



## Common Food Additives in Candy

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Trick or treat? Here, goblins, have some butylated hydroxyanisole, some invertase, some glycerol monostearate . . . Although some candy ingredients may have scary names, there is nothing ghoulish about them. Many of these ingredients play a significant role in making candy taste and look so good. This is a brief guide to some commonly used candy additives.

Food additives such as *emulsifiers* blend the ingredients of mixtures and keep them from separating, giving the mixtures a consistent texture. *Stabilizers* and *thickeners* give mixtures a smooth, uniform texture. *Anti-caking agents* help nonliquid substances, such as salt, to flow freely. *Preservatives* inhibit candy spoilage by preventing the growth of mold, yeast, and bacteria. *Antioxidants* prevent fats and oils in candy from becoming rancid (oxidized by exposure to air) and developing an “off” flavor or unpleasant taste. *Leavening agents* release acids in candy mixtures during processing, adding texture and volume. *Acidulants* are multipurpose acids that add tartness to candy, maintain acidity during processing, and also act as preservatives.

*Natural flavors and colors*, such as peppermint and caramel, are derived from natural sources. *Synthetic colors* are man-made and designated on food labels as Food, Drug, and Cosmetic (FD&C) water-soluble colors or water-insoluble “aluminum lakes”; for example, FD&C Yellow No. 6. *Synthetic flavors*, such as ethyl vanillin (artificial vanilla), are also laboratory-made.

Chemical names are used for most additives on ingredient labels because these names are the most explicit. For example, hundreds of sweeteners differ from table sugar in both taste and function. The familiar word “sugar” cannot be used in place of the chemical name “mannitol” on a label because mannitol is not sugar—it is a sugar alcohol (polyol) that is about 70 percent as sweet as sucrose derived from sugarcane. However, food manufacturers may opt to provide a parenthetical “translation” for such ingredients, such as “mannitol (a sweetener).”

Manufacturers are required by law to indicate if an additive is derived from milk in products labeled non-dairy or if it is a *sulfiting agent*, such as the preservative sodium sulfite. This is so that people with sensitivities to milk or sulfites may avoid these products if necessary. For example, caseinate is a milk derivative and must be labeled as such in parentheses in “nondairy” foods to alert consumers to potential allergens.

Some chemical names of additives, such as sodium chloride (salt) and sodium bicarbonate (baking soda), have become familiar to many consumers. But many chemical names remain unfamiliar to consumers. Following is a list of common candy additives and what they are used for.

**Albumin:** any of several proteins that are coagulated by heat and found in egg white, milk, and soy products. The proteins are used to bind ingredients in candies such as mint patties.

**Butylated hydroxyanisole (BHA):** an antioxidant that prevents fats and oils from becoming rancid (oxidizing) in candies such as peanut-butter cups.

**Citric acid:** the predominant acid in citrus fruits (oranges, lemons, limes), it gives candies such as lemon-drops their tart flavor.

**Dextrose:** a corn sweetener made from dehydrated cornstarch. Also known as corn sugar, it is the dry form of glucose.

**Gelatin:** a protein that functions as a gelling agent in gummy candies. It is obtained from collagen derived from beef bones and calf or pork skin.

**Glycerol monostearate:** an emulsifier used in candies such as licorice.

**Gum arabic or gum acacia:** a gum used to stabilize emulsions in candy coatings. It is derived from the *Anogeissus latifolia* tree, where it acts as a protective sealant when the bark is damaged.

**Gum base:** one of the primary ingredients (15–30 per-

cent) in chewing-gum that provides its characteristic texture and insolubility. Gum base is made by blending and heating several vegetable or synthetic substances, such as chicle (latex of the sapodilla tree), petroleum wax, lanolin, or rubber, with a softener such as paraffin and antioxidants.

**Hydrogenated vegetable oils:** unsaturated oil that has been turned from a liquid to a semisolid (partially hydrogenated) or solid by the addition of hydrogen. Hydrogenated oil has a more desirable texture and consistency than liquid oil, and a higher melting point.

**Invertase:** an enzyme that causes sucrose (table sugar) to break down into glucose and fructose. It prevents crystallization of sugar, which would cause grittiness in candy.

**Lecithin:** an emulsifier obtained primarily from soybeans. It is used in chocolates to create a smoother texture and reduce the cocoa-butter content.

**Magnesium stearate:** the magnesium salt of stearic acid, a fat that may function as a lubricant, binder, emulsifier, or anti-caking agent. It is used in sugarless gum and mints and as a release agent in creating pressed candies.

**Malic acid:** the predominant acid in apples, it adds tartness to candies for flavoring.

**Maltodextrin:** generally derived from cornstarch, it is used as a bodying or bulking agent, texturizer, carrier, and sugar-crystallization inhibitor.

**Modified food starch:** derived from cornstarch, tapioca, or potato, this ingredient is used as a thickener, binder, and stabilizer in candy.

**Pectin:** a gum obtained from citrus peel and apple pomace. It is used to make gelled candies, such as gumdrops.

**Potassium sorbate:** a preservative that is the potassium salt of sorbic acid, also a preservative.

**Sodium aluminum phosphate:** a leavening agent that slowly releases carbon dioxide during candy processing, adding volume and texture to hard candies or baked fillings, such as cookies and peanut-butter cups.

**Sorbitol:** a sugar that is 60 percent as sweet as sugar and 50 percent as caloric. It is a polyol (sugar alcohol) that maintains moistness in candy and provides taste and body in sugarless candy and chewing gum. Glycerin and mannitol are also polyols used in sugarless products.