

Artificial sweeteners, also called sugar substitutes, are substances that are used instead of sucrose (table sugar) to sweeten foods and beverages. Artificial sweeteners are regulated by the U.S. Food and Drug Administration (FDA). The Food Additives Amendment to the Food, Drug and Cosmetic Act, which was passed by Congress in 1958, requires the FDA to approve food additives, including artificial sweeteners, before they can be made available for sale in the United States.

Currently, five artificial sweeteners are approved by the FDA:<sup>1</sup>

1. **Aspartame**, sold under the brand names NutraSweet<sup>®</sup> and Equal<sup>®</sup>
2. **Saccharin**, sold under the brand name Sweet'N Low<sup>®</sup>
3. **Sucralose**, sold under the brand name Splenda<sup>®</sup>
4. **Acesulfame K** (or acesulfame potassium), produced by Hoechst, a German chemical company; widely used in foods, beverages and pharmaceutical products around the world.
5. **Neotame**, produced by the NutraSweet Company; the most recent addition to FDA's list of approved artificial sweeteners, neotame is used in diet soft drinks and low-calorie foods.

According to the National Cancer Institute, there is no clear evidence that the artificial sweeteners on the market in the United States are related to cancer risk in humans. However, numerous studies performed on laboratory rats link aspartame and saccharin to cancer, including a recent seven-year study conducted by a major nonprofit oncology lab in Italy.<sup>2</sup>

The Center for Science in the Public Interest (CSPI), on the other hand, cautions everyone to avoid aspartame, saccharin and acesulfame K because they are unsafe when consumed in large amounts or are very poorly tested and not worth the risk. The CSPI lists neotame and sucralose as safe.

Aspartame is of particular concern because it contains phenylalanine (50%), aspartic acid (40%) and methanol (10%), three well-recognized neurotoxins. The following symptoms have been associated with the consumption of aspartame:<sup>3</sup>

headaches	nausea	dizziness
hearing loss	tinnitus	insomnia
blurred vision	eye problems	hallucinations
memory loss	slurred speech	mild to suicidal depression
personality changes	violent episodes	mood changes
anxiety attacks	hyperactivity	heart arrhythmia
edema or swelling	gastrointestinal disorders	seizures <sup>4</sup>
skin lesions	muscle cramps	joint pains
fatigue	PMS	menstrual irregularities
chest pain	increased appetite	numbness and tingling of extremities

Fortunately, most of the above symptoms are alleviated once aspartame use is discontinued.

More recently, stevia-based sweeteners in the form of Truvia and PureVia are replacing aspartame sweetened products. However, due to health concerns cited in literature<sup>5</sup> the FDA has not approved the use of whole-leaf Stevia or crude Stevia extracts as food additives. On the other hand, a "no objection" approval on the GRAS (Generally Recognized as Safe) list of additives was given to its extracts known as Truvia, a sweet-tasting compound found in products like Coca-Cola and Cargill and PureVia, typically found in PepsiCo products. Although Stevia has not retained an official "approval" it is allowed to be marketed and sold as a dietary supplement. The

popularity of this product continues to increase because of its zero calorie content and score of zero on the glycemic index. Nevertheless, the use of artificial sweeteners as a substitute for sugar remains a controversial topic and conflicting research remains.

1. [Artificial sweeteners: Understanding these and other sugar substitutes](#). – *Mayo Clinic*
2. [The Lowdown on Sweet?](#) – *The New York Times*
3. [Aspartame: The Real Story](#) – *foodandhealing.com*, Annemarie Colbin, PhD
4. [Aspartame promotes grand mal seizures, say health experts](#) – *NaturalNews.com*
5. [Toxicology of Rebaudioside: A Review](#) – Sarah Kobylewski and Curtis D. Eckhert, PhD; *UCLA*