

FOOD ADDITIVES: WHAT THEY DO

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The following table is a list of common food additives and the reason they are added to our food.

Additive	Why it's added
Acacia (gum Arabic)	A natural gum thickener used to retard sugar crystallization in candies and confections. Also as a foam stabilizer in the soft drink and brewing industries.
Acetic acid (vinegar)	Adds a sharp taste to foods. Also a preservative in pickles and marinated fruits and vegetables.
Adipic acid (hexanedioic acid)	Adds tartness to baked goods, dairy products, meat products, oils, margarines, relishes, snack foods, soft drinks, and gelatin desserts. Also prevents spoilage.
Agar	A seaweed derivative used as a thickener.
Albumin	An emulsifier derived from egg whites.
Alcohol (ethanol)	Solvent, commonly used with flavoring extracts.
Alginates	Seaweed derivatives used as stabilizers and water retainers in beverages, ice creams, salad dressings, and confections.
Artificial colors	Color. Current accepted colors for food use are Blue No. 1, Blue No. 2, Yellow No. 5, Yellow No. 6, Red No. 3, and Red No. 40.
Artificial flavors	Usually an organic ester added to enhance food flavor.
Ascorbic acid (Vitamin C)	Preservative and antioxidant in fruits, jellies, preserves, processed meat products, and dairy products. Necessary for normal teeth, bones and blood vessels. Ascorbic acid adds no flavor in the quantity used in most foods.
Aspartame (NutraSweet)	Artificial sweetener. Aspartame is 160 times as sweet as normal table sugar (sucrose).
Beeswax	Candy glaze and polish
Benzoic acid	Preservative
Beta carotene (Vitamin A)	Important for eyesight, prevents night blindness. Used for yellow coloring.
BHA (butylated hydroxyanisole)	Preservative and antioxidant.
BHT (butylated hydroxytoluene)	Preservative and antioxidant.
Caffeine	Flavor in coffee, cola-flavored soft drinks, and root beer beverages.
Calcium carbonate	Used as a white food color. Controls acidity.

Additive	Why it's added
Calcium citrate	Buffer to control acidity in foods.
Calcium disodium EDTA	Preservative and sequestrant. Prevents crystal formation, color loss, and for flavor retention in canned and carbonated soft drinks.
Calcium phosphate	Mineral supplement. Prevents "off" flavors due to metals. Adjusts pH.
Calcium propionate	Preservative, prevents mold.
Calcium silicate	Anti-caking agent.
Calcium sulfate	Dough conditioner. Controls pH
Caramel color	Color in beer and soft drinks.
Carbon black	Black coloring in confections.
Carnauba wax	Candy glaze and polish.
Carrageenan	Stabilizer and emulsifier.
Casein	Principal protein from cow's milk. Texturizer for ice cream products.
Cellulose gum	Thickener
Citric acid	Preservative. Adjusts acid in fruit juices and products. Used to produce sour flavor in candies
Cornstarch	Thickener. Also used as a powdering agent to prevent sticking.
Corn syrup (dextrose)	Sweetener.
Cyclamates (sodium and potassium cyclamate)	Artificial sweetener.
Dextrin	A gum produced from starch used as a foam stabilizer for beer and to prevent sugar from crystallizing in candy.
Dextrose	Sweetener. Also known as D-glucose. Sweetness rating of 74 compared to sucrose at 100.
Disodium phosphate	Controls acidity. Also a sequestrant in evaporated milk and noodle products.
EDTA (ethylenediammine tetraacetic acid, disodium salt)	Preservative and sequestering agent.
FD&C colors	Food colors regulated by the Food, Drug and Cosmetic Act. See <i>artificial colors</i> .
FD&C lakes	Color pigments prepared by combining FD&C colors with aluminum or calcium which make the colors insoluble. Used in confections, candies, and foods which can be affected by water.

Additive	Why it's added
Ferric chloride (iron(III) chloride)	Nutrient. Source of iron. May impart a yellow color.
Ferric citrate (iron(III) citrate)	Nutrient. Source of iron.
Ferric phosphate (iron(III) phosphate)	Nutrient. Source of iron
Folic acid (vitamin B ₃)	Nutrient. Aids in red blood cell formation.
Fructose	Sweetener. Fruit sugar. Sweetness rating of 173 compared to sucrose at 100.
Fumaric acid	Dry acid for powdered desserts such as gelatin. Also an antioxidant.
Gelatin	Protein thickener and stabilizer obtained by boiling skin, tendons, ligaments, or bones with water.
Gellan gum	Stabilizer
Glucose	Sweetener. Sweetness rating of 74 compared to sucrose at 100.
Glycerin (glycerol)	Used as a humectant in jellies, confections, gelatin desserts, beverages, and chewing gum. Sweetness rating of 60 compared to sucrose at 100.
Glyceryl monostearate	An emulsifying and dispersing agent used in oleomargarine, shortenings and other food products.
Guar gum	Stabilizer for frozen fruit, ice cream, icings, glazes, and fruit drinks. Used as a thickener for hot and cold drinks, and salad dressings.
Gum tragacanth	Thickener and stabilizer in fruit jelly, sherbets, salad dressing, confections, and candy.
High fructose corn syrup	Sweetener. Corn syrup treated with enzymes to make it sweeter.
Hydrogenated oil	Oil that has been partially converted from naturally polyunsaturated to saturated. Makes liquid oils partially solidified.
Invert sugar	A mixture of 50% glucose and 50% fructose. Sweetness rating of 130 compared to sucrose at 100.
Iodine	Nutrient. Usually added as potassium iodide or cuprous iodide. Essential for thyroid hormones.
Iron	A mineral nutrient. May be used as powdered iron or an iron salt. See individual <i>ferric</i> compounds.
Kaolin	Clay used as an anticaking agent in food.
Lactic acid	Acidulant in many foods including cheese products, butter, fruit jelly, and breads. Also a preservative.
Lactose	Milk sugar. Sweetener and nutrient. Sweetness rating of 16 compared to sucrose at 100.

Additive	Why it's added
Lecithin	Emulsifier
Magnesium carbonate	Alkali for sour cream, butter, ice cream, cacao products, and canned peas.
Magnesium phosphate	Nutrient. Source of magnesium.
Magnesium sulfate	Nutrient. Source of magnesium.
Magnesium silicate	Anticaking agent
Malic acid	Strong sour taste. Used in candies, frozen dairy products, fruits, jellies and jams.
Maltodextrin	Sugar obtained by hydrolysis of starch. Stabilizer and flavor enhancer in candies and chocolate.
Maltose	Malt sugar. Nutrient, sweetener, and stabilizer. Sweetness rating of 32 compared to sucrose at 100.
Mannitol	Sweetener prepared from seaweed. Used as a dusting or antisticking agent in food products. This is the powder on chewing gum.
Mono- and diglycerides	Fats and oils used as emulsifiers.
Monosodium glutamate, MSG	Flavor enhancer
Monopotassium phosphate	Emulsifier and a pH buffer.
Niacin	Nutrient. A component of the vitamin B complex.
Niaciamide (Vitamin B)	Nutrient. A skin stimulant.
Oleic acid	As a synthetic butter and cheese flavoring and in various foods.
Olestra	Sucrose polyester. A fat substitute that has no calories and cannot be digested.
Partially hydrogenated oils	Oil that has been partially converted from naturally polyunsaturated to saturated. Makes liquid oils partially solidified for improved baking.
Pectin	Stabilizer, thickener, and bodying agent for artificially sweetened beverages, syrups, ice cream products, fruit sherbets, fruit jellies and jams.
Phosphoric acid	Acidulant and flavor for soft drinks, jellies, and frozen dairy products.
Polysorbate 60	Emulsifier. A condensate of sorbitol with stearic acid. Waxy solid.
Polysorbate 80	Emulsifier and humectant. A condensate of sorbitol with oleic acid. Thick oil.
Potassium acid tartrate	Acid and buffer. Acid constituent of some baking powders.

Additive	Why it's added
Potassium bromate	Improving agent in bread.
Potassium chloride	Salt substitute. For low sodium diets. Source of potassium.
Potassium citrate	Buffer to control pH.
Potassium nitrate	Preservative. Color retention in cured meats.
Potassium nitrite	Preservative. Color retention in cured meats.
Potassium sorbate	Preservative. A mold and yeast inhibitor.
Propionic acid	Used in butter and fruit flavorings. Also a preservative.
Propyl gallate	Antioxidant for fats and oils.
Riboflavin (Vitamin B ₂)	Nutrient for health skin and for building and maintaining body tissue.
Saccharin	Artificial sweetener. 500 times sweeter than sucrose.
Silicates	Anticaking agents.
Sodium benzoate	Preservative in margarine, soft drinks, and fruit products.
Sodium caseinate	Emulsifier and stabilizer in frozen desserts.
Sodium citrate	Buffer to control pH. Emulsifier.
Sodium nitrate	Preservative. Color retention in cured meats.
Sodium nitrite	Preservative. Color retention in cured meats.
Sodium phosphate	Prevents "off" flavors in foods due to presence of metal ions.
Sodium polyphosphate	Prevents "off" flavors in foods due to presence of metal ions.
Sodium propionate	Preservative to prevent mold and fungus.
Sodium sulfite	Preservative. Used to preserve color in dried fruit.
Sodium tripolyphosphate	A texturizer and sequestrant for use in food-starch modifiers.
Sodium stearoyl-2-lactate	Strengthen bread dough.
Sorbitol	Sweetener, a sugar substitute for diabetics. Thickener and humectant in candies, shredded coconut, and dietetic fruits and soft drinks.
Starch	Thickener
Sucrose	Table sugar. Cane sugar.
Sulfur dioxide	Preservative. Used to preserve color in dried fruit.

Additive	Why it's added
Thiamine (thiamine hydrochloride) (Vitamin B ₁)	Nutrient. Acts as a helper in important energy-yielding reactions in the body.
Tocopherols (Vitamin E)	Preservative. Antioxidant. Protects fat in the body from abnormal breakdown.
Xanthan gum	Emulsifier and stabilizer for water based foods such as dairy products and salad dressings.
Yeast and yeast extract	Flavor.
Zinc	Mineral nutrient.

References

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