

# Sweeteners

## DID YOU KNOW...

*The Canadian Cancer Society (2009) states that studies don't link artificial sweeteners with a higher risk of cancer in humans.*

## ARTIFICIAL SWEETENERS

*It's common for foods and drinks to be made with artificial sweeteners instead of sugar. Both natural and artificial sweeteners give a sweet flavour, but there are important differences between them.*

### What are Natural Sweeteners?

Natural sweeteners have calories and raise your blood sugar levels. Common forms of natural sweeteners include white sugar, brown sugar, icing sugar, corn syrup, maple syrup, honey, and molasses. Most other forms of natural sweeteners have names that end in 'ose'. When reading the ingredient list on a food product, you may see some of these natural sweeteners, such as sucrose, glucose, fructose, and maltose.

### What are Artificial Sweeteners?

Artificial sweeteners (also known as sugar substitutes) have very little or no calories, and don't raise your blood sugar levels. They're also better for your teeth because artificial sweeteners don't cause cavities like natural sweeteners can. Artificial sweeteners are commonly used by people living with diabetes and people who are trying to lose weight (Gougeon, Spidel, Lee & Friel, 2004).

Many food products that are advertised as being 'sugar-free' or 'low in calories' have artificial sweeteners added. When it comes to using artificial sweeteners, a little goes a long way. Artificial sweeteners can be up to 13 000 times sweeter than sugar, so very little is needed (Government of Canada, 2007).

In Canada a number of artificial sweeteners have been approved for use in foods such as acesulfame-potassium, aspartame, neotame, and sucralose (Health Canada, 2008). Others can be used as table-top sweeteners but haven't been approved by Health Canada to be added in foods. These include cyclamate, Stevia, and saccharin (Food Safety Network, 2008).

### What About Sugar Alcohols?

Sugar alcohols are sweeteners that are naturally found in small amounts in fruits and vegetables, but are also manufactured in large amounts so they can be added to foods. Sugar alcohols raise blood sugar levels but aren't as sweet as white sugar, and don't have as many calories. Sugar alcohols aren't completely absorbed in the small intestine, where sugars are usually absorbed. Eating too much food with sugar alcohols can result in gas, bloating, stomach pains, and diarrhea (Food Safety Network, 2008). Common forms of sugar alcohols that have been approved for use in Canada are listed in the chart on the following page.



## Are Artificial Sweeteners Safe?

Yes, many artificial sweeteners are a safe alternative to sugar. Under the Food and Drugs Act and Regulations, Health Canada tests the safety of all new food additives, including artificial sweeteners. Only safe artificial sweeteners are approved for use in Canada. Health Canada has set Acceptable Daily Intake (ADI) levels for each of the approved artificial sweeteners. The ADI is the amount of an artificial sweetener that you can have every day over your lifetime without resulting in negative health effects (Food Safety Network, 2008). For example, the ADI for aspartame is 40 mg/kg of body weight. This means that a person who weighs 68 kg (150 lb) could safely have 2 720 mg of aspartame every day for their lifetime (Canadian Diabetes Association, 2008). To get this amount of aspartame, someone would have to drink an average of 13 cans of aspartame-sweetened diet pop each day. The ADI levels for other artificial sweeteners are listed in the chart below.

Sweetener	Common Name and/or Brand Name	Sweetness (Compared to Sugar)	Often Added to These Foods	Acceptable Daily Intake (ADI)	Recommendation (for women who are pregnant or breastfeeding)
Acesulfame-potassium	Ace-K	300-400 times	Soft drinks and yogurt	15 mg/kg body weight per day	Safe to use
Aspartame	Equal® and NutraSweet®	180 times	Breakfast cereals, chewing gum, desserts, soft drinks, table-top sweetener, and yogurt	40 mg/kg body weight per day	Safe to use
Cyclamate	Sweet'N Low® Sugar Twin® Sucaryl®	30-40 times	None (only used as table-top sweetener)	18 mg/kg body weight per day	Avoid
Neotame	N/A	8 000-13 000 times	Pre-packaged foods	Not specified	Safe to use
Saccharin	Hermesetas®	300 times	None (only used as table-top sweetener)	5 mg/kg body weight per day	Avoid
Stevia	N/A	300 times	None (only used as table-top sweetener and in natural health products)	1 mg/kg body weight per day	Avoid
Sucralose	Splenda®	600 times	Baked goods, soft drinks, table-top sweetener, and yogurt	9 mg/kg body weight per day	Safe to use
Sugar Alcohols	Isomalt, lactitol, maltitol, mannitol, sorbitol, xylitol, erythritol, and hydrogenated starch, hydrolysates	25-100 times	Baked goods, candy, chewing gum, cough lozenges, and dairy products	Not specified, but more than 10 g/day may result in gas, bloating, stomach pains, or diarrhea	Safe to use
Thaumatococin	N/A	2 000-3 000 times	Breath mints, chewing gum, and salt substitutes	Not specified	Safe to use

When used in moderation, artificial sweeteners are a safe alternative to sugar. Be sure not to exceed the ADI levels and don't use sweeteners that haven't been approved by Health Canada. Artificial sweeteners can help regulate blood sugars in people with diabetes and can help with weight loss when replacing foods that are high in sugar. Remember, when it comes to artificial sweeteners, a little can go a long way!

**FOR MORE INFORMATION**  
on artificial sweeteners, visit  
**Health Canada**  
at [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)

### REFERENCES:

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