Sucralose

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 sucralose. The following is everything you need to know about sucralose, including facts about nutrition, safety, uses and benefits.

Favorably Reviewed By:

INTERNATIONAL FOOD INFORMATION COUNCIL FOUNDATION
Sucralose adds sweetness to foods and beverages without adding calories or carbohydrates. As an alternative to sugar and other calorie-containing sweeteners, it can play a role in weight management programs that combine sensible nutrition and physical activity.

While the process to make sucralose begins with sucrose, or table sugar, the final product is different from sugar. Sucralose is made by replacing three select hydrogen-oxygen groups on the sugar molecule with three chlorine atoms, resulting in an intensely sweet, no-calorie sweetener.

Unlike sugar, the body does not break down sucralose into calories for energy. Yet, both sugar and sucralose activate the same taste buds on your tongue.

Most of the sucralose people consume is not absorbed and passes through the body. The little that is absorbed is excreted in the urine, and doesn’t accumulate in the body.

Sucralose is available in tabletop sweeteners (one well-known brand is Splenda®) and also as an ingredient in many products, including a variety of beverages, baked goods, desserts, dairy products, canned fruits, syrups and condiments. Sucralose is 600 times sweeter than sugar, and it can be used in place of or combined with sugar in cooking and baking.

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

How does sucralose fit into a healthful diet?

As a no-calorie alternative to sugar, sucralose-containing foods and beverages still allow people who are following a weight loss or weight management program to enjoy sweet, good tasting options. For example, a light yogurt containing sucralose can save 50 or more calories per serving compared to regular yogurt, and a 12-ounce glass of iced tea sweetened with sucralose can save more than 100 calories compared to the same glass of tea sweetened with sugar.

Sucralose can be used almost anywhere sugar is used, allowing for a variety of choices when planning low-calorie meals.

How many calories are in sucralose?

Sucralose is not metabolized by the body for energy, and therefore it contains zero calories. Tabletop sweeteners that contain sucralose also contain other ingredients that provide needed texture and volume (such ingredients are also commonly added to other no-calorie sweeteners). While these ingredients are typically carbohydrates, the amount is so small (less than 1 gram per serving) that the calories are insignificant.
Sucralose’s Global Safety Recognition

Sucralose is approved for use in over 80 countries. In the United States, the U.S. Food and Drug Administration (FDA) must approve all food additives before they can be used in foods and beverages. The FDA approved sucralose for certain food and beverage categories in 1998, and expanded the approval to all food and beverage categories in 1999. Examples of government and scientific groups that have reviewed sucralose’s safety include:

- European Union Scientific Committee on Food (SCF)
- U.S. Food and Drug Administration (FDA)
- Food Standards Australia/New Zealand (FSANZ)
- Health Protection Branch of Health and Welfare Canada
- (Food and Agriculture Organization/World Health Organization) Joint Expert Committee on Food Additives (JECFA)
- Japan’s Ministry of Health and Welfare
- Countries in Africa and Asia

“decades of scientific research clearly show that low-calorie sweeteners, including sucralose, can be an effective aid in weight loss/management.”

Does sucralose cause weight gain?

No. Several studies have shown that low-calorie sweeteners can actually aid in weight loss and/or weight management. For example, researchers in one study found that when foods and beverages containing sucralose were used as part of a program to reduce calorie intake and increase levels of physical activity, overweight children were able to slow their rate of weight gain. While a few smaller studies have suggested that low-calorie sweeteners may cause cravings and/or weight gain, such an association has not been confirmed in larger studies, and the majority of the research still finds that low-calorie sweeteners such as sucralose can be helpful weight loss/weight management aids.

With rising obesity rates, people are often looking for one “magic” solution to help them lose weight. And, while low-calorie sweeteners can help, it is also important to practice portion control and participate in regular physical activity in order to reach weight loss goals. Also, when incorporating foods and beverages containing low-calorie sweeteners into a weight management plan, these products should be used in place of the full-calorie versions in order to reduce total calorie intake.

Can people who have diabetes consume foods and beverages containing sucralose?

Yes. Sucralose has no effect on blood glucose or insulin levels in people with diabetes, and therefore it is safe for them to consume. Foods and beverages sweetened with sucralose provide sweet options that are lower in carbohydrates, which are helpful for people who have diabetes, who must monitor their carbohydrate intake.

As with any nutritional concern, people who have diabetes should talk to a registered dietitian, health care provider and/or diabetes care professional for advice on incorporating foods and beverages containing sucralose into their diets.
Is sucralose safe?

Yes. Sucralose has an excellent safety profile. More than 100 safety studies, representing over 20 years of research, have shown sucralose to be safe.

Scientists have conducted many studies on sucralose to determine whether it had any effects on a number of different health conditions, including growth and development, risk of cancer, chemical effects on the body (or toxicology), developmental abnormalities such as birth defects, and effects on the nervous system.

Experts from a wide range of scientific backgrounds have reviewed these studies and concluded that there are no harmful effects from consuming sucralose, even in people consuming the highest amounts.

Based on its strong safety background, experts, researchers, and government bodies agree that people can consume a variety of foods and beverages sweetened with sucralose on a daily basis without concern.

Can pregnant and breastfeeding women consume sucralose?

Yes. Anyone can consume sucralose, including pregnant and breastfeeding women. Research has shown that sucralose does not have harmful effects on pregnant women or their babies. Although sucralose may be consumed as part of a healthful pre- and post-natal diet, a pregnant or breastfeeding woman should talk to her physician or health care provider about consuming the necessary nutrients to support her and her baby’s health throughout pregnancy and infancy.

Does sucralose cause tooth decay?

No. Sucralose does not cause cavities. The bacteria in plaque do not break down or “eat” sucralose, and therefore the acids that can lead to cavities do not form. Sucralose does not increase the growth of bacteria in the mouth and does not promote tooth decay.

Is sucralose safe for children?

Yes. There is no evidence that sucralose is at all harmful to children. In fact, sucralose can be part of the solution to the growing problem of childhood obesity by helping to reduce calories from sugar. Foods containing sucralose, including low-fat flavored milk, yogurt, juices, and pudding, can be included in a healthful meal plan for children to help ensure they are getting all the necessary nutrients, while not getting a lot of extra calories.

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Using Sucralose in Cooking and Baking

- Sucralose may be used in place of, or in combination with, sugar and/or other low-calorie sweeteners to reduce the total calories and carbohydrates from sugar in baked goods.
- While the sweetness of sucralose is similar to sugar, the flavor, texture, and/or cooking time of a food made with sucralose may be slightly different than the same food made with sugar. For example, sugar adds volume and can help retain moisture in baked goods. Sugar also has the ability to caramelize, which provides a caramel flavor and color.
- With items such as sweet sauces, fruit pie fillings, cheesecakes, glazes, and beverages, complete substitution of sucralose for sugar is possible.
- For recipes with a high proportion of sugar and/or those that require browning, partial sugar substitution is best.

Products That Contain Sucralose

Sucralose is used to sweeten a variety of foods and beverages. Products containing sucralose are often lower-calorie products, making them useful for people who are trying to lose or maintain their weight. Products labeled as “Light” or “Reduced Calorie” may use a low-calorie sweetener to reduce the calorie content - check the ingredients list for products containing sucralose.

Sucralose appears in over 4,000 products, including:
- **Dairy Products** (low-fat flavored milk, light yogurt, low-fat coffee creamer, etc.)
- **Cereals & cereal bars**
- **Desserts** (light pudding, light ice cream, popsicles, etc.)
- **Snack Foods** (light canned fruit, reduced calorie baked goods, candy, etc.)
- **Beverages** (light juice, iced and hot tea, diet soda, coffee beverages, etc.)
- **Syrups and Condiments** (light maple syrup, low-calorie jams, jellies, etc.)
- **Nutritional Products & Dietary Supplements**

Sucralose at a Glance

- **Scientific Name**: Sucralose
- **Brand Name**: Splenda®, store brands
- **Date Approved by FDA**: 1998
- **Number of Times Sweeter Than Sugar**: 600
- **Safe for People With Diabetes?**: Yes
- **Use in Baking?**: Yes

For more information on sucralose and other low-calorie sweeteners, visit [www.foodinsight.org](http://www.foodinsight.org)