

Artificial sweeteners: A safe alternative to sugar

What are artificial sweeteners?

Artificial sweeteners are chemicals that offer the sweetness of sugar without the calories. Because the substitutes are much sweeter than sugar, it takes a much smaller quantity of them to create the same sweetness. Therefore, products made with artificial sweeteners have a much lower calorie count than do those made with sugar. Artificial sweeteners are often used as part of a weight-loss plan or as a means to control weight gain.

People with diabetes may use artificial sweeteners because they make food taste sweet without raising blood sugar levels. But keep in mind that if you do have diabetes, some foods containing artificial sweeteners, such as sugar-free yogurt, can still affect your blood sugar level due to other carbohydrates or protein in the food. In addition, some foods labeled "sugar-free" — such as sugar-free cookies and chocolates — may contain sweeteners such as sorbitol or mannitol that contain calories and can affect your blood sugar level. Some sugar-free products may also contain flour, which will raise blood sugar levels.

Sweet choices

The Food and Drug Administration (FDA) has approved five low-calorie sweeteners for use in a variety of foods. The FDA has established "acceptable daily intake" (ADI) for each sweetener. This is the maximum amount considered **safe to consume each day over a lifetime**. ADIs are intended to be about 100 times less than the smallest amount that might cause health concerns.

Artificial sweetener	ADI*	ADI equivalent**	OK for cooking?
Aspartame (NutraSweet, Equal)	50 milligrams (mg) per kilogram (kg)	15 cans of diet soda	No
Saccharin (Sweet'N Low, SugarTwin)	5 mg per kg	8.5 packets of sweetener	Yes
Acesulfame K (Sunett, Sweet One)	15 mg per kg	25 cans of diet soda	Yes
Sucralose (Splenda)	5 mg per kg	5 cans of diet soda	Yes
Neotame	18 mg a day	No consumer products available yet in the U.S.	Yes

*FDA-established acceptable daily intake (ADI) limit per kilogram (2.2 pounds) of body weight. **Product consumption equivalent for a 150-pound person.

Safety of artificial sweeteners

Artificial sweeteners are often the subject of stories in the popular press and on the Internet, claiming that they cause a variety of health problems, including cancer. According to the National Cancer Institute, however, there's no scientific evidence that any of the artificial sweeteners approved for use in the United States cause cancer. And numerous studies confirm that artificial sweeteners are safe for the general population.

Aspartame does carry a cautionary note, however. It isn't safe for people who have the rare hereditary disease phenylketonuria (PKU). Products that contain aspartame must carry a PKU warning on the label.

Still empty calories

Just removing sugar from cookies and chocolates doesn't make them low-calorie, low-fat foods. If you eat too many, you'll still get more calories than you need, and you may not get enough nutritious foods. Unlike fruits, vegetables and whole grains, sugar-free soft drinks, candy and desserts often provide few — if any — beneficial nutrients.

Use artificial sweeteners sensibly. It's OK to substitute a diet soda for a regular soda, for example, but diet soda shouldn't be the only beverage you drink.

Information contributed by the Mayo Clinic for Medical Education and Research