Maltodextrin

Maltodextrin is a mixture of glucose, maltose, oligosaccharides and polysaccharides. Maltodextrin is 15 to 20% dextrose equivalent and is produced by enzymatic hydrolysis of starch, followed by refining and spray-drying to moisture level of 3% to 5%.

Maltodextrin is an artificial sugar (also known as a polysaccharide) that has a mild, sweet taste. It's usually created from corn and wheat but can also made from rice, potatoes and tapioca. While it's a commonly used food additive found in many types of packaged foods including seasonings, cake mixes and potato chips, the health effects of maltodextrin depend on the type and amount you consume. One type of maltodextrin is a simple carbohydrate. It contains calories and is used in supplements designed to provide a boost of energy. The second type resistant maltodextrin comes from the same source, but it goes through additional processing to make it indigestible. Resistant maltodextrin doesn't provide energy, but it does deliver benefits similar to soluble fiber. The term maltodextrin applies to any starch hydrolysis product containing less than 20 glucose units, and, for this reason, maltodextrin refers to a family of products instead of a specific product.

Applications

Maltodextrin is a white powder often used in processed foods as a thickener or a filler since it is fairly inexpensive, as well as in pharmaceuticals as a binding agent. It is found in canned fruits, snacks, cereal, desserts, instant pudding, sauces, and salad dressings, spice mixes, soups and sauces, baked goods, yogurt, nutrition bars, sugar-free sweeteners and meal replacement shakes. Since it contains fewer calories than sugar, it's also found in sugar substitutes .

Maltodextrin is used in coffee whiteners, imitation sour creams, imitation cheeses and whipped toppings. It is perfect for candy coating and soft-centre candies, for frosting and glazing, for nut and snack coating, in lozenges and for binding, plasticising and crystal inhibition. In hard candies, it improves the hygroscopic characteristics.

Maltodextrin is usually used in such small amounts that it doesn't have a significant impact in terms of the amount of protein, fat, carbohydrate, or fiber that it adds to foods. It is easy and cheap to produce making it very appealing to food manufacturers.

Indian demand and supply

Maltodextrin is the least hygroscopic of all corn sweeteners due to its low dextrose equivalent (DE) i.e. low sugar content and exhibits high viscosity and contribute to the mouth feel and body due to presence of higher molecular weight saccharides.

As a multi functional food additive, maltodextrin is used in food industry such as sweets, drink, beer, ice cream, preserved fruit, milk powder, malted milk, cake, biscuit and bread, as well as in medicine.

Maltodextrin is the perfect instant food additive due to its free flexibility open structure, dispersibility in cold water, its ability to help maintain clarity and eye-appeal. Maltodextrin increases the viscosity and prevents caking and crystallisation in the frozen foods such as ice cream.

Maltodextrin is a more expensive product but the quantity needed is much less than of ordinary glucose. It can be used in products which require increased nutritive bulk without substantially affecting the flavour of sweetness balance. Maltodextrin is used particularly for production of spray dried infant food product.

Indian producers include the following:

- Gujarat Ambuja Exports Ltd., Gujarat
- Prathista Biotech,Andhra Pradesh
- Riddhi Siddhi Starch & Chemicals Ltd.,Karnataka & Gujarat
- Sahyadri Starch & Industries P Ltd.,Maharashtra
- Santosh Starch, Gujarat and Tamil Nadu
- Sukhjit Starch & Chemicals Ltd., Punjab

Maltodextrin has gained acceptance in the food manufacturing industry owing to its easy miscibility, temperature tolerance, and bland taste. It can be formulated in any food, ranging from soup & sauces to sports drinks.

Major drivers fuelling the growth are growing baby food and infant formula market.

Infant food formula utilizes substantial amount of maltodextrin as it is easily digestible by kids. In addition, sports nutrition and meal replacement shakes that uses maltodextrin in large quantities are potential categories of maltodextrin application.. Maltodextrin demand is on rise due to robust market for food, pharmaceutical and cosmetic encapsulation sector that uses maltodextrin as a cell wall material for encapsulation of flavours, colours and pharmaceutical molecules.

The present Indian demand for maltodextrin is much below the potential level. With the increasing economic growth and per capita consumption and higher consumer expectation, the demand for confectionery products and infant food sector would steadily increase in the coming years. Such growth would translate into steady increase in demand for maltodextrin in the country.

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