Everything You Need to Know About Aspartame

With obesity rates among Americans at an all-time high, many people may think they have to give up sweets in order to lose weight. But, there’s good news if you love sweets: Low-calorie sweeteners offer a way to reduce calories in sweet foods and beverages, which may help you lose or maintain your weight. They also offer a way for people with diabetes to decrease their carbohydrate intake.

One commonly consumed low-calorie sweetener is aspartame. The following is everything you need to know about aspartame, including facts about nutrition, safety, uses, and benefits.
What is aspartame?

Aspartame is a low-calorie sweetener that provides sweetness to foods and beverages without adding significant calories. Nutrition and fitness experts agree that balancing the calories you consume with the calories you burn is important for health. Aspartame can play a role in weight management programs that combine sensible nutrition and physical activity.

Aspartame has been studied extensively and has been found to be safe by experts and researchers. Government agencies worldwide, including the U.S. Food and Drug Administration (FDA), have also reviewed the science and found aspartame to be safe for human consumption.

Aspartame consists of two amino acids (the building blocks of protein) – phenylalanine and aspartic acid. It is about 200 times sweeter than sugar, so very small amounts of aspartame are needed to provide the same sweet taste. Aspartame is available as a tabletop sweetener and in many products, including a variety of beverages, dairy products, canned fruits, desserts, confections, sauces and dressings.

In addition to helping with weight management, aspartame does not cause dental cavities and may be consumed by people with diabetes.

How many calories are in aspartame?

Aspartame has four calories per gram. However, because it is 200 times sweeter than sugar, aspartame is used in very small amounts, thus adding almost no calories to foods and beverages. As a result, when aspartame is substituted for calorie-containing sweeteners, total calories in foods and beverages are significantly reduced (and sometimes eliminated entirely, such as in diet soda, tea, and flavored seltzer water). It is important to remember that there are other sources of calories in many foods and beverages – “sugar-free” does not always mean “calorie-free.” The calorie content of a food or beverage can be found in the Nutrition Facts Panel located on the product label.

How does aspartame fit into a healthful diet?

Aspartame and other low-calorie sweeteners add sweetness to foods and beverages without adding significant calories. Substituting aspartame for sugar or other calorie-containing sweeteners, like agave nectar and honey, can help people consume fewer calories throughout the day. For example, drinking just one aspartame-sweetened soft drink (look for “diet” versions of your favorite beverages, which often contain aspartame and/or another low-calorie sweetener) instead of a regular soft drink saves about 150 calories – see the chart to the right for other examples of calorie savings that can be achieved with aspartame-sweetened foods and beverages. These calorie savings can add up over time. Several studies have shown that such changes can reduce daily calories and help with weight loss and weight management.
Is aspartame safe to consume?

Yes. The FDA has confirmed that aspartame is safe for the general population, including certain sub-populations like children, people with diabetes and women who are pregnant or nursing. The single exception is individuals with a rare hereditary condition called phenylketonuria (PKU). People with PKU cannot metabolize phenylalanine, an amino acid that is found in aspartame, as well as meat, beans, and many other foods. Individuals with PKU should avoid foods containing phenylalanine, including aspartame. Foods and beverages sweetened with aspartame carry a statement on the label to alert people who have PKU to the presence of phenylalanine.

The safety of aspartame is supported by government bodies and leading independent health groups around the globe. Some of the many groups that have made official statements confirming the safety of aspartame include the American Diabetes Association, the American Dietetic Association, and the National Cancer Institute of the National Institutes of Health (NIH). Anecdotal reports of negative effects are not supported by the large body of scientific evidence and have not warranted any changes to aspartame’s use in countries worldwide (see Aspartame’s Global Safety Recognition on the back of this brochure).

Can people who have diabetes consume sweet foods and beverages containing aspartame?

Yes. Foods and beverages containing aspartame are safe for people who have diabetes. Products containing aspartame provide sweet, good-tasting options that are low in carbohydrates, which are useful for people who have diabetes and who must monitor their carbohydrate intake.

A large body of well-designed and widely-accepted research has found no association between aspartame and cancer. This conclusion has been re-affirmed recently by leading health and food safety regulatory authorities around the world, including the European Food Safety Authority (EFSA) and FDA. A few isolated studies in laboratory rats and mice have alleged a link between aspartame and cancer; however, leading scientists and regulatory agencies in the U.S. and internationally have found that the conclusions of these studies are not valid, due to significant problems with the design and interpretation of the studies.

<table>
<thead>
<tr>
<th>Product</th>
<th>Sweetened with Caloric Sweeteners (calories)</th>
<th>Sweetened with Aspartame (calories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft Drink 12 oz.</td>
<td>150</td>
<td>0</td>
</tr>
<tr>
<td>Low-calorie tabletop sweetener equivalent to 2 tsp. of sugar</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Gelatin dessert 4 oz.</td>
<td>80</td>
<td>10</td>
</tr>
<tr>
<td>Pudding 4 oz.</td>
<td>160</td>
<td>80</td>
</tr>
<tr>
<td>Cheesecake 1/16 of a cake</td>
<td>220</td>
<td>158</td>
</tr>
</tbody>
</table>
Does aspartame cause weight gain?

No. Several studies have shown that low-calorie sweeteners, such as aspartame, can actually aid in weight loss and/or weight management when combined with a balanced diet and regular physical activity. For example, a study of people participating in a comprehensive weight loss program found that those who replaced products sweetened with sugar with those sweetened with aspartame lost weight. Aspartame also appeared to help with long-term weight maintenance.

A few small studies measuring self-reported hunger for a few hours in subjects who unknowingly consumed aspartame have suggested that low-calorie sweeteners may lead to cravings and/or weight gain. However, carefully designed studies that placed low-calorie sweeteners, including aspartame, into the diet over a period of weeks, without the subjects’ knowledge, have repeatedly reported reduced calorie intake and body weight. Such studies affirm that low-calorie sweeteners like aspartame are useful as weight loss/weight management aids.

Is aspartame safe for children?

Yes. There is no evidence that aspartame is harmful to children or other members of the general population (again, except for those with PKU). In fact, foods and beverages containing aspartame can be part of a healthful meal plan for children when included as part of a balanced diet rich in nutrients. It can be challenging to put together good-tasting, healthful meals and snacks for children and adolescents that provide important nutrients, but not a lot of extra calories. Incorporating some low-calorie, sugar-free foods and beverages may help improve the overall quality of the diet, while helping to keep weight in check. Registered dietitians and physicians can help parents make the right choices based on the child’s individual calorie and nutrition needs.

Can pregnant and breastfeeding women consume aspartame?

Yes. Foods and beverages containing aspartame can be part of a healthful diet for pregnant and breastfeeding women. Research has shown that aspartame has no adverse effects on expecting or nursing mothers. For women who consumed moderate amounts of foods and beverages containing low-calorie sweeteners before becoming pregnant, there’s no need to eliminate them; however, they should also be sure to consume the necessary nutrients for their baby’s growth during pregnancy and breastfeeding as advised by their physician or health care professional.

Aspartame’s safety is supported by leading regulatory and health authorities in more than 100 countries.
Aspartame’s Global Safety Recognition

Aspartame was approved by the U.S. Food and Drug Administration (FDA) in 1981 for use in foods, followed by approval for use in beverages in 1983. In 1996, aspartame was approved as a general purpose sweetener. Prior to its approval, aspartame underwent a thorough scientific review, and regulators consider it one of the most widely-tested ingredients in the food supply. It is now approved for use in 136 countries worldwide. Examples of government and scientific groups that have reviewed aspartame’s safety include:

- European Food Safety Authority (EFSA)
- U.S. Food and Drug Administration (FDA)
- Food and Agriculture Organization (FAO)/World Health Organization (WHO) Joint Expert Committee on Food Additives (JECFA)
- Health Canada
- Food Standards Australia/New Zealand (FSANZ)

Favorably Reviewed By:
American Academy of Physician Assistants
www.aapa.org

Provided By:
International Food Information Council Foundation
Questions? Go to www.foodinsight.org

Aspartame at a Glance

Scientific Name....................Aspartame
Brand Name..........................NutraSweet®, Equal®, and other store brands
Date approved by FDA..............1981 in some products; 1996 for most foods and beverages
Number of times sweeter than sugar..........200
Safe for people with diabetes?..............Yes
Safe for pregnant women?...............Yes
Safe for children?........................Yes

Individuals with PKU should avoid foods containing phenylalanine, including aspartame. Foods and beverages sweetened with aspartame carry a statement on the label to alert people who have PKU to the presence of phenylalanine.

Foods and Beverages That May Contain Aspartame

More than 6,000 products marketed in more than 100 countries worldwide use aspartame as a sweetener. These food and beverage products include some:

- Carbonated and other beverages (juices, iced tea, flavored waters, etc.)
- Cereals
- Chewing gums
- Dairy products (low-fat flavored milk, light yogurt, etc.)
- Canned fruits
- Desserts (light pudding, light ice cream, popsicles, etc.)
- Nutrition bars
- Syrups and fruit spreads
- Tabletop sweeteners

Aspartame is not very heat stable; therefore, it is not recommended for use in baking or in cooking methods that require extended exposure to high temperatures. Although there is no safety concern with doing so, the flavor breaks down, reducing the sweetness of the final product. Aspartame is typically used in prepared foods and beverages that do not require heating during preparation. Aspartame can also be added to a cup of coffee or tea.

For more information on aspartame and other low-calorie sweeteners, visit www.foodinsight.org