



# THAUMATIN

## DESCRIPTION

Thaumatococcus (INS 957, E 957) is a low-calorie (virtually calorie-free) protein sweetener and flavour modifier. The substance is often used for its flavour modifying properties and not as a sweetener. Thaumatococcus comes from the West African Katemfe fruit *Thaumatococcus daniellii*.

## RELATIVE SWEETNESS

Approximately 2000-3000 times sweeter than sucrose (w/v).

## METABOLISM

Thaumatococcus is metabolised by the body as any other dietary protein.

## BENEFITS

- Natural, intense sweetness
- Multi-functional ingredient with benefits to flavours and sweeteners
- Stable in freeze-dried form and soluble in water and aqueous alcohol
- Effective masking properties
- Does not promote tooth decay
- Heat and pH stable
- Synergistic when combined with other low-calorie sweeteners (the combinations are sweeter than the sum of the individual sweeteners)
- Adds mouth-feel

## APPLICATIONS

Thaumatococcus has a wide range of applications in food and drinks in combination with other sweeteners; it is particularly effective for its flavouring properties.

## SAFETY

A multitude of animal and human studies have been conducted. No adverse reactions have been observed.



## STATUS

Thaumatococcus has been approved by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) (1985) and by the Scientific Committee on Food (SCF) of the European Commission (1988) - now the European Food Safety Authority (EFSA).

Thaumatococcus is listed in Table III of the Codex General Standard for Food Additives (GSFA). This means that it is permitted for use in food in general, unless otherwise specified, in accordance with GMP (Good Manufacturing Practice).

Thaumatococcus is authorised in the EU as a sweetener under Directive 94/35/EC and as a flavour enhancer in chewing-gum, beverages and desserts under Directive 95/2/EC. Thaumatococcus is also approved in all applications in Europe as a "flavour preparation" under Directive 88/388/EC. When used as a sweetener or as a flavour enhancer, maximum levels need to be followed in given food categories.

Similar approval exists in Switzerland, the United States, Canada, Israel, Mexico, Japan, Hong Kong, Korea, Singapore, Australia, New Zealand and South Africa and further approval is being sought elsewhere.

Thaumatococcus is classified as GRAS (Generally Recognised as Safe) by the FDA (Food and Drug Administration) in the USA.

## ADI

JECFA gave Thaumatococcus an ADI (Acceptable Daily Intake) of "not specified", which means that it can be used according to GMP (Good Manufacturing Practice)