

What are Polyols?

Polyols are sugar alcohols or hydrogenated carbohydrates. They are also known as sugar replacers, bulk sweeteners or sugar-free sweeteners.

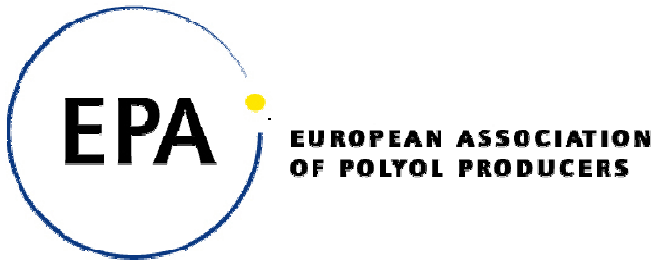
Chemically, polyols are considered polyhydric alcohols or sugar alcohols because part of their structure resembles sugar and part is similar to alcohol. However, these sugar-free sweeteners are neither sugars nor alcohols but are actually derived from carbohydrates. Some polyols are found naturally in various fruits and vegetables.

Today, polyols are used in an increasingly wide variety of applications – primarily within the food, pharmaceutical and personal care sectors – where they deliver numerous functional and health benefits for both manufacturers and consumers.

The most commonly used polyols are Sorbitol, Mannitol, Maltitol, Isomalt, Lactitol, Xylitol and Erythritol.

For food manufacturers, polyols are very versatile ingredients. They can be used to sweeten products or to fulfil technological functions, including acting as bulking agents, emulsifiers, stabilisers, humectants, thickeners, texturisers, glazing agents or anti-caking agents.

Polyols are particularly useful because they can be used to replace all of the functions associated with sucrose whilst having a lower gram-for-gram calorific value than sugar. They are most commonly used for 'bulk' sweetening because, unlike intense sweeteners, they can be used to replace sugar at a 1:1 ratio, allowing manufacturers to sweeten products while reducing the calorie content. As such, polyols are often used to produce healthier alternatives to many traditional recipes without compromising on taste or quality. These alternatives are usually known as 'energy reduced', 'no added sugar', 'reduced sugar' or 'sugar free' versions.



The lower calorific value of polyols, when compared with sugar, is one distinct health advantage of using them in food, particularly when considering the growing problems of obesity and weight management. Furthermore, research has demonstrated that, unlike other sugars, polyols do not promote tooth decay or cause sudden increases in blood glucose levels, which is not only important for people with diabetes and metabolic syndrome, but also important for a healthy lifestyle in general. Evidence also indicates that polyols contribute to the maintenance of a healthy colonic environment due to their fermentation in the large intestine.

As well as being safe and healthy ingredients in food products, polyols also play an important role in the pharmaceutical sector. As active ingredients, some polyols can be used to help reduce brain swelling and address acute kidney failure due to their ability to act as osmotic diuretics, thereby helping to remove excess water from the body. More commonly, polyols are used as excipients in a wide variety of pharmaceutical formulations, such as lozenges or tablets, where their sweet taste, tooth-friendliness, ability to be manufactured in a variety of particle sizes and chemical inertness make them a popular choice for the pharmaceutical industry.

Similarly, polyols are used widely within the personal care industry in products such as toothpaste, mouthwash, make-up, perfumes, creams, lotions or deodorants. Here polyols provide many functional advantages, such as providing humectancy and viscosity, without causing skin irritation or, in the case of oral products, damage to the teeth.

For more information on polyols visit www.polyols-eu.com