



FACT SHEET

ORGANIC ZERO In the Body

Summary:

- ❑ ZERO calories
- ❑ ZERO Glycemic Index
- ❑ Low carb (95% fewer carbs than sugar)
- ❑ No tooth decay (sugar alcohol cannot be metabolized by oral bacteria and so does not contribute to tooth decay; also reduces the production of acid on dental plaque). The FDA has approved the use of “does not promote tooth decay” health claim in labeling for ORGANIC ZERO (organic erythritol).¹
- ❑ Non-toxic—completely *ORGANIC*
- ❑ Non-allergenic² (likelihood of adverse reactions: less than 1 in a million)
- ❑ High digestive tolerance. Erythritol has very small molecules and so passes directly through the digestive system without metabolizing; hence, no calories and no GI. It sweetens gently then goes away. (Unlike other polyols--mannitol, maltitol, sorbitol, xylitol, and lactitol, up to 90% of the ingested erythritol is rapidly absorbed from the small intestine and excreted *unchanged* in the urine; the balance of Organic Zero passes through the lower gut without causing digestive distresses.)
- ❑ Acts as an antioxidant³
- ❑ Benefits of erythritol (in popular functional beverage concepts)⁴:



Functional concept	Targeted health condition	Erythritol benefit
Beauty from the inside	Anti-aging Fight caries Body weight control	Antioxidant Noncariogenic Noncaloric
Senior health	Cholesterol control Glycemic control Defense against degeneration/inflammation	No specific effect Nonglycemic Free-radical scavenger ⁵
Wellness/feel good	Digestive comfort Body weight	High tolerance Noncaloric

Certifications:

- ❑ USDA Organic
- ❑ Kosher
- ❑ QAI
- ❑ GMO Free

Great for:

- ❑ Diabetics
- ❑ Weight conscious
- ❑ Kids
- ❑ Healthy living

Additional Details follow!

Does Not Promote Tooth Decay

The U.S. Food and Drug Administration (FDA) has authorized the use of the "does not promote tooth decay" health claim for sugar-free food products sweetened with polyols. The regulation provides that "when fermentable carbohydrates are present in the sugar alcohol-containing food, the food shall not lower plaque pH below 5.7 by bacterial fermentation either during consumption or up to 30 minutes after consumption, as measured by the indwelling plaque test found in 'Identification of Low Caries Risk Dietary Components,' T.N. Imfeld, Volume 11, *Monographs in Oral Science* (1983)."

FDA regulations prohibit the expansion of the health claim beyond the parameters set by FDA and the health claim may not attribute any degree or state an amount of risk reduction with the use of polyol-containing foods. Also, the claim may not imply that consuming polyol-containing foods is the only recognized means of achieving a reduced risk of dental caries.

In October 1998, the American Dental Association's House of Delegates approved a position statement acknowledging the "Role of Sugar-Free Foods and Medications in Maintaining Good Oral Health." ADA recognizes that "it is neither advisable nor appropriate to eliminate from the American diet sugar-containing foods that provide necessary energy value for optimal nutrition." To maintain good health it is very important to satisfy the body's basic nutritional needs. Without a balanced diet the body cannot function efficiently. A balanced diet includes eating a variety of foods every day. Foods from each of the five major food groups -- milk, yogurt and cheese; meat, poultry, fish and alternatives; fruits; vegetables; and bread, cereals and other grain products should be chosen. The Association recommends, however, "that major efforts be made to promote the use of sugar-free foods or chewing substances in place of sugar-containing foods that involve a frequent intake or repeated oral use . . . use of these sugar-free products will contribute to improved oral health."

The ADA statement in its entirety is as follows:

Research and clinical experience have shown that abundant and frequent exposures to dietary fermentable substances enhance the ability of cariogenic bacteria to implant, colonize and increase acid production, which facilitates the carious process. Initial implantation and colonization of mutans streptococci is made possible even if the amounts of sucrose, a sugar commonly used in food manufacture, are very low. Thus, colonization is mainly influenced by interaction of specific biochemical properties of the cariogenic bacterial strains with dietary substrates and the oral ecological environment.

Once cariogenic bacteria are established in dental plaque, their metabolic activity is stimulated by increases in the intake of fermentable carbohydrates but modulated by:

- *the type of food containing sugars or starches consumed;*
- *the frequency of intake of such foods;*
- *oral hygiene status;*
- *availability of fluoride;*
- *salivary gland function;*
- *saliva composition; and*
- *other host factors.*

Considering the ubiquity of cariogenic bacteria in most population groups, frequent consumption of sugar-containing foods, medications and chewing substances are recognized as having a strong potential to increase the risk of dental caries, although the severity and magnitude of the caries challenge produced by these foods varies between individuals and population groups.

In light of current laboratory and epidemiological research findings, the Association recognizes that it is neither advisable nor appropriate to eliminate from the American diet sugar-containing foods that provide necessary energy value for optimal nutrition. However, it strongly recommends that major efforts be made to eliminate sugars from oral suspensions, chewable tablets, pastilles and troches and to promote the use of sugar-free foods or chewing substances in place of sugar-containing foods that

involve a frequent intake or repeated oral use. In these circumstances, use of these sugar-free foods will contribute to improved oral health without any deleterious nutritional consequences.
(Source: http://www.caloriecontrol.org/benefits_sugarfree_foods_beverages.html)

And from *The Journal of Pure and Applied Chemistry*, Vol. 74, No. 7, pp. 1281-1289, 2002.

Erythritol. Functionality in noncaloric functional beverages,

*By Peter De Cock and Claire-Lise Bechert, Belgium
(Complete and verbatim excerpts)*

Noncaloric characteristics of erythritol

Since the human body does not have any enzymes that can break down erythritol, it is not metabolized and is excreted unchanged in the urine. The VFAs are absorbed and metabolized in the liver, thereby making about half of the intrinsic caloric value of the carbohydrate available to the body [2]. Consequently, **the overall caloric value of erythritol ranges from 0 to a maximum of 0.2 kcal/g.**

Glycemic or insulinemic response

Clinical studies demonstrate that consumption of erythritol does not raise plasma glucose or insulin levels. This makes erythritol a suitable sweetener for people who suffer from diabetes. In a study done by Bornet et al. [3], mean plasma glucose and insulin levels, measured for up to 3 h after ingestion of a single dose of 1 g erythritol/kg body wt, were unaffected by erythritol (see Fig. 4). The importance of low-glycemic foods is gaining more and more attention owing to their potential benefits. These include a lower risk of developing Type 2 diabetes; a lower probable risk of a hypoglycemic episode, long-term diabetic complications, and coronary heart disease; and assistance in managing obesity. The importance of the glycemic index was the subject of a recent international workshop entitled Glycemic Index and Health: The Quality of the Evidence [4]. The overall conclusion of the 48 experts attending the workshop was that current evidence indicates that the glycemic index has practical utility and that differences in the glycemic index among foods may have important relevance to public health. They also recommended further basic and epidemiological research and controlled clinical trials in the area of weight management, prevention and management of cardiovascular disease, diabetes and cancer, and cognitive function.

Highest digestive tolerance of all polyols

It is well established that the consumption of excessive amounts of polyols can provoke undesirable intestinal side effects such as laxation, abdominal cramps, flatulence, and-in extreme cases-watery diarrhea. Some of these symptoms are the result of osmotic effects, and others are the result of the fermentative degradation of these compounds in the colon. Numerous human tolerance studies have shown that the incidence and severity of these intestinal side effects and their threshold dose depend upon the particular polyol consumed, the mode of ingestion, the existence of a previous adaptation period, and the individual susceptibility for this kind of effect.

Although erythritol chemically belongs to the group of polyols, it has a digestive tolerance that is much higher compared to all other polyols. Since >90 % of the ingested erythritol is readily absorbed from the small intestine, minimal amounts reach the lower gut. Consequently, under the anticipated conditions of use, erythritol does not cause laxation. Clinical studies from Bornet et al. [3] and Tetzloff et al. [5] show that gastrointestinal effects in adults ingesting erythritol at up to 1 g/kg body wt (up to 80 g/day) were not statistically different from those in persons ingesting sucrose at similar levels.

All this and it's Organic too!

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800-680-1896

End Notes/Resources/References

¹ *Reduced Calorie Sweeteners: Erythritol: www.CalorieControl.org*

² *Opinion of the Scientific Committee on Food on Erythritol, European Commission/Health & Consumer Protection Directorate-General; Scientific Committee on Food; SCF/CS/ADD/EDUL/215 Final, March 2004*

³ Erythritol. Functionality in non-caloric functional beverages. *Peter deCock and Claire-Lise Bechert. Pure and Applied Chemistry, Vol., 74, No. 7 pp. 1281-1289, 2002.*

⁴ *ibid*

⁵ *ibid*