

Polyol Usage in Confectionery

If used within sensible guidelines, polyols can improve a formulation without causing problems.

Peter Jamieson

SPI Polyols

As Americans try to get a handle on their growing waistlines, they are looking for ways to make weight loss and living healthy easier. Traditional candies—often considered comfort foods/snacks—reformulated as sugarfree can be useful tools to help consumers reach their goals while limiting the sacrifices of dieting.

The success of sugarfree confectioneries is apparent in current data, indicating that, in a time when interest in low carb has seemed to level off, sugarfree is more popular than ever. Sales of sugarfree confections from May 2003 to October 2004 increased by 48 percent, and 453 new products were introduced in 2004 (January to November 2004), according to data obtained by Mintel International Group Limited. Most people don't need that information to confirm the popularity of sugarfree; just walk into any grocery or drugstore chain and look around. You'll find sugarfree products not just in those special dietetic aisles anymore, but all over the store in their own little point-of-purchase displays near candy aisles and/or checkout counters.

Although sugarfree confections have been more visible recently, they are not new to the industry. In fact, diabetics have been using them for decades to help manage their blood glucose levels. One of the major ingredients used for sugar replacement in these

products is a group of carbohydrates known as polyols or sugar alcohols. These unique carbohydrates are metabolized more slowly by the body, reducing blood glucose response levels and caloric density (Figure 1), while still providing the same bulk as traditional sugars (glucose, maltose, sucrose, etc.) and carbohydrates (corn syrups, maltodextrin and starches).

All of the polyols are considered either a food additive or generally recognized as safe (GRAS) by the Food and Drug Administration (FDA) as noted in Figure 2. Furthermore, since they are not fermented by oral bacteria in the mouth, they are non-cariogenic (do not contribute to dental caries or cavities). The FDA allows a "dietary sugar alcohol and dental caries" health claim (21 CFR 101.80) for sugarfree foods containing polyols. The full claim

Calories of Polyols

	U.S.	E.U.
Erythritol	0.2	N/A
Mannitol	1.6	2.4
Isomalt	2.0	2.4
Lactitol	2.0	2.4
Maltitol	2.1	2.4
Xylitol	2.4	2.4
Sorbitol	2.6	2.4
Maltitol Syrup	3.0	2.4
Polyglycitol Syrup	3.0	N/A
Sucrose	4.0	4.0

Figure 1

Jamieson is a research scientist in the applications research and technical services department of SPI Polyols. He has been with SPI Polyols for five years.



Peter Jamieson