What are low calorie sweeteners?
LNCS provide a sweet taste to food or drinks with the benefit of few or no calories. They can be added to foods or drinks (in tea, coffee or baking) and are used in many low calorie and sugar-free foods and beverages such as soft drinks, chewing gum, confectionery, frozen desserts, dessert mixes, yogurts and puddings.

What are the main types of low-calorie sweeteners?
There are two main types of LNCS. Intense sweeteners include saccharin, sucralose, acesulfame K (ace-K) and aspartame. These are typically used as table top sweeteners and in low calorie soft drinks and are so intensely sweet that only a tiny amount is needed. They are also used in sugar-free gum and low calorie yogurts. Bulk sweeteners provide fewer calories weight for weight compared to sugar, but have a similar bulk or volume. These are useful, for example, when preparing low calorie confectionery products. Examples of bulk sweeteners include the polyols (sugar alcohols) sorbitol, mannitol and xylitol.

What are the potential benefits of using low calorie sweeteners?
The use of low calorie sweeteners may offer benefits in relation to weight management, diabetes management and dental health.

Do foods and drinks have to specify whether they contain low calorie sweeteners on their labels?
By law, the addition of low calorie sweeteners to food or drink products must be clearly labelled as ‘with sweetener(s)’ on the packaging. Sweeteners will also be listed in the ingredients list where provided. Table top sweeteners containing polyols must carry the warning “excessive consumption may induce laxative effects”.

How is the safety of low calorie sweeteners assessed?
All low calorie sweeteners used in food and drinks sold in the EU have to undergo rigorous safety testing before being approved by the European Commission. Food ingredient manufacturers have to provide evidence from safety studies showing that the low calorie sweetener in question does not cause any adverse effects, including cancer, that it does not affect reproduction, that it is not stored within the body or metabolised into other potentially unsafe products, and that it does not cause allergic reactions.

As part of the approval process for each low calorie sweetener, an Acceptable Daily Intake (ADI) level is set. The ADI is the estimated amount per kilogram of body weight that a person can consume, on average, every day over a lifetime without risk. This has a large inbuilt safety margin making it very unlikely that the diet of any individual will ever provide this level.

Are low calorie sweeteners safe for children to consume?
Low calorie sweeteners are safe for children to consume. Children are very unlikely to have intakes near the ADI even if they regularly consume drinks or food products containing sweeteners. However, in the EU the use of sweeteners is prohibited in all foods specifically made for infants and young children aged up to three years, partly due to their increased energy requirements for optimal growth.

Are low calorie sweeteners safe for pregnant women?
Consumption of approved low calorie sweeteners below the ADI level is safe during pregnancy. There is no evidence of any risks to the mother or her unborn child.

Are there any individuals who cannot consume low-calorie sweeteners?
There is a rare genetic condition known as phenylketonuria (PKU) that prevents the amino acid phenylalanine from being properly metabolised. People with PKU are placed on a phenylalanine-restricted diet. Phenylalanine (a component of protein) is found in many protein-containing foods and is also a component of aspartame. It is therefore important that people with PKU carefully monitor their consumption of foods containing aspartame. For this reason, all foods, drinks and healthcare products that contain aspartame must, by law, clearly state on the label that they ‘contain a source of phenylalanine’. PKU is a condition that is diagnosed at birth.