



▶ Sugar alcohols or polyols are not sugars nor alcohols. They are a group of low-digestible carbohydrates derived from the hydrogenation of their sugar or syrup source (e.g., lactitol from lactose). **Polyols are bulk sweeteners that have lower calories than sugar or high fructose corn syrup.** Since most polyols are not as sweet as sugar they are **often used in combination with high-intensity sweeteners** such as acesulfame potassium, aspartame, neotame, saccharin or sucralose.

▶ **The United States FDA-approved polyols are Erythritol, Hydrogenated Starch Hydrolysates (including Maltitol Syrups), Isomalt, Lactitol, Maltitol, Mannitol, Sorbitol and Xylitol.**

### The Ingredient House currently offers

RightSweet™ Polyols:

Erythritol, Xylitol, Mannitol and Maltitol.

## RightSweet™ Erythritol

**Erythritol is a great tasting bulk sweetener used in reduced calorie and sugar-free foods. A white crystalline powder, it is odorless and has a clean sweet taste similar to sucrose. It is approximately 70% as sweet as sucrose and flows easily due to its non-hygroscopic character. Erythritol's caloric value of 0.2 calories per gram and high digestive tolerance distinguishes it from the other polyols.**

### Features & Benefits

- ❖ **Reduces Calories** – Erythritol has a very low caloric content at 0.2 calories/gram. It is uniquely qualified for formulating “light” and “reduced calorie” products which require > 25% calorie reduction.
- ❖ **Tastes Sweet and Clean** – Has a clean sweet taste like sugar but is less intense.
- ❖ **Adds Texture** – Has been used to add mouthfeel and texture in beverages.
- ❖ **Synergistic** – At 70% the sweetness of sugar, Erythritol can be blended with high-intensity sweeteners such as **Acesulfame K** and **Aspartame** and/or other polyols such as Sorbitol and Xylitol.
- ❖ **High Digestive Tolerance** – 90% of ingested Erythritol is absorbed and excreted unchanged in urine within 24-hours. Less than 5% reaches the large intestine and is fermented into volatile fatty acids or metabolized into carbon dioxide. Daily consumption of 1 gram/kilogram body weight is well tolerated.
- ❖ **Useful in Diabetic Diets** – Erythritol may be safely used to replace sucrose in foods formulated specifically for people with diabetes.
- ❖ **Does Not Promote Tooth Decay** – The FDA has approved the use of a “does not promote tooth decay” health claim in labeling for sugar-free foods that contain Erythritol or other polyols.

### Applications

The U.S. GRAS affirmation petition accepted by FDA January 15, 1997 states **Erythritol is intended to be used as flavor enhancer, formulation aid, humectant, nutritive sweetener, stabilizer and thickener, sequestrant and texturizer.** The petition lists maximum Erythritol use levels of 100% in sugar substitutes, 60% in chewing gum, 60% in fat based creams for cookies, cakes and pastries, 50% in hard candy, 40% in soft candy, 7% in dietetic cookies and wafers, and 1.5% in low or no calorie beverages.

### Safety

**The safety of Erythritol as a food ingredient under conditions of its intended use is substantiated by a number of human and animal safety studies.** Because Erythritol is rapidly absorbed in the small intestine and rapidly eliminated by the body, laxative side effects sometimes associated with excessive polyol consumption are unlikely when consuming Erythritol containing foods.

### Future

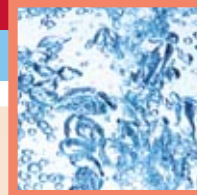
**Erythritol is a good-tasting bulk sweetener which is suitable for a variety of reduced- calorie and sugar-free foods. Its low caloric value and high digestive tolerance make it uniquely qualified, in high calorie reduced (>25%) foods and beverages.**



▶ In addition to their clean sweet taste and unique functional properties, polyols also offer important health benefits. For example, they are reduced in calories and do not cause sudden increases in blood sugar levels. Importantly, polyols are not readily converted to acids by bacteria in the mouth and, therefore, do not promote tooth decay.

### RightSweet™ Xylitol

Xylitol has been used as a bulk sweetening agent in human food since the 1960s. Xylitol is a white crystalline powder that is odorless, with a pleasant, sweet taste. Xylitol has the same sweetness and bulk as sucrose. At 2.4 calories per gram it has 40% fewer calories than sucrose. It is gaining increasing acceptance as an alternative sweetener due to its role in reducing the development of dental caries (cavities). It quickly dissolves and produces a cooling sensation in the mouth.



#### ▶ Features & Benefits

- ❖ **Helps Reduce Calories** – Xylitol provides 1/3 fewer calories than sugar or about 2.4 calories/gram.
- ❖ **Tastes Sweet without Aftertaste** – Has a sweet taste & intensity like sugar.
- ❖ **Synergistic** – Xylitol blends well with **Acesulfame K, Aspartame, Sucralose** or polyols like Sorbitol and Erythritol to offer additional taste and function.
- ❖ **Useful in Diabetic Diets** – Xylitol is slowly absorbed and may be safely used to replace sucrose in foods for people with diabetes.
- ❖ **Does Not Promote Tooth Decay** – FDA has approved the use of “does not promote tooth decay” in labeling for sugar-free foods that contain xylitol or other polyols.
- ❖ **Reduces New Dental Caries Formation** – Xylitol consumption between meals is associated with significantly reduced new caries.
- ❖ **Reduces Plaque Formation** – Xylitol/sorbitol blends in chewing gum and mints have shown a significant decrease in plaque.
- ❖ **Increases Saliva Flow** – Xylitol-sweetened products (such as mints and chewing gum) create an increase in saliva flow. Saliva helps with cleaning and protecting teeth enamel from decay.

#### ▶ Applications

Xylitol is used in foods such as chewing gum, gum drops and hard candy, and in pharmaceuticals and oral health products such as throat lozenges, cough syrups, children’s chewable multivitamins, toothpastes and mouthwashes. In the United States, **xylitol is approved as a direct food additive for use in foods for special dietary purposes.**

#### ▶ Safety

Xylitol is currently **approved for use in foods, pharmaceuticals and oral health products in more than 35 countries.**

#### ▶ Future

Xylitol is a good-tasting bulk sweetener which is reduced in calories and has **the highest dental hygiene benefits out of all polyols.**

