



International
Sweeteners
Association



FACTSHEET

Safety and Regulation of Low/no Calorie Sweeteners

Demand for tasty, healthy and convenient foods that are lower in sugars has grown in recent years. As part of a greater awareness of the benefits of healthier eating, consumers are also seeking reassurance about the safety of food ingredients.

Both international food standards and the laws and food regulations of individual countries ensure food and drink ingredients are safe.

All food additives have to undergo a thorough safety assessment before they are approved, and low/no calories sweeteners are no exception. In fact, **low/no calorie sweeteners are among the most thoroughly researched ingredients**. Regulatory food safety bodies around the world confirm their safety and allow their use.

At international level low/no calorie sweeteners have gone through the safety assessments of the Joint Expert Scientific Committee on Food Additives (JEFCA). JEFCA was created by the United Nations Food & Agriculture Organization (FAO) and the World Health Organization (WHO). It is an independent committee that provides scientific advice to the Codex Alimentarius Commission and specifically to the Codex Committee on Food Additives (CCFA).

Scientific consensus on safety

Committees of the Codex Commission, including CCFA, produce the international 'food guide' known as **Codex Alimentarius**, a collection of food standards, guidelines and codes of good practice.

When conducting the safety assessment of sweeteners, JEFCA as well as regional or national food safety authorities, establish an Acceptable Daily Intake (ADI) for each low/no calorie sweetener.

An ADI is the amount of a low/no calorie sweetener, or other food ingredient, that can be consumed daily over a lifetime without appreciable risk to health. It is based on the maximum amount that test animals can be given throughout their life without any noticeable harmful effects, divided by a safety factor of 100.

The 100-fold safety factor takes into account potential differences between animals and humans, as well as among different population groups ensuring the safety of the most vulnerable including children and pregnant women.

Different low/no calorie sweeteners have different ADIs because the characteristics and components of each low/no calorie sweetener vary. All ADIs are measured in milligrams per kilo of bodyweight per day, so the amount of Acesulfame-K permitted in drinks, for example, will be different to the amount of Aspartame or Cyclamate, or other low/no calorie sweeteners.

Safe usage levels in food and drink are set with the aim of consumers not reaching ADI levels. Reviews of low/no calorie sweeteners intake using data from international research and dietary surveys show that during the last decade intake of all low/no calorie sweeteners has neither reached nor exceeded ADIs for either adults or children, even among high consumers and people living with diabetes.^{1,2,3}

Health organisations globally, including Diabetes UK⁴, the American Diabetes Association⁵ and the Latin-American Association of Diabetes⁶ recognise

Low/no calorie sweeteners are a safe way to replace sugars, follow a healthy diet and help control weight and conditions such as diabetes when used to replace sugar, and as part of a healthy diet and lifestyle

(see factsheets 'Sugar Reduction and Low/no Calorie Sweeteners', 'Diabetes and Blood Sugar Control with Low/no Calorie Sweeteners', and 'Weight Control and Low/no Calorie Sweeteners').

References

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Aspartame and PKU

Phenylketonuria (PKU) is a rare inherited condition affecting 1 in 10,000 people. Throughout most of Europe babies are screened for the condition at birth. People with PKU lack the enzyme that converts phenylalanine, a natural component of high protein foods such as meat, eggs, nuts, soy and dairy foods, and also a component of the low/no calorie sweetener Aspartame, into tyrosine, an essential amino acid used by the body to build proteins. PKU results in a build-up of phenylalanine so people with PKU have to avoid foods containing it. Packaging on products containing Aspartame must therefore, by law, state "contains a source of phenylalanine".

Aspartame has recently been reassessed for safety and in 2013 the European Food Safety Authority (EFSA) reconfirmed its safety for all population groups at currently permitted levels in food.

