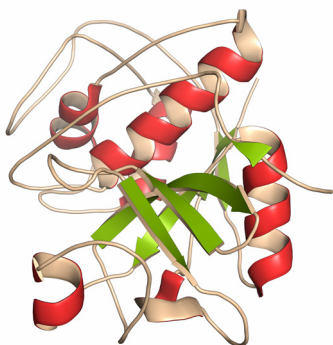
preservatives.....none
 stabilizer Maltodextrin.....80 %



Papain (200)

Characteristics

Papain activity.....>= 200.000 u/g
loss on drying.....<= 10.0 g/100 g



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Botanical name.....Carica papaya L.

Application

daily cosmetic products
creams and lotions
face masks
gels and ampoules
soaps and detergents
toothpaste
washing powder
food supplement
enzymatic peelings

Application concentration

skin care formulations.....0.1 - 0.3 %

Incorporation

Papain (200) should be blended into the water phase below 50°C. The optimum pH range is 5.0 - 7.0.

Papain (200) is soluble in water and glycerin, insoluble in organic solvents such as ethanol, chloroform and ether.

Avoid high temperatures and moisture. Papain (200) is reactive with oxidizing agents.

Toxicology

non hazardous in normal use concentration
pure raw material can cause

- skin irritation
- serious eye irritation
- allergy or asthma symptoms or breathing difficulties

if inhaled

- respiratory irritation

Storage & Shelf life

Papain (200) should be stored in sealed containers at a dry, light protected place at 2 - 8°C to keep the enzyme activity.

In closed original containers the shelf life is 12 months.