

Nutrition FACT CHECK™



Low- and No-Calorie Sweeteners



What are low- and no-calorie sweeteners?

Low- and no-calorie sweeteners, also known as non-nutritive sweeteners, are ingredients that provide a sweet taste with little to no energy contribution. Examples include aspartame, sucralose, saccharin, and stevia.

These sweeteners are widely used in beverages, packaged foods, tabletop sweeteners, and reduced-sugar products as substitutes for caloric sweeteners such as sugar. Low- and no-calorie sweeteners are often included in dietary plans aimed at reducing calories and added sugar intake, while maintaining palatability, particularly for weight management, diabetes care, and cardiometabolic health.

Regulation of low- and no-calorie sweeteners

In the United States, sweeteners are regulated under the Federal Food, Drug, and Cosmetic Act and must be demonstrated to be safe for their intended use either by the U.S. Food and Drug Administration (FDA) or by qualified experts through the “generally recognized as safe” (GRAS) process. Scientific evidence is reviewed to establish acceptable daily intake levels considered safe for lifetime consumption. While the current list of low- and no-calorie sweeteners has been considered safe for their intended uses within the acceptable daily intake levels by the FDA, their long-term health implications remain an area of ongoing investigation, particularly regarding weight management and the potential effects of sweet taste exposure independent of energy intake. Sweeteners that have been approved for use by the FDA include Acesulfame potassium (ACE-K), Aspartame, Neotame, Saccharin, Sucralose, and Advantame. Three plant- and fruit-derived sweeteners are classified as GRAS in the United States: steviol glycosides (stevia), luohanguo (monk fruit), and thaumatin. All of these sweeteners provide intense sweetness at levels much greater than sugar but with fewer or no calories.

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Low- and no-calorie sweeteners and your health

Ample evidence exists on low- and no-calorie sweeteners. However, inconsistency or mixed evidence reported by different study designs have contributed to the debate of consuming non-nutritive sweeteners, leading to public confusion.

Several organizations, including the World Health Organization, emphasize that water and unsweetened beverages should be the preferred alternatives to sugar-sweetened beverages, while also focusing on overall diet quality and reducing overall intake of added sugars rather than relying on low- and no-calorie sweeteners alone for weight management or chronic disease prevention.

In addition, diabetes-focused organizations across the world, including the American Diabetes Association, recognize that low- and low-calorie sweeteners can be used in moderation as a substitute for sugar-sweetened products when they help reduce overall calorie and carbohydrate intake.

More research is needed to better understand the long-term effects of low- and no-calorie sweeteners.

Nutrition Fact Check bottom line

The Academy's Research team combed through extensive, evidence-based references to create this Nutrition Fact Check topic. Overall, low- and no-calorie sweeteners are considered safe when consumed within their acceptable daily intake levels and can be a helpful tool for certain populations over the age of five.

A registered dietitian nutritionist (RDN) can help you meet your health goals and address your nutrition concerns by providing nutrition guidance tailored to your unique needs. RDNs are trusted, evidence-based experts who bring clarity and credibility to nutrition conversations across daily life, healthcare, and policy.



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