



## Sweetener Lowdown

“What I am concerned with is detail. I asked you to go get me a packet of Sweet’N Low. You bring me back Equal.”

Kevin Spacey as Buddy Ackerman in *Swimming With Sharks*

**Choosing a sugar substitute that will please your palate without souring your health.**

PINK, YELLOW, OR BLUE? If you're watching your weight or just trying to cut down on sugar, which packet of sugar substitute should you reach for? This isn't just a question of taste (or, more to the point, aftertaste); safety is also a consideration. Although the best-sellers—including aspartame, sucralose, and acesulfame-K—have been approved by the Food and Drug Admin-

istration, there's still confusion about the risks of artificial sweeteners. And a few seemingly benign health-food brands haven't undergone FDA testing at all. Some research has even raised concerns that non-cal sweeteners might contribute to weight gain. *Real Simple* consulted with dietitians, doctors, and public-health advocates to get the facts—with no sugar coating.

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## How the Packets Stack Up

What could be more tempting than sweetness with few or no calories? In general, most of these guilt-free sweeteners are considered safe in moderation. Here's a rundown of the popular brands, presented from least to most controversial, as deemed by the experts.



### Sucralose

**BRAND NAME:** Splenda.

**WHAT IT IS:** Despite a controversial marketing campaign proclaiming that sucralose is "made from sugar," it's a laboratory-created artificial sweetener. Yes, the manufacturers start with sugar, but then they substitute three chlorine atoms for three groups of hydrogen and oxygen atoms. First created in the United Kingdom in 1976, sucralose was approved by the FDA in 1998. Splenda, the tabletop brand, hit the market in 2000.

**BEST FOR:** Sweetening drinks. It also remains stable when heated, making it one of the best for baking. Splenda is turning up everywhere, from Dreyer's No Sugar Added ice cream to Pepsi One and a specially labeled version of Diet Coke.

**TASTE:** Many find sucralose to be the best-tasting of the artificial sweeteners; others say it leaves a too-sweet aftertaste on the tongue.

**SAFETY:** The FDA evaluated data from more than 110 studies and found sucralose safe for human consumption. Even the Center for Science in the Public Interest (CSPI), a public-advocacy organization that has objected to certain artificial sweeteners, says that sucralose appears to be OK.

**BOTTOM LINE:** This is the least controversial artificial sweetener. Most experts say there is no reason to believe that sucralose is not safe.

### Sugar alcohols, or polyols

**BRAND NAME:** XyloSweet.

**WHAT THEY ARE:** "Nutritive" sweeteners—meaning they contain calories. Sugar alcohols are produced by adding hydrogen atoms to various sugars, like glucose and sucrose.

**BEST FOR:** Sweetening candy, gum, and some other foods. (Sorbitol, a commonly used sugar alcohol, is found in many sugarless candies; another common one, xylitol, sweetens Trident gum.)

**TASTE:** Some sugar alcohols have a chalky aftertaste.

**SAFETY:** Sugar alcohols are "generally recognized as safe" (GRAS), a status accorded by the scientific community to many ingredients used in food and drug manufacturing that were in widespread use before 1958, when the Food Additives Amendment was passed by Congress. The main concern is that when eaten in large quantities (say, more than four servings a day), sugar alcohols can cause bloating, gas, and diarrhea. A polyol called erythritol, which is more easily digested, is the basis of many new products that are just hitting the market, like Stonyfield Farms reduced-sugar yogurt.

**BOTTOM LINE:** There are few serious health concerns with sugar alcohols. But stick to products containing erythritol to avoid intestinal problems.

### Aspartame

**BRAND NAMES:** Equal, NutraSweet.

**WHAT IT IS:** Two amino acids, aspartic acid and phenylalanine, chemically bound with methanol. The FDA first approved aspartame in 1974 as a tabletop sweetener.

**BEST FOR:** Sweetening drinks or sprinkling on cereal. Aspartame degrades when heated, so it can't be used in baked or cooked goods unless it's added at the last minute. It's in Diet Coke and Diet Pepsi, Dannon Light 'n Fit yogurt, Dreyer's Whole Fruit Fruit Bars, and some low-carb products.

**TASTE:** It has a sweet aftertaste with a bitter or metallic note.

**SAFETY:** Although rumors have linked aspartame to everything from Alzheimer's to brain tumors, none of these allegations were based on conclusive research. But phenylalanine, one of the chemicals in aspartame, may cause a severe reaction in those with a rare condition called phenylketonuria (PKU) when consumed in large amounts. One study also found that aspartame might be a trigger for those prone to headaches, according to neurologist Robert Kaniecki, director of the Headache Center at the University of Pittsburgh Medical Center.

**BOTTOM LINE:** This substitute is widely considered fine. But abstain if you get headaches after consuming aspartame or suffer from PKU.

### Are Sweeteners Safe for Kids?

You're at a neighbor's party and your six-year-old grabs a can of diet root beer from the cooler. Should you snatch it away? The American Dietetic Association (ADA) holds that all the FDA-approved artificial sweeteners—including aspartame, acesulfame potassium, and sucralose—are safe for kids. Most experts believe they pose no hazard, and a few suggest that diet soda is better than regular soda because of the problem of childhood obesity. But others are cautious. "I tell parents that unless their child is morbidly obese and is on a special diet, they might want to say no to artificial sweeteners," says Oded Herbsman, M.D., a chief of the pediatric division at California Pacific Medical Center, in San Francisco. Those who urge caution, including Herbsman, point out that no one really knows the long-term effects on children of consuming sugar substitutes. **BOTTOM LINE:** To be safe, go with the less controversial substitutes, like sucralose. Better still, steer your kids away from any kind of soda and toward 100 percent fruit juice, low-fat milk, or water.





### Acesulfame potassium, or Ace-K

**BRAND NAMES:** Sunett, Sweet One.

**WHAT IT IS:** Acesulfame-K is made by combining potassium with acetoacetic acid, which occurs naturally but is also manufactured. The FDA first approved Ace-K in 1988 as a tabletop sweetener.

**BEST FOR:** Cooking and baking, since it doesn't break down when heated. It can be used in place of sugar on its own, but because it has a finer consistency than the other substitutes, it's often combined with aspartame. Ace-K sweetens sugar-free Jell-O products as well as many diet sodas, including the new Coca-Cola Zero, Pepsi One, and fountain Diet Pepsi. (Some of these products also contain aspartame and sucralose.)

**TASTE:** It has a mildly bitter aftertaste.

**SAFETY:** The American Dietetic Association (ADA) and the FDA consider Ace-K well tested and harmless. But the CSPI has repeatedly expressed concern that Ace-K is a potential carcinogen. In 1996 the center filed a protest with the FDA, saying the sweetener's carcinogenicity hadn't been properly tested.

**BOTTOM LINE:** There's still some question about Ace-K's safety. But since it tends to be used in minute amounts, often in combination with other sweeteners, experts believe there's probably no need to worry.

### Saccharin

**BRAND NAME:** Sweet'N Low.

**WHAT IT IS:** A synthetic compound that was accidentally discovered in 1879 by a professor at Johns Hopkins University.

**BEST FOR:** Sweetening drinks and carbonated beverages; it can also be used in baking. It's the sweetener in Tab and IBC Diet Root Beer.

**TASTE:** A metallic, almost astringent bite on the tongue.

**SAFETY:** In 1972 the FDA put restrictions on saccharin after two long-term studies linked it to bladder cancer in male rats that consumed very high amounts. Five years later, the FDA proposed a ban on it after a third study yielded the same results. But further research found that the rat studies weren't necessarily relevant to humans. Saccharin stayed on the market, but Congress mandated that it carry a warning label stating that it caused cancer in lab animals. It remained on the National Toxicology Program's list of "reasonably anticipated human carcinogens" until five years ago, when it was delisted, despite an outcry from the CSPI. The CSPI cited a study by the National Cancer Institute that found an association between the daily consumption of six or more servings of saccharin—or more than 16 ounces of diet soft drinks—and bladder cancer in humans.

**BOTTOM LINE:** Saccharin is controversial. To be on the cautious side, use other sweeteners when possible.

### Stevia

**BRAND NAME:** SweetLeaf.

**WHAT IT IS:** An herb native to Paraguay and Brazil, *Stevia rebaudiana Bertoni*, also known as sweet herb, has been used for centuries in South America as a natural sweetener. In 1931 French chemists extracted stevioside, the potent natural compound that gives the herb its sweet taste.

**BEST FOR:** Tea, coffee, breakfast cereal—foods that already have a strong flavor.

**TASTE:** It has a bitter or fennel-like aftertaste.

**SAFETY:** Stevia is marketed as a dietary supplement, so it's not subject to approval by the FDA. The FDA has no evidence that stevia is harmful but inadequate evidence that it's safe, so it can't be used as a food additive and hasn't been given GRAS status. "Many regulatory bodies have looked at stevia, and not one has established an acceptable daily intake," says Valerie Duffy, a dietitian at the University of Connecticut, in Storrs, and a coauthor of the American Dietetic Association's position paper on artificial sweeteners.

**BOTTOM LINE:** The jury is still out. Use stevia with caution.

**tip** If you're uncomfortable using artificial sweeteners in your morning coffee, remember that a level teaspoon of sugar has a mere 16 calories.



