



# POWERFUL POLYOLS:

The adaptable, versatile, low-calorie sweetener

## What are Polyols?

Polyols are sugar-free sweeteners – a type of carbohydrate that falls into a category generally referred to as sugar alcohols.

### How do you reduce calories while maintaining the product’s texture and functionality?

ADM’s pantry of polyol solutions—including **sorbitol**, **maltitol** and **mannitol**—allows you to add desirable sweetness—with up to more than half the kcal value of traditional table sugar. Polyols also deliver extra benefits by adding bulk, acting as stabilizing humectants in reduced-sugar foods.



Corn



Polyols

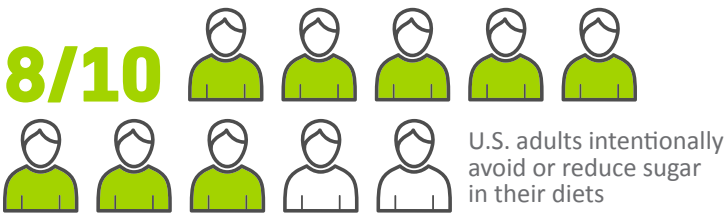
## GET TO KNOW POLYOLS

- Type of carbohydrate that falls into a category labeled as sugar alcohols
- ADM’s Polyols are derived from corn and have a flexible production
- They are produced in our Decatur, IL Corn facility

	SORBITOL	MALTITOL	MANNITOL	NON-CRYSTALLIZING SORBITOL (NCS)
PRODUCED FROM:	Dextrose	High malt dextrose	High fructose corn syrup	70% Sorbitol / 30% Maltitol Blend
ATTRIBUTES:	Humectant, Body agent, Sweetening agent, Plasticizer, Freezing point adjuster, Crystallization modification	Aids in raising freezing point and crystallization resistance in products	Freezing point adjuster and crystallization modification	Acts as a glycerin substitute

## Consumers are looking to reduce sugar in their diets

Through ADM Outside Voice<sup>SM</sup> proprietary research, it was found that 8 out of every 10 U.S. adults now intentionally avoid or reduce sugar in their diets with 16% stating it’s the most important thing they’re trying to reduce—making sugar the most demonized ingredient in the American diet.<sup>1</sup>



16%

Say sugar is the most important nutrient they limit (more than fat, sodium or carbohydrates)<sup>1</sup>

Modern consumers look for foods that maintain a high-quality standard. They desire delicious taste with lower calories and sugar count. ADM’s versatile pantry of polyol solutions brings sweetness without the added calories plus other purposeful functionalities to a wide variety of food products for the on-trend eats and drinks consumers crave.

## WHY USE ADM'S POLYOLS?

### Calorie Reduction

Polyols give you a low calorie sweetener option (2.6kcal or less) for many different applications with a great mouthfeel (comparable to HFCS) at for a cost-optimized option.

### Label Friendly

Polyols are produced from plant-based sources and from our vertically-integrated process. Polyols are not declared as on the nutrition facts panel as total or added sugars, making them a perfect solution for reduced sugar applications.

### Moisture Control

Polyols provide moisture control, helping products stay moist in the package and on the shelf for a better consumer eating experience.

### Affordable Sweetener Option

Polyols bring the sweetness consumers crave to food and beverage applications without increasing the calories.

### Polyols for food & beverage applications

Polyols provide a host of functional advantages while reducing sugars and calorie counts in a wide variety of food and beverage products, benefiting both consumers and manufacturers.



#### Candies & Fillings

- Tenderizing gummy candie to keep them soft
- Can be used to create "sugar-free no sugar added" claims
- Provides pleasant cooling taste in hard candies



#### Bakery & Cereals

- Sugar-free bulking agent
- Non-browning humectant
- Preserves moistness in fruit components of baked goods



#### Sports Nutrition

- Used in low calorie/low sugar sports bars



#### Snack Bars, Cakes & Confections

- Works as a humectant to provide moisture and shelf-life extension
- Can be used to create "sugar-free no sugar added" claims
- Improves softness and pliability
- Prevents graininess in fondants and fudge



#### Surimi & Processed Meats

- Cryoprotectant for the physical, functional, and structural properties of myofibrillar protein during surimi's frozen storage.
- Crystallization inhibitor and freezing point modifier
- Non-browning humectant



#### Instant Beverages & Juices

- Non-browning sweetener
- Combines well with high intensity sweeteners
- Improves mouth-feel of low-calorie beverages



#### Ice Cream & Frozen Treats

- Can be used to create "sugar-free/no sugar added" claims
- Provides freezing point depression, similar to sugar

### SWEETNESS LEVELS

Product	Sweetness Relatively
Stevia	600
Aspartame	200-300
Fructose	150-170
55% HFCS	100
Sucrose	100
Xylitol	100
Maltitol	90
Dextrose	70-80
Sorbitol	60
Mannitol	50
42 DE CSU	45-50
Lactitol	30-40
Isomalt	40

<sup>1</sup>ADM OUTSIDE VOICE™, Sugar Reduction & U.S. Consumers <sup>2</sup>Mintel



# POLYOLS IN NON-FOOD APPLICATIONS



## Polyols & Toothpaste

Tooth decay is caused by micro-organisms that live in the mouth. These micro-organisms live on sugars that they ferment into acid waste products. It is these acids that cause tooth decay by dissolving the tooth enamel. Research has shown that polyols do not have the same effect on teeth as sugars because they are a poor source of energy for the micro-organisms that cause tooth decay – making polyols a non-cariogenic ingredient for toothpaste.

### Primary Functionalities

- Humectant/shelf life extender
- Reactive intermediate
- Chelating agent

### Other Non-Food Applications

- Personal Care Products (toothpastes, mouthwash, creams, etc.)
- Industrial Products (adhesives, paper products, etc.)
- Oil Drilling (fracturing process)
- Silicate Casting
- Contact Lens Solution
- And many more! Let's discuss.

## DISCOVER ADM'S POWERHOUSE POLYOLS

### Reasons to Believe

- Reliable Production & Supply Chain
- Wide Range of Value Added Features:

Humectant	Sugar Reduction
Texturizer	Low Glycemic Index
Non-Cariogenic	Resists Browning
Extended Shelf Life	

Our portfolio of polyol sweetener solutions bring sweetness without the added calories and offer functionality in a wide variety of food products. Leverage our portfolio to get you to market faster with increased functionality, customizable solutions, technical expertise and a safe, reliable supply to bring you an edge.

### ADM Solutions & Benefits

- Meet consumer's demands for sugar reduction
- Custom, personalized solutions available
- Breadth and depth of knowledge on these niche ingredients helps you determine which to use in your formulations enhancing speed to market
- High quality standards ensure you are receiving a product safe for consumption



## POLYOLS: Sorbitol, Maltitol & Mannitol

Available Formats:

LIQUID POLYOLS	SPECIALTY SYRUPS	CUSTOM BLEND OF POLYOLS
70% Sorbitol Solution	Maltitol Syrup 100	Sugar-less Syrup (SLS)
80% Sorbitol Solution	Maltitol Syrup Concentrate	NCS (Non-Crystallizing Sorbitol)
	High Mannitol Syrup	



Let’s Collaborate. Contact Us Today.

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