

SUGAR SUBSTITUTES ARE EVERYWHERE

Aspartame, monk fruit, stevia, and more can be found in our favorite staples. But are they actually safe to eat?

Even in These Surprising Foods

MONK FRUIT

SUCRALOSE

STEVIA

SUCRALOSE

SUCRALOSE



ERYTHRITOL & MONK FRUIT

MONK FRUIT



SUCRALOSE

YOU'RE PROBABLY USED to seeing diet sodas made with artificial sweeteners like aspartame and sucralose. But now there are fresh-sounding sodas with zero grams of sugar or no artificial sweeteners that contain allulose, monk fruit, or stevia—and you have to wonder, are these newer sugar substitutes better for you?

They also seem to be in many more types of food: sucralose in English muffins, allulose in breakfast cereal, stevia in ketchup, monk fruit in marinated meats.

“People are undoubtedly consuming more sweeteners than they realize as those ingredients make their way into foods like microwave popcorn and chicken nuggets,” says Allison Sylvetsky, PhD, an associate professor of exercise and nutrition sciences at the George Washington University Milken Institute School of Public Health in Washington, D.C.

And that has Sylvetsky and other experts concerned. Limiting the consumption of added sugars and all of their nutritionally empty calories clearly has health benefits, but research

suggests that some sugar substitutes may pose certain health risks. How concerned should you be?

Sugar-Substitute Overload

There's a reason these sweeteners are showing up in more foods. “People are looking for products lower in sugar,” says Marion Nestle, PhD, professor emerita of nutrition, food studies, and public health at New York University. According to a 2024 survey by the International Food Information Council, 76 percent of Americans say they're trying to limit the amount of sugar they consume for a variety of reasons, including to improve their diet, lose weight, and prevent health problems like heart disease and diabetes.

Food manufacturers are responding

to the growing demand by using nonsugar sweeteners to replace some or all of the sugar in their products. Several of these ingredients are calorie-free, while others have nearly as many calories as sugar. But because they can be 100 (monk fruit) to 20,000 (advantame) times sweeter than sugar, manufacturers can use much less of them in their products, helping to keep the calorie count low.

“Low- and no-calorie sweeteners deliver a great-tasting product,” says Kristen Kurtz, a spokesperson for the Calorie Control Council, an industry group that represents manufacturers of sugar substitutes. And, she says, these sweeteners “provide the texture, taste, convenience, and quality that manufacturers need and consumers want.”

Another factor that may contribute to the growing use of sugar substitutes is a new food labeling rule proposed by the Food and Drug Administration. Among other things, it would limit the amount of added sugars that manufacturers could put into a product and still label it healthy to 2.5 grams or less per serving.

Most Americans should cut back on added sugars—on average they supply nearly 13 percent of an adult's daily calories. But experts are not sure that replacing sugar with these substitutes is actually healthier. And some suspect that there are sweeteners that may be harmful.

Sweeteners and Dieting

Controlling your weight may seem like the most obvious reason to choose products with nonsugar sweeteners. And according to the Calorie Control Council, some research shows that “sugar substitutes not only reduce sugar intake but can decrease weight as a result.”

But experts say that while the sweeteners might help you cut back on calories and lose weight in the short-term, there's little data to show that

19 NAMES FOR SUGAR ALTERNATIVES

It's not easy to sleuth out sugar substitutes in products you buy, because those additives go by so many different names. Here, a list to consult when reading labels and searching for sweeteners.

Acesulfame potassium	Lactitol	Saccharin
Advantame	Maltitol	Sorbitol
Allulose	Mannitol	Stevia
Aspartame	Monk fruit (Luo Han Guo)	Sucralose
Brazzein	Neotame	Thaumatococin
Erythritol	Rebaudioside A (Reb A)	Trehalose
		Xylitol



Scan this QR code for a PDF of the list.

Find the Hidden Sweetener

It's hard to figure out if a product contains a sugar substitute unless you read the fine print. But labels can offer some clues.

LIGHT OR LITE

This indicates that a food is lower in calories or fat than the regular version. But that could be because all or some of the sugar was replaced with a no-calorie substitute, like the sucralose in this bread.

they'll help you keep the weight off. "We don't have good evidence that sweeteners provide the weight-loss benefits people think they do," says Jotham Suez, PhD, an assistant professor at Johns Hopkins Bloomberg School of Public Health in Baltimore, who studies sugar substitutes. In fact, in 2023 the World Health Organization cited that lack of evidence in its warning to not use sugar substitutes to control weight.

Healthy or Not?

The Calorie Control Council says that nonsugar sweeteners are safe, pointing out that governments around the world, including the U.S., allow their use. The FDA has approved all the sweeteners added to food in the U.S., based on studies in animals and people. It also set acceptable daily limits for many of them.

Still, questions remain about their effects on our health. While our bodies know how to process sugar, Nestle says that we didn't evolve to metabolize nonsugar sweeteners and that "we don't know nearly enough about how they behave in the body." She adds that there are just enough suggestions of potential harm to make health professionals uneasy.

Some of the most worrisome data suggests a connection between sweeteners and an increased risk of certain cancers, heart disease, diabetes, depression, and poorer gut health.

→ **Cancer:** A 2022 French study that followed more than 100,000 adults for nearly eight years found a link between a higher intake of artificial sweeteners—especially acesulfame potassium and aspartame—and cancer. People who

consumed an average of about 80 mg per day of them—the amount in one-third to one-half of a 12-ounce can of diet soda—had a 13 percent higher risk of cancer than those who didn't consume any amount.

→ **Heart disease:** The same French researchers found that people who consumed the most artificial sweeteners had a 9 percent increased risk of heart disease and an 18 percent increased risk of a stroke. Acesulfame potassium, aspartame, and sucralose had the greatest effect.

More recent studies suggest that sugar alcohols such as erythritol and xylitol may also harm the heart. "Immediately after eating them—and for several hours after—people are more susceptible to blood clots," which are a leading cause of heart attacks and strokes, says the

Find the Hidden Sweetener

Continued

LOWER SUGAR

Claims like this one could indicate that a product still contains sugar. But it also may have sugar substitutes, like the monk fruit in this Quaker instant oatmeal.

NO SUGAR ADDED

This can mean that a product uses a sweetener from plants, like the stevia in this Heinz tomato ketchup. Variations of this claim include "zero sugar added" and "sugar free."

study's author Stanley Hazen, MD, a cardiologist at the Cleveland Clinic.

➔ **Diabetes** People who regularly eat foods with sugar substitutes may be more likely to develop type 2 diabetes, and a 2022 study published in the journal *Cell* hints at a possible reason. The researchers measured the glucose levels in 120 volunteers over two weeks after they consumed 102 mg of sucralose or 180 mg of saccharin. "We saw a gradual disruption of the body's ability to handle glucose," says Suez of Johns Hopkins, who led the study. Over time, this may increase the risk of diabetes.

➔ **Depression** A 2023 study in the journal *JAMA Network Open* involving more than 30,000 women found that those with the highest intake of artificial sweeteners had the greatest risk of depression.

"We know from animal studies that artificial sweeteners may trigger the transmission of signaling molecules in the brain that are important for mood," says Andrew T. Chan, MD, a professor of medicine at the Harvard Medical School and one of that study's authors.

➔ **Gut health** An imbalance in the collection of healthy bacteria in the digestive system is thought to contribute to a variety of diseases. The 2022 study in *Cell* that looked at sweeteners and diabetes risk also investigated the effect of aspartame, saccharine, stevia, and sucralose on the composition of bacteria in the gut. "All four sweeteners caused notable alterations to gut bacteria," Suez says. "They led to changes in the microbiome that were significant enough to disrupt metabolic health."

Are 'Natural' Sugar Substitutes Safer ?

Much of the research on sugar substitutes involves older artificial sweeteners like aspartame and saccharin. But that doesn't necessarily mean that newer ones made from natural sources are better. It just means there hasn't been a lot of long-term research on them.

For example, sweeteners from plants (such as allulose, monk fruit, and stevia) and sugar alcohols (like erythritol and xylitol) may be called "natural," but experts warn not to fall for the health halo that seems to confer. According to Sylvetsky at George Washington University, there's very little research on those types of sweeteners. "It's hard to say these sugar substitutes are better than artificial ones," she says.



NO ARTIFICIAL SWEETENERS

A product with this claim might not have artificial sugars such as aspartame or sucralose. But there's a good chance it has "natural" low-cal sweeteners like the monk fruit and stevia in this drink.



KETO-FRIENDLY OR LOW-CARB

Packaged foods marketed this way are often sweetened with sugar alcohols like xylitol or, as here, stevia or other nonsugar sweeteners.



Based on the current understanding of how the body reacts to these natural sweeteners, the World Health Organization says that there's a reasonable expectation that they have effects similar to those of artificial sweeteners such as aspartame and sucralose.

Going Lower on Sugar Subs

Unless you totally steer clear of packaged and processed foods, there's a good chance you're getting at least some nonsugar sweeteners in your diet. And given how widely these ingredients are now being used in hundreds—if not thousands—of products, the amount you consume could really add up.

And that's what worries the experts. "We don't know scientifically what the

threshold is for when you might start to see negative effects" from consuming the sweeteners, Sylvetsky says.

Moderation is key. "I don't think anyone worries too much about the occasional artificially sweetened beverage," Nestle says. "It's regular consumption of these sweeteners in large amounts that seems unwise."

To help keep your intake of sweeteners in check, follow these suggestions:

Cut down on packaged and processed foods whenever you can.

When you eat mostly whole foods (like fresh fruits and vegetables, whole grains, legumes, and nuts) and limit your consumption of packaged and processed ones, you don't have to worry about consuming an overload of added sugar or sugar substitutes.

Read labels carefully. Don't just check the nutrition facts label on products; also read the ingredients list on the back of the packaging. Scan it for all the sugar substitutes it may contain. See our complete list of these ingredients on page 24 and refer to it when you head to the grocery store.

Get your sugar fix naturally. Fruit or fruit-sweetened dishes can give you that taste you crave without added sugar or sugar substitutes.

Be aware of how often you eat foods with sugar substitutes. The occasional diet soda or light yogurt is fine, but if you regularly consume several foods that contain these sweeteners, consider cutting back on them. The experts we talked with say that in general, less is better.