

DRY BEVERAGES OR DRY MIX OR POWDER BEVERAGES

A drink mix, or powdered drink mix is a processed-food product, a powder designed to mix usually with water to produce a beverage resembling fruit juice or soda in flavour. Another type of drink mix is represented by products that must be mixed into milk.

While some are made with sugar, or sold unsweetened, the products are often made with artificial sweeteners such as aspartame, sucralose, cyclamates or saccharin, and often include artificial flavors and colors. Some of the product include vitamins or other nutrients. The products are variously marketed to children, athletes, bodybuilders, dieters, or as a vitamin supplement. Some brands are only sold as drink mixes, while some beverage companies produce powdered versions of their products, as does Gatorade and Ocean Spray. Another form of drink mix is represented by products mixed into milk, such as malted milk, Nesquik, Ovaltine and Carnation Instant Breakfast.

There are many ingredient considerations when formulating dry drink mixes, as it is critical that the mix quickly dissolve, not be gritty or have sediment, and look and taste appealing. It must do all of these things while having a lengthy ambient shelf life, with most products expected to be acceptable for at least a year.

Hydration rate must also be considered. It is important the mix dissolve quickly and uniformly. This is often dependent on particle size.

Sweetener solids and bulking agents make up the particles in most drink mixes, other than in protein drinks. Here protein particles dominate the mix. In both scenarios, particle size matters. When high-intensity sweeteners are used to reduce sugar and calories, it is important to add solids to build back mouthfeel. Dextrose, maltodextrin and corn syrup solids are some of the most popular bulking agents in the industry.

Fiber ingredients may be used in dry mixes to add bulk. Some also contribute sweetness, all while boosting fiber content. Moisture protection is important, especially in multi-serve containers, as it is important the powder not absorb moisture and cake or harden. This is not an issue with properly packaged individual sachets.

LOW CALORIE BEVEAGES OR DIET DRINK

Diet (alternatively marketed as sugar-free, zero-calorie or low-calorie) drinks or light drinks are sugar-free, artificially sweetened versions of carbonated beverages with virtually no calories. They are generally marketed toward health-conscious people, diabetics, athletes, and other people who want to lose weight, improve physical fitness, or reduce their sugar intake.

Several different sweeteners are used to replace sugar in low-calorie diet beverages. The primary compounds worldwide are aspartame, saccharin, sucralose, cyclamates, acesulfame potassium, and stevia.

Aspartame

Aspartame, commonly known by the brand name NutraSweet, is one of the most commonly used artificial sweeteners. The 1982 introduction of aspartame-sweetened Diet Coke accelerated this trend. Today, at least in the United States, "diet" is nearly synonymous with the use of aspartame in beverages.

Neotame and advantame are further derivatives of aspartame. They received FDA approval in 1998 and 2014 respectively. Due to its high efficiency (20,000 times sucrose) which enables use of minute quantities for sweetening, advantame has the advantage of being safe to consume for individuals with phenylketonuria. As such, products sweetened with it are not required to carry a phenylalanine warning label.

Cyclamates

In 1970, the Food and Drug Administration banned cyclamates in the United States based on the results of a study which found that it caused bladder cancer in rats in combination with saccharin. This effect was later revealed to be specific to rodents; neither saccharin nor cyclamate are now considered human carcinogens. Nevertheless, cyclamate remains banned in the US.

Sucralose and acesulfame potassium; "sugar-free" soft drinks

Recently, two other sweeteners have been used with increasing frequency: sucralose (marketed as Splenda) and acesulfame potassium ("Sunett" or "Ace K"). The K in "Ace K" represents the chemical symbol for potassium. Acesulfame potassium is usually combined with aspartame, sucralose, or saccharin rather than alone and its use is particularly common among smaller beverage producers (e.g. Big Red).

Stevia

Stevia-based sweeteners incorporate steviol glycosides, sweet-tasting compounds produced in the leaves of the *Stevia rebaudiana* plant.

Initially launched in Argentina in 2013, Coca-Cola Life is made with a mix of stevia and sugar as its sweeteners. Pepsi has also released a variant of their cola sweetened with stevia and sugar, called Pepsi Next.