



Falsifications and Facts about Aspartame

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In early 1999, misleading and inaccurate information about the artificial sweetener aspartame spread rampantly and indiscriminately on the Internet. This rash of Internet misinformation was based on an article by Nancy Markle, allegedly based on her talks at the "World Environmental Conference." It seems that these rumors remain alive on the Internet and continue to scare consumers.

When in 1981 the U.S. Food and Drug Administration (FDA) approved the use of aspartame in certain products, there were more than 100 separate toxicological and clinical studies establishing the safety of aspartame. Since then, many other studies have been conducted to check credible reports of aspartame-mediated adverse effects. Aspartame is considered one of the most thoroughly tested food additives in the world, and FDA continues to confirm it safe to consume for everyone except phenylketonurics (see below).

Following are responses to some of Ms. Markle's inflammatory allegations about aspartame.

Claim: *Aspartame is linked to an "epidemic of multiple sclerosis and systemic lupus."*

This is not true. On January 12, 1999, Dr. David Squillacote, Senior Medical Advisor of the Multiple Sclerosis Foundation, unequivocally denied any links between MS and aspartame. Dr. David Hattan of the Division of Health Effects Evaluation of the FDA's Center for Food Safety and Applied Nutrition stated that there is no credible evidence that suggests that aspartame elicits MS or systemic lupus.

Claim: *Aspartame intake results in methanol, formaldehyde, and formate production.*

It is true that aspartame degrades in the GI tract to methanol and two amino acids, phenylalanine and aspartic acid. When used by body cells, methanol forms formaldehyde and formate. Ms. Markle neglected to state that the amounts of methanol formed after aspartame ingestion are modest, similar to those formed when we eat fruits and vegetables. Higher levels of methanol are formed when we consume other foods, such as citrus fruits and juices, tomato, tomato juice, and ethanol.

Methanol poisoning is not due to the presence of methanol itself but rather to the formation of elevated amounts of formic acid, leading to acidosis and blindness. Volunteers who ingested large amounts of aspartame did not develop these elevated amounts of formic acid, and their serum methanol levels returned to normal within 8 hours.

Claim: *Aspartame forms two amino acids, phenylalanine and aspartic acid, which have neurotoxic effects.*

It is true that aspartame forms phenylalanine and aspartic acid. A small group of individuals called phenylketonurics, who have a genetic disorder, are potentially susceptible to adverse effects from phenylalanine. Other sources of phenylalanine are protein in the diet, from which phenylalanine can occur at much higher levels than when it comes from aspartame. To protect phenylketonurics, FDA requires labeling of products containing aspartame.

The levels of aspartic acid formed from aspartame ingestion are many times less than the levels that could cause neurotoxic effects.

Claim: *Aspartame causes seizures or enhances susceptibility to seizures.*

This is not true. The Epilepsy Institute in New York and the Epilepsy Foundation of America both say aspartame is safe for people with epilepsy to use. Results of experimental studies on animals and humans, including children and those with epilepsy, indicate that aspartame does not induce or worsen seizures or increase the frequency or severity of seizures.

Claim: *Aspartame potentially mediates reproductive effects and is linked to birth defects.*

This is not true. Results of experimental studies on animals indicate that aspartame does not mediate reproductive effects and birth defects even at doses many times higher than those to which humans are exposed.

Claim: *Aspartame causes cancer, brain tumors, and headaches.*

This is not true. The American Cancer Society, the National Cancer Institute, and the FDA reviewed these allegations and concluded that aspartame does not increase the incidence of brain tumors.

Some experimental studies involved animals ingesting the equivalent (for an adult human) of more than 1,000 cans of diet soft drink a day for up to two years. Results indicate no increase in brain tumors or other tumors.

Results of a carefully controlled experimental study concluded that aspartame does not cause headaches or

migraines. Assuming that headaches are caused by aspartame may be potentially dangerous when the cause is a serious psychological or physical condition.

Aspartame does not enter the bloodstream and, therefore, cannot travel to essential organs, such as the brain. When ingested, aspartame breaks down in the body to form phenylalanine, aspartic acid, and methanol. As stated above, we consume these same breakdown products in much greater amounts from common foods such as milk, meat, dried beans, fruits, and vegetables. The body does not see a difference between the breakdown products from foods or aspartame.

Claim: *Aspartame causes increases in appetite and weight.*

This is not true. Several well controlled scientific studies were conducted to determine the effect of aspartame on hunger, satisfaction and food intake, and body weight. Results indicated no relationship between aspartame and increased appetite or weight gain. On the contrary, aspartame products can help with weight control because they contain fewer calories than comparable products made with sugar or syrups.

Claim: *Aspartame is partially the cause of Desert Storm health problems.*

This is not true. No connection has been found between aspartame and "Desert Storm Syndrome."