Aspartame

What is aspartame?

Aspartame was discovered in 1965 and was approved for use in Australia in 1986. It is one of the most widely used non-sugar sweeteners in food products as its taste is very similar to that of sucrose (table sugar).

What is aspartame's composition?

Aspartame is a methyl ester of the dipeptide of the natural amino acids L-aspartic acid and L-phenylalanine.

Where is aspartame used?

It is most stable at low temperatures and in dry and weak acidic conditions so is ideal for dry-product applications.

Although it is affected by heat, aspartame can withstand high temperature short-time processing such as that typically used for juices and dairy products. It is used in dairy foods, beverages, confectionery and tabletop sweeteners.

How is aspartame handled by the body?

Once consumed, aspartame is rapidly metabolised to aspartic acid, methanol and phenylalanine, all products which are found naturally in foods.

Aspartame provides 16 kilojoules per gram, the same as protein and sugar. However, as it is around 180 times sweeter than sugar and only small amounts are used.

FAST FACTS:

Aspartame is Safe For:

↗ **People with diabetes and impaired glucose tolerance.**

↗ **Pregnant women**
Aspartame can be used by pregnant women and nursing mothers. It is important for all pregnant women to consult with their doctors regarding nutritional needs during pregnancy.

↗ **Children**
Although foods made with low joule sweeteners are not usually recommended as part of a child's diet, the Aspartame used in foods and drinks is not hazardous to a young person's health.

With obesity rates rising amongst Australian children and adolescents, Aspartame sweetened beverages may help this group reduce their energy/kilojoule intake without compromising their overall diet.

Sweetness relative to sugar

Aspartame has a sweetness of 180 times that of sucrose.[2]

By having a very high sweetening power compared to sugar, non-sugar sweeteners are used in minute amounts.

For more information visit the FSANZ website.

Australian Beverages

How do I know aspartame is being used?

Ingredients in packaged foods must be listed from greatest to smallest by ingoing weight including added water.

Aspartame must be labelled as either “Sweetener (951)” or “Sweetener (aspartame)”.

Its brand names include: Equal®, Equal Spoonful®, Hermesetas Gold®, NutraSweet®

Safety profile of aspartame

At an international level, aspartame has been evaluated by independent safety experts of the Joint FAO/WHO Expert Committee on Food Additives (JECFA) (1981). In the EU, the safety of aspartame was re-evaluated by the experts of the European Food Safety Authority (EFSA) in December 2013. Food Standards Australia New Zealand (FSANZ) reviewed all the studies and has classified aspartame as a permitted food additive listed in Schedule 8. Permissions for different food categories are provided within the table in Schedule 15.[3]

Is aspartame safe for everybody?

People with PKU, a rare metabolic disease, should keep their intake of foods and drinks containing aspartame to a minimum. Individuals with the PKU lack the enzyme necessary for digesting phenylalanine one of the breakdown products of aspartame. As a result, all aspartame-containing products must bear a label indicating the product contains phenylalanine.

Many aspartame-containing products also carry a label indicating that these products should not be used in baking or cooking because aspartame loses most of its sweetness when it is heated.

Resources

This brochure is designed as a general guide only. For specific health information seek assistance from a suitably qualified health practitioner.

1 ISA 2015. Fact Sheet Aspartame. Accessed 03/09/2019.
https://www.sweeteners.org/assets/uploads/articles/files/Aspartame%20-%20Fact%20Sheet_2015.pdf

2 FSANZ Intense sweeteners
http://www.foodstandards.gov.au/consumer/additives/Pages/Sweeteners.aspx

3 Food Standards Australia New Zealand. Schedule 15 Substances that may be used as food additives. Food Standards Code.
https://www.foodstandards.gov.au/code/Documents/Sched%2015%20Food%20additives%20v157.pdf

Australian Beverages