

Product Description

Fructamyl® FHT is a liquid, highly concentrated amylolytic enzyme preparation for the degradation of starch and dextrins in the course of hot clarification of pome fruit juices, preventing the formation of filamentous cloudiness. The stability of the product at high temperatures and low pH- values corresponds to the stability of amyloglucosidases. Due to the specially developed structure of the active enzyme protein, even high dosages do not cause filamentous cloudiness.

Permitted according to the laws and regulations currently in force. Purity and quality are proved by specialized laboratories.

Aim of Treatment

Starch degradation in the course of hot clarification of pome fruit juices, under prevention of filamentous cloudiness.

Product and Effect

At the beginning of harvest, pome fruit juices contain different amounts of dissolved and undissolved starch. Starch is dissolved when the juice is heated (e.g. in the aroma recovery unit). For the production of clear juices, the dissolved starch must be completely degraded enzymatically to make clarification possible and to avoid secondary haze. Usually, so-called amyloglucosidases are applied for hot clarification (50 °C). They are sufficiently stable at pH-values of approximately 3.2 – 4.0 in juices. Ordinary fungal alpha-amylases tolerate in pome fruit juices only temperatures up to a maximum of 30 °C. Due to their enzymatic composition, amyloglucosidases show, when applied in high dosages, a special characteristic during clarification; since they are especially stable and thermally highly tolerant, they are not removed like other enzymes after completed action in the course of fining, but the enzyme protein remains in the clear juice or concentrate. Only after heating at temperatures exceeding 80 °C, the protein denatures and coagulates as so-called filamentous cloudiness. With usual standard dosages of 5-20 mL/1000 L juice (single concentrated) this cloudiness is not visible, whereas high dosages of these amyloglucosidases (required for very high starch contents) lead to considerable secondary haze. A fact that could be prevented by applying Fructamyl® FHT, as the enzyme protein of Fructamyl® FHT is removed by bentonite in the course of clarification/fining.

Dosage

Enzyme dosages depend on raw material, degree of maturity, temperature and contact time. The required dosages should be determined by dosage variations by means of the iodine test.

Standard guide values at 40-55 °C and reaction time of 1-2 h:	
fruit/starch determination with iodine	ml/1000 L juice
premature-mature fruit, intense blue colour	30-50
overripe fruit, storage fruit, reddish-brown - blue colour	5-30

Application

Fructamyl® FHT is diluted with cold tap water to a 5-10 % solution. Dosage is made directly into the juice lines after the aroma recovery unit or is added into the enzymatization tanks as first component. Fructamyl® FHT is preferably applied in combination with the pectolytic enzyme preparation Fructozym® P.

Storage

Store in a cool place. Reseal opened packagings immediately and tightly and use up within a short time.

Special enzyme for starch degradation at high temperatures without formation of filamentous cloudiness