

Everything You Need to Know About Acesulfame Potassium

(Part of a series of educational brochures on low-calories sweeteners, sometimes referred to as non-nutritive sweeteners, artificial sweeteners or sugar substitutes.)

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Acesulfame potassium (Ace-K) is a low-calorie sweetener that has been used in foods and beverages around the world for 15 years. The ingredient, which is 200 times sweeter than sugar, has been used in numerous foods in the United States since 1988. In the U.S., it is used in such products as candies, baked goods, frozen desserts, beverages, dessert mixes and tabletop sweeteners. Acesulfame potassium, which is also known as acesulfame K, is often used in combination with other low-calorie sweeteners because it enhances the sweet taste of foods and beverages.

The U.S. Food and Drug Administration (FDA) and other leading health organizations have found the ingredient to be safe for all segments of the population. More than 90 studies have demonstrated the safety of acesulfame potassium. The ingredient is currently used in more than 4,000 foods and beverages in about 90 countries around the world.

What is acesulfame potassium?

Acesulfame potassium is a calorie-free sweetener that is 200 times sweeter than sugar. The sweetener is used in a wide variety of foods in the United States.

Why is acesulfame potassium used?

Acesulfame potassium offers consumers a greater choice of low-calorie or reduced-sugar foods that can help them manage their calorie intake. Acesulfame potassium can be used in baking because it is stable, retaining its sweetness at normal baking temperatures. The sweetener, which can be used alone, often is blended with other low-calorie sweeteners to produce a more sugar-like taste than that of any of the low-calorie sweeteners alone.

What kinds of food products contain acesulfame potassium?

Acesulfame potassium is currently used in more than 4,000 products around the world. In the United States, acesulfame potassium is approved for use in candies, tabletop sweeteners,

chewing gums, beverages, dessert and dairy product mixes, baked goods, alcoholic beverages, syrups, refrigerated and frozen desserts, and sweet sauces and toppings.

Why is acesulfame potassium used in sweetener blends?

Acesulfame potassium is often used in sweetener blends to produce a more sugar-like taste in a food or beverage. The ingredient also helps the blend retain its sweetness during baking or heat processing, which is important for preparing foods, such as cookies and candies. Acesulfame potassium helps blends sustain their sweetness over time, thereby increasing the sweetness shelf life of products. In addition, foods containing blends of acesulfame potassium contain up to 40 percent less total sweetener.

Can you cook and bake with acesulfame potassium?

Yes. Because of its stability, acesulfame potassium retains its sweetness at normal baking temperatures and in combination with acidic ingredients in foods and beverages.

How is acesulfame potassium made?

Acesulfame potassium is made from a process that involves the transformation of an organic intermediate, acetoacetic acid, and its combination with the naturally occurring mineral, potassium, to form a highly stable, crystalline sweetener.

How does the body handle acesulfame potassium?

Acesulfame potassium is not metabolized or stored in the body. After it is consumed, it is quickly absorbed by the body and then rapidly excreted unchanged.

Is acesulfame potassium safe?

Yes. Acesulfame potassium is safe and suitable for all segments of the population. The FDA, which is the governmental agency responsible for ensuring the safety of all foods, has approved acesulfame potassium for use in numerous food products on eight separate occasions since 1988. The agency based its decisions on a large body of scientific evidence that demonstrates the safety of the ingredient.

Have other regulatory bodies reviewed the safety of acesulfame potassium?

Yes. Acesulfame potassium has been approved for use in about 90 countries. For example, it is widely used in foods and beverages in the United Kingdom, Germany, Australia and Canada. In addition, acesulfame potassium has been reviewed and found safe by the Joint Expert Committee on Food Additives of the World Health Organization and the Scientific Committee for Food of the European Union.

Can acesulfame potassium cause cancer?

No. Acesulfame potassium has been thoroughly tested in several long-term animal studies. The tests, which used amounts of the ingredient that are far higher than a person would normally consume, clearly found no evidence of cancer or tumors.

Can pregnant women use acesulfame potassium?

Yes. The FDA approved the use of acesulfame potassium without restrictions for any segment of the population. Pregnant women, however, should follow the advice of their physician regarding their nutrition, including the use of low-calorie sweeteners.

Can people with diabetes use acesulfame potassium?

Yes. The American Diabetes Association has said that non-nutritive sweeteners approved by the FDA are safe to consume by people with diabetes.

How much acesulfame potassium may people consume?

The FDA sets an Acceptable Daily Intake (ADI) level for many food ingredients that it clears for use. The ADI represents the amount of an ingredient that a person can safely consume each day over their entire lifetime. For acesulfame potassium, that amount has been set at 15 milligrams per kilogram (mg/kg) of body weight. For a 60 kg (132-pound) person, this corresponds to 900 mg of acesulfame potassium every day for a lifetime or approximately 200 grams (one-half pound) of sugar equivalent each day. At current average usage levels in beverages, for example, this amount would correspond roughly to two gallons of beverage daily.

Is it safe to consume more acesulfame potassium than the ADI?

Individuals may safely exceed this level on occasions. This is because the ADI is more than 100 times smaller than the largest amount of the ingredient that a person could consume without experiencing any physiological effects. It would be difficult, however, for consumers to consistently consume more acesulfame potassium than the ADI because foods contain extremely small amounts of acesulfame potassium. For example, if acesulfame potassium were the only low-calorie sweetener in all food categories, the expected daily intake for a heavy consumer of foods and beverages containing acesulfame potassium would only be about 3.8 mg per kg of body weight, which is well below the ADI of 15 mg per kg of body weight.

Does acesulfame potassium contribute to tooth decay?

No. Acesulfame potassium does not contribute to tooth decay. Studies show that bacteria in the mouth do not metabolize acesulfame potassium and, therefore, do not convert it into plaque or harmful acids that cause tooth decay.

Is the potassium content of acesulfame potassium a potential health concern?

No. Potassium, which is found in most foods, is an essential mineral for maintaining good health. The amount of potassium in acesulfame potassium is extremely small. A packet of tabletop sweetener containing acesulfame potassium has just 10 mg of potassium. In comparison, most individuals receive approximately 2,000 to 3,000 mg of potassium from various foods every day. For example, a banana contains 400 mg; an orange 252 mg; and a sweet potato 390 mg of potassium.

Do people have allergic reactions from acesulfame potassium?

There is no evidence that acesulfame potassium causes allergic reactions. In the 15 years the sweetener has been on the market around the world, no substantiated allergic reactions have been reported. Although the ingredient contains sulfur, a recognized allergen, the structure of the sulfur is different from that of sulfites and sulfa drugs which have been known to cause allergic reactions.

Do products sweetened with acesulfame potassium carry any warning labels or information statements related to the use or presence of acesulfame potassium?

No. Acesulfame potassium does not have any effects that consumers need to be warned about.

Are there harmful byproducts when acesulfame potassium is used in beverages?

No. Acesulfame potassium is a highly stable food ingredient. No byproducts can be found in beverages under normal usage and storage conditions. Scientists and regulatory authorities have thoroughly reviewed all data and have concluded that even under extreme acidity, temperature and storage conditions, acesulfame potassium has been found to be safe for use in beverages.

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