

# LOW-CALORIE SWEETENERS IN SOFT DRINKS

Low-calorie sweeteners have been used safely in soft drinks in Europe since the 1970s. Today there are several different types, each with their own unique taste profile. They are used in a wide range of food and drink products – often in combination – and enjoyed by consumers around the world. Soft drinks containing low-calorie sweeteners include still drinks, carbonates, dilutables, iced teas and flavoured waters.

## AT A GLANCE

Used in foods and drinks



Provide a sweet taste with no or few calories



A very small amount delivers a high level of sweetness



Confirmed as safe by European and international authorities including the European Food Safety Authority (EFSA).

Approved for use in Europe and given:

- an Acceptable Daily Intake (ADI), estimating how much can be consumed every day over a lifetime without a risk to health; and
- an E number for 'Europe' confirming that the food additive is considered to be safe by EFSA and is approved by European regulators for use in foods and drinks



## HOW THEY WORK



They bind to the mouth's sweet taste receptors providing a sweet taste

## BENEFITS



**Provide a sweet taste with no or low sugar and calories**, helping people reduce their overall sugars and calorie intake



**Help with the management of diabetes** as low-calorie sweeteners do not affect blood glucose levels



**Assist in weight management** when consumed in place of sugars as part of a weight loss or maintenance programme



**Do not cause tooth decay**

There are eleven low-calorie sweeteners approved for use in soft drinks in Europe, and most parts of the world. Let's take a closer look at the four that are most frequently used, either on their own or in combination, to achieve the desired taste profile.

## ACESULFAME K

USED IN EUROPE SINCE 1983

E Number:  
**E950**

Year of  
Discovery:  
**1967**



Sweetness Index  
**150-200 times sweeter than sugars**



### APPROVED FOR USE

Extensive studies support the safety of Acesulfame K and demonstrate that it is safe for human consumption



**CALORIE FREE**

**0  
CAL**



**x6**

The Acceptable Daily Intake (ADI) in the EU has been set at 0-9 mg/kg bodyweight. For an adult, without any other source of acesulfame K in the diet, this is equivalent to drinking 6 standard 250ml glasses of soft drink sweetened with acesulfame K at the maximum permitted level every day throughout their life. Soft drinks frequently contain acesulfame K at less than the maximum permitted level.

## ASPARTAME

USED IN EUROPE SINCE 1983

E Number:  
**E951**

Year of  
Discovery:  
**1965**



Sweetness Index  
**150-200 times sweeter than sugars**



### APPROVED FOR USE

Aspartame is one of the most thoroughly tested ingredients ever. Over 200 studies confirm its safety, including the latest EFSA Scientific Risk Assessment in 2013



**x16**

The Acceptable Daily Intake (ADI) in the EU has been set at 0-40 mg/kg bodyweight. For an adult, without any other source of aspartame in the diet, this is equivalent to drinking 16 standard 250ml glasses of soft drink sweetened with aspartame at the maximum permitted level every day throughout their life. Soft drinks frequently contain aspartame at less than the maximum permitted level.

**4  
CALORIES  
PER GRAM**

Used in very small amounts, less than 1 calorie per 250ml glass

The three components of aspartame – phenylalanine, aspartic acid and methanol - are commonly found in nature, including in eggs and tomatoes



People with the inherited disease phenylketonuria (PKU) must avoid consuming phenylalanine, which is present in aspartame. EU law requires any food or drink containing aspartame to clearly indicate the presence of phenylalanine.

## STEVIOL GLYCOSIDES (Stevia)

USED IN EUROPE SINCE 2011

E Number:  
**E960**

Year of Discovery:  
Natives of Paraguay  
have been using  
Stevia widely for  
over 1,500 years



Sweetness Index  
**150-200** times sweeter  
than sugars

The only low-calorie sweetener of natural origin approved in Europe



### APPROVED FOR USE

Risk assessment bodies and regulatory agencies around the world have reviewed the safety and authorised the use of steviol glycosides. They include the European Commission (based on safety advice from EFSA), the US Food and Drug Administration, Health Canada, Food Standards Australia/New Zealand and the Food and Agriculture Organisation/WHO global panel of food ingredient experts

CALORIE FREE



**x12**

The Acceptable Daily Intake (ADI) in the EU has been set at 0-4 mg/kg bodyweight. For an adult, without any other source of steviol glycosides in the diet, this is equivalent to drinking 12 standard 250ml glasses of soft drink sweetened with steviol glycosides at the maximum permitted level every day throughout their life.

## SUCRALOSE

USED IN EUROPE SINCE 2000

E Number:  
**E955**

Year of  
Discovery:  
**1976**



Sweetness Index  
**500-600** times sweeter than sugars



### APPROVED FOR USE

Extensive studies support the safety of sucralose and demonstrate that it is safe for human consumption

SUCROSE

Sucralose is produced  
from sucrose (table  
sugar) and is therefore  
structurally very similar



SUCRALOSE



**x12**

The Acceptable Daily Intake (ADI) in the EU has been set at 0-15 mg/kg bodyweight. For an adult, without any other source of sucralose in the diet, this is equivalent to drinking 12 standard 250ml glasses of soft drink sweetened with sucralose at the maximum permitted level every day throughout their life. Soft drinks frequently contain sucralose at less than the maximum permitted level.

CALORIE FREE



## All products with low-calorie sweeteners carry clear labelling



Sweeteners are always clearly labelled at least twice on soft drinks in the EU. European food labelling legislation requires that the presence of a low-calorie sweetener in foods and drinks is indicated on the label as 'With sweetener(s)' next to the description of the product

On a label, an additive must be designated by the name of its functional class, followed by its specific name, or its E number e.g. "sweetener: aspartame" or "sweetener: E951"

**E**  
NUMBER = ☒ SAFETY  
☒ REGULATORY APPROVAL

## Why low-calorie sweeteners are important in soft drinks

**PROVIDE THE CONSUMER WITH INNOVATIVE AND GREAT-TASTING SOFT DRINKS WITH:**

**NO OR LOW IN SUGARS  
NO OR FEW CALORIES**



**SUPPORT POLICYMAKERS AND INDUSTRY  
IN MEETING THEIR SUGAR REDUCTION TARGETS:**

