Natalia García

Functional Nutrition & Wellness

Free Additives Health Report

6 Common Conditions and the Additives You Should Avoid

"**If you can't pronounce it, don't buy it.**"
Elson M. Haas, MD, author of Staying Healthy with Nutrition.

"**Don't eat anything your great grandmother wouldn't recognize as food.**"
Michael Pollan, author of In Defense of Food.

Medical Disclaimer:

This handout is intended as an informational guide and is not meant to treat, diagnose, or prescribe. For any medical condition, physical symptoms or disease state, always consult with a qualified physician or appropriate health care professional. The author does not accept any responsibility for your health or how you choose to use the information contain in this handout

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Unless you're a nutritionist, food technologist, or chemist, chances are you don't understand much about additive use in food. Store shelves are laden with thousands of words waiting to be deciphered, and hundreds of new ones are piled on every year.

Although food additives are often used in small amounts, these minute amounts add up over time. The average American consumes about 150 pounds of food additives a year, the bulk of it being sugar and sweeteners, followed by salt, vitamins, flavors, colorings, and preservatives, representing almost 10 percent of the food we eat each year.

As our lives has become more busy, we have turned to the convenience of packaged ready-prepared foods that allows us to eat on the go but make it difficult to know what we are actually eating. In return for handy prepackaged edibles, we now need to learn to read labels and with the average food traveling 1500 miles or more to your dinner table, you can only imagine the mosaic of food additives that have become a part of what you are eating.

Additives give foods an internal "makeover" by improving their flavor and appearance and replacing nutrients lost in processing. Technically, they are defined by the Federal Food, Drug, and Cosmetic Act set forth by the U.S. Food and Drug Administration (FDA) as any substance which becomes a part of the food matrix as a result of "producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food; and including any source of radiation intended for any such use."

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Unless you grow your own foods, what you eat is beyond your immediate control. We are becoming more knowledgeable about what we are putting into our bodies. But, it is not always clear which substances are damaging for our health in the long term. This handout intends to provide some clear information about food additives.

Let's make one thing clear: Human-designed packaged food items cannot exist without their additive friends—the two go hand in hand. Over the years, we have gone from a sprinkling of salt to preserve and a bit of sugar to sweeten to an entire constellation of chemicals that pollute every bite. As you'll find out, many of these can have questionable effects on your health, while others may even be helpful.

The best rule of thumb is to keep your foods simple--whole, unprocessed foods in their natural state are ideal and highly recommended. This section contains information that can help you avoid potentially troublesome additives, depending on your food sensitivities, allergies, or other health conditions.

They are rated for their impact on your health according to the following scale:
A+ = Safe to eat; may be nutritious
A = Safe to eat
B = Most likely safe, but cut back
C = Reasonably safe, but limit quantities
D = Safety questionable, try to avoid
F = Do not eat foods with this additive

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Potential Cancer-Causing Food Additives

- Acesulfame-potassium (Sunett®, Sweet One®)
- Artificial colorings
- Aspartame (NutraSweet®, Equal®)
- Butylated hydroxyanisole (BHA)
- Butylated hydroxytoluene (BHT)
- Caramel color
- Carrageenan*
- Diacetyl
- Potassium bromate
- Propyl gallate
- Saccharin (Sweet 'N Low®)
- Sodium benzoate**
- Tert-butylhydroquinone (THBQ)

Acesulfame-potassium (Sunett®, Sweet One®)

Artificial sweetener.White, crystalline sweetener discovered in 1967, used in foods in the United States since 1988. 130–200 times sweeter than sugar; often blended with other artificial sweeteners to give a more true sugar taste. Acceptable daily intake set at 15 milligrams per kilogram body weight. Limited animal studies from more than twodecades ago indicate it may cause cancer, although there is no definitive evidence to suggest that it is a carcinogen in humans.

Rating: F

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Artificial colorings (FD&C Blue No.1, FD&C Blue No.2, FD&C Green No.3, FD&C Red No.3, FD&C Red No.40, FD&C Yellow No.5, FD&C Yellow No.6, Orange B, Citrus Red No.2)
Food coloring.Added to food to change its color. Usually found in low-nutrition foods; however, may also be added to “natural” foods like salmon to provide a more consistent tone in case of natural color variability.
Researchers at the National College of Technology in Japan tested the toxicity of thirty-nine currently used food additives in eight mouse organs. They reported that dyes were most toxic, causing DNA damage in the stomach, colon, urinary bladder, and gut.
Rating: F

Aspartame (NutraSweet®, Tropicana Slim, Equal®, Canderel®, aspartyl-phenylalanine-1-methyl-ester)
Artificial sweetener.Found in thousands of consumer food products. Commonly found in soft drinks, in individual packets as a condiment, or even in chewable vitamins. Not suitable for baked products because it breaks down in heat.
Animal studies have indicated that aspartame may cause negative health effects such as cancer. People have reported that it causes headaches, hallucinations, seizures, insomnia, and dizziness.
Rating: F

Butylated hydroxyanisole (BHA)
Antioxidant. Functions to protect fats from rancidity. Widely used in fat-containing products like meats (sausage, lunch meats), butter, lard, cereals, and baked goods. May have estrogen-like effects.
Rating: F

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Butylated hydroxytoluene (BHT)
Antioxidant. Functions to protect fats from rancidity; unknown whether it causes cancer due to mixed findings from animal studies. Acute, high doses (0.5 to 1.0 grams per kilogram--much higher than levels found in foods) have led to kidney and liver damage in male rats. Has been linked to DNA damage in mouse gut. Has also been shown to prevent cancer in some experimental models.
Rating: F

Caramel color
Food coloring.Brown-colored substance made by heating sugar of any type (for example, corn syrup). Can be processed with ammonia and sulfur to intensify color. Used to intensify brown color in foods like beer, bread, buns, chocolate, cookies, coatings, desserts, gravy, pancakes, sauces, soft drinks (especially colas), and alcoholic beverages. There exists debate about its carcinogenicity. Avoid if sensitive to corn.
Rating: D

Carrageenan (ammonium carrageenan, calcium carrageenan, potassium carrageenan, sodium carrageenan)
Stabilizer, thickener.Long, non-digestible carbohydrates extracted from red seaweed. Small amounts of this ingredient are used to stabilize and thicken processed foods like milk, ice cream, custards, dressings, and jellies.
Rating: B

Diacetyl
Flavoring agent.A clear yellow-green liquid with a buttery odor that naturally occurs in products like alcoholic beverages, coffee, cheese, cocoa, and berries, but can also be made through fermentation of glucose. Used in a number of products to carry flavors--particularly microwave popcorn, margarines, and oils--to impart the aroma of butter.
Rating: F

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Potassium bromate
Dough conditioner. White crystals or powder used to improve the function of flour in products like bread, rolls, and buns. Also used for making fermented malt beverages or distilled spirits. Potassium bromate has been shown to cause cancer in animals and be toxic in human cells. Banned in Europe,Canada, China, Sri Lanka, Nigeria, Brazil, and Peru. Not banned in the U.S.
Rating: F

Propyl gallate (propyl 3,4,5-trihydroxybenzoate)
Antioxidant, preservative. White to cream-colored, slightly bitter crystalline solid additive chemically synthesized from gallic acid and propyl alcohol. Used in oils, meat products, chicken soup base, butter, margarine, breakfast cereals, desserts, and chewing gum. Prevents rancidity of fats. At high amounts (2.3 percent of the diet), short-term studies with rats led to death in 40 percent of the animals during the first month. Surviving animals showed retarded growth and renal damage at death. May be cancer-causing. Acceptable daily intake set at 0 to 0.2 milligrams per kilogram body weight. **Rating: F**

Saccharin (Sweet 'N Low®)
Artificial sweetener.Saccharin, or 1,2-benzisothiazolin-3-one-1,1-dioxide, is 300 times sweeter than table sugar. It is the "oldest" artificial sweetener, having been used in foods for more than 100 years. Processed foods may only have 30 milligrams of saccharin per serving. Causes bladder cancer in rats. There has been some debate about its cancer-causing potential in humans.
Rating: F

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Sodium benzoate**
Preservative.Sodium benzoate is a chemically synthesized preservative used in soft drinks, fruit juices and preserves, jams, and margarine.In animal studies, high amounts caused damage to the nervous system and brain. Sensitive individuals may develop hives or other allergic reactions. May encourage hyperactivity or decreased intellect in susceptible children.
Rating: D

Tert-butylhydroquinone (THBQ)
Antioxidant, preservative. Antioxidant used to prevent rancidity in oils and fats. Found in a variety of products, including butter, bread, confections, ice cream, margarines, pasta, and sauces. . Shown to be cancer-causing in animals.
Rating: F

**When degraded in presence of high heat and fed in high amounts.*

***In combination with ascorbic acid, may react under specific conditions to form benzene, a carcinogen.*

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Additives that May Provoke Allergic Reactions

These additives may provoke allergic reactions like asthma, breathing difficulties, fatigue, headaches, increased heart rate, migraines, and skin reactions.

- Agar
- Alginate (alginic acid, algin, sodium alginate, Pacific kelp)
- Annatto extract
- Artificial colorings
- Aspartame (NutraSweet®, Equal®)
- Bromate (calcium bromate, potassium bromate)
- Caffeine
- Calcium propionate
- Carmine
- Cochineal extract
- Gums (acacia, Arabic, furcellaran, guar, locust bean, tragacanth, xanthan)
- Hydrolyzed vegetable protein (HVP, TVP, hydrolyzed soy protein, hydrolyzed wheat protein, hydrolyzed whey protein, hydrolyzed casein, texturized vegetable protein)
- Inulin
- Isoamyl acetate
- Monosodium glutamate (MSG)
- Neotame
- Quinine
- Sodium benzoate (benzoic acid)
- Sodium hexametaphosphate
- Sucralose (Splenda®)
- Sulfites (potassium bisulfate, potassium metabisulfite, sodium metabisulfite, sodium sulfite, sulfur dioxide, sodium bisulfite)

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Agar
Bulking agent, emulsifier, fiber, stabilizer, thickener.Mucilagenous substance from various seaweed sources used to thicken and stabilize desserts, soups, baked goods, frostings, and canned jellied meats. Used extensively in Asian foods and medicinally as a treatment for constipation. May have a laxative effect. Since it swells with water, may promote a feeling of fullness when eaten. May cause allergic reactions in sensitive individuals. Avoid if allergic.
Rating: A+

Alginate (alginic acid, algin, sodium alginate, Pacific kelp)
Bulking agent, emulsifier, fiber, stabilizer, thickener. Brown seaweed-derived ingredient that can stabilize foam and act as a thickener in products like jellies, salad dressings, beverages, custards, ice cream, soups, and cheese. Sodium alginate is the sodium salt form. Theoretically, it may have cholesterol-lowering effects due to its ability to trap dietary cholesterol in its gel-like structure. Limited studies suggest it may create fullness or satiety, although this concept needs further testing. May cause allergic reactions in sensitive individuals. Avoid if allergic.
Rating: A+

Annatto extract
Food coloring, flavoring agent.Red food coloring derived from the tropical achiote tree. Imparts sweet peppery flavor. Used in dairy products (butter, cheeses, margarine), rice, smoked fish, dessert powders. Has potential to cause allergic reactions in sensitive individuals. Avoid if allergic.
Rating: A

Caffeine
Flavoring agent. Naturally occurring substance in many plants and found in drinks like coffee, cocoa, and tea. Added to cola-like beverages and “energy” drinks. Stimulant effects, mildly addictive. Avoid if sensitive or pregnant.
Rating: C

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Calcium propionate
Preservative. White or colorless crystalline solid that prevents bacteria and mold growth on products like bread, rolls, dairy products, processed sweet baked goods; also used to prevent fungal growth on growing produce. There is debate about whether this additive is safe. Sodium-sensitive individuals to limit or reduce intake of sodium propionate.
Rating: C

Carmine/Cochineal extract
Artificial coloring.Red food coloring made from the eggs of the cochineal beetle. Used to give foods like confections, meat, and spices a red, pink, or purple coloring. It is not always clearly labeled on food products, and is often listed as a "natural" additive. Avoid if allergic.
Rating: F

Gums (acacia, Arabic, furcellaran, guar, locust bean, tragacanth, xanthan)
Stabilizers, thickeners. Collectively, these are fibers from plant (seed, bean trees, seaweed) or bacterial sources. Gums thicken candies, dressings, jellies, frostings, and cheeses, and stabilize beverages. May help delay the normal rise in blood sugar with eating, and may even contribute to satiety. Some individuals who may be allergic to the source of the gum should avoid it. **Rating: A+**

Hydrolyzed vegetable protein (HVP, hydrolyzed protein, hydrolyzed soy protein, hydrolyzed wheat protein, hydrolyzed whey protein, hydrolyzed casein, TVP, texturized vegetable protein)
Flavor enhancer. Plant protein (often soy-based, but can be wheat-or corn-based—the source should be specified on the label) that has been broken down into amino acids. Incorporated into instant soups, meats, sauces, and beef stew because of its savory ("umami") meat flavor. Contains 10–30 percent MSG. Classified on some food labels as a "natural flavoring.
Rating: F

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Inulin
Bulking agent, (natural) fat substitute, fiber, nutrient, sweetener. Naturally occurring, slightly sweet fiber found in chicory root, garlic, leek, and Jerusalem artichokes. May be found in a variety of foods, from processed baked goods to more healthy fiber supplements. Considered to be healthy since it acts as a “prebiotic,” or food for healthy gut bacteria, and also helps enhance calcium absorption. Has minimal effect on blood sugar; thought to be safe for diabetics. May cause allergic reaction in sensitive individuals, who should avoid it.
Rating: A+

Isoamyl acetate
Flavoring agent (artificial).Fruity flavoring that occursnaturally in bananas and pears,but is usually synthesized and used in beverages, ice cream, candy, baked goods, and flavored fruit sodas. Exposure to high amounts has resulted in headache, fatigue, increased pulse, and irritation of nose and throat.
Rating: F

Monosodium glutamate (MSG)
Flavor enhancer. Sodium complexed to the amino acid, glutamic acid. Used to enhance savory (“umami”) flavor in meats, sauces, spices, instant meals, and bouillon cubes. Some people are sensitive to MSG and may experience nerve-toxic effects like headaches, mood changes, numbness, nausea, weakness, and a burning sensation in the upper body. atural flavorings, gelatin, hydrolyzed yeast, yeast extract, soy extracts, and hydrolyzed vegetable protein all contain glutamate.
Rating: F

Neotame
Artificial sweetener.Similar in structure to aspartame. Contains aspartic acidand phenylalanine, like aspartame, but differs in that it contains a methyl ester. Several thousand times (7,000–13,000) sweeter than table sugar and

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about 40 times sweeter than aspartame. In the past, not frequently used, but with concern about high-fructose corn syrup (HFCS, see High fructose corn syrup), it is becoming a more popular choice. Found in soft drinks, bars, powdered drink mixes, juices, chewing gum, bread, frozen desserts, baked goods, and candies.
Rating: F

Quinine
Flavoring agent. Extract of the bark of South American cinchona tree used to flavor carbonated beverages (tonic water, bitter lemon) and alcoholic drinks (vermouth). Avoid if pregnant or sensitive to quinine.
Rating: D

Sodium benzoate (benzoic acid)
Preservative. Sodium benzoate is a chemically synthesized preservative used in soft drinks, fruit juices and preserves, jams, and margarine. In animal studies, high amounts caused damage to the nervous system and brain. Sensitive individuals may develop hives or other allergic reactions. May encourage hyperactivity or decreased intellect in susceptible children.
Rating: D

Sodium hexametaphosphate
Emulsifier, sequestrant, texturizer. Sodium salt with high phosphate content. Note that high phosphate intake may lead to imbalance between other minerals in the body, such as calcium and magnesium. Added to breakfast cereals, cake, fish, ice cream, beverages, puddings, and jellies. Used in water treatment—may be found in bottled water. May cause allergic reaction.
Rating: C

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Sucralose (Splenda®)
Artificial sweetener.Sucralose has many names:1,6-dichloro-1,6-dideoxy-β-D-fructofuranosyl-4-chloro-4-deoxy-α-D-galactopyranoside, 1',4,6'-trichlorogalactosucrose, trichlorosucrose, and Splenda®. Sucralose is chlorinated sucrose (3 chlorine atoms attached to table sugar) and is referred to as a "chlorinated sugar." Used in several food items. More than 100 studies have been done on sucralose in the twenty years since its discovery that indicate it is non-toxic and doesn't cause tooth cavities. However, since it is a relatively new synthetic sweetener, no long-term studies have been done in humans.. Sucralose appears to have adverse effects on the gut tissue.
Rating: F

Sulfites (potassium bisulfate, potassium metabisulfite, sodium metabisulfite, sodium sulfite, sulfur dioxide, sodium bisulfite)
Antioxidant, antimicrobial dough conditioner, preservative. Sulfur-containing compounds that can occur naturally in foods (for example, wine) or be added to foods (dried fruits and vegetables, dried potatoes, vinegar) as preservatives to help retain fluidity and color. Sulfites used to be added to raw vegetables, but were subsequently banned by the FDA in 1986 due to severe reactions. ighly allergenic ingredient, particularly for those with asthma; can lead to migraines, hives, itching, and breathing difficulties. In particular, sulfur dioxide may be especially problematic. Avoid these if you are allergic.
Rating: F

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Additives that May Cause Gastrointestinal Effects
These additives may cause gas, bloating, cramping, or changes in bowel movements.

- Agar (agar-agar)
- Alginate (alginic acid, algin, sodium alginate, Pacific kelp)
- Carboxymethylcellulose (sodium carboxymethylcellulose)
- Gluten
- Gums (acacia, Arabic, furcellaran, guar, locust bean, tragacanth, xanthan)
- Hydrogenated starch hydrolysate (hydrogenated glucose syrup, maltitol syrup, sorbitol syrup)
- Inulin
- Sugar alcohols (erythritol, lactitol, maltitol, mannitol, sorbitol (glucitol), xylitol)
- Olestra (Olean®)
- Polydextrose (Litesse®, Sta-Lite®, Trimcal)
- Salatrim (Benefat®)
- Vitamin C (high amounts have a laxative effect)

Carboxymethylcellulose (sodium carboxymethylcellulose)
Bulking agent, emulsifier, fiber, stabilizer, thickener. Odorless, white to yellow, water-soluble plant fiber (cellulose) derivative reacted with an acid. Added to a variety of foods like ice cream, dressings, cheeses, icings, toppings, and gelatinous desserts. Alsoused as a binder (excipient) in dietary supplements. Considered a fiber source, used as a laxative in over-the-counter preparations.
Rating: A

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Gluten
Dough conditioner, nutrient, stabilizer, texturizer, thickener. Principle protein fraction from wheat (can also be found in other grains, but wheat is most commonly used). Added to foods like breads, ice cream, and condiments for a variety of functions, but mainly to give structure and texture. Individuals with celiac disease need to follow a gluten-free diet. A gluten-free diet may also be helpful for those who are gluten intolerant but do not necessarily have celiac disease. Due to the high number of individuals with gluten intolerance, it may be best to avoid this additive.
Rating: F

Hydrogenated starch hydrolysate (hydrogenated glucose syrup, maltitol syrup, sorbitol syrup)
Humectant, sweetener. Sweeteners derived from corn, wheat, or potato starch by breaking down these substances into smallerfragments, followed by the process of hydrogenation (applying hydrogen gas under high pressure) to create a mixture of various sugar alcohols (see Sugar alcohols). Found in diabetic foods. As with other sugar alcohols, high amounts (10 grams or more daily) can have a laxative effect.
Rating: C

Sugar alcohols (erythritol, lactitol, maltitol, mannitol, sorbitol (glucitol), xylitol)
Bulking agents, humectants, sweeteners. White, odorless, sweet powders that occur naturally in fruits, vegetables, grains, and fermented foods. They are not as sweet as sucrose, yet they are desirable because they are lower in calories. Foods labeled as “sugar free” commonly contain sugar alcohols. Unlike sugar, sugar alcohols do not cause tooth decay. In fact, studies show that xylitol may be helpful in preventing cavities. Some concern has been raised about ingestion of sugar alcohols and their effects on worsening irritable bowel syndrome (IBS).
Rating: C

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Olestra (Olean®)
Fat substitute. Produced by Procter & Gamble; formed by the mixture of fatty acids and sucrose (called a "sucrose polyester"). It has fat-like properties, thus is used as a fat substitute. May be used in savory/salty ready-to-eat snacks (potato chips, tortilla chips, cheese puffs, crackers), tortillas, and ready-to-heat un-popped popcorn kernels. Does not get absorbed, so it has no calories. Long-term studies in humans are ongoing. It has been suggested that consumption may worsen symptoms of irritable bowel syndrome (IBS).
Rating: F

Polydextrose (Litesse®, Sta-Lite®, Trimcal)
Bulking agent, humectant, sweetener. Ingredient formed by combining dextrose (from corn) with a sugar alcohol (sorbitol). Classified as a soluble fiber, it can replace calories, fat, and sugar in foods like baked goods, baking mixes, frostings, salad dressings, frozen desserts, sauces, and toppings. Tastes slightly sweet and is not fully absorbed. Laxation may be experienced when taking high amounts, similar to the effects of a sugar alcohol.
Rating: B

Salatrim (Benefat®)
Fat substitute. "Salatrim" stands for "short and long chain acyl triglyceride molecules." Modified fat developed from canola, cottonseed, soybean or sunflower oils by Nabisco made of short fatty acids and a long fatty acid (stearic acid). Does not get completely absorbed in the intestine like other fats. Can be found in select reduced-fat cookies andchocolate chips.
Rating: F

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Vitamin C (high amounts have a laxative effect)(Ascorbic acid, Ascorbate, Ascorbyl Palmitate, Calcium Ascorbate, L-Ascorbic Acid, Sodium Ascorbate)
Acid, antioxidant, nutrient. Water-soluble vitamin naturally occurring in citrus fruits, and can also be chemically synthesized. Biologically necessary
for humans for healthy teeth, bones, and blood vessels. Used as an antioxidant to preserve color of fresh and cured meats, vegetables, fruits, juices, etc. Can inhibit the formation of cancer compounds. Sodium ascorbate is a common form in drinks due to its ability to dissolve easily. Recommended daily allowance (RDA) for men nineteen years and older is 95 milligrams, and 75 milligrams for women the same age. Considered to be a safe compound at levels below 2000 mg daily.
Rating: A+

Additives Lactose-Intolerant Individuals Should Avoid

- All milk-containing products
- Calcium (or Sodium) stearoyl lactylate
- Lactitol
- Lactose

Calcium (or Sodium) stearoyl lactylate
Dough conditioner, emulsifier, whipping agent. Slightly sweet white powder made from the combination of lactic acid and the fatty acid, stearic acid, followed by treating it with either calcium hydroxide or sodium hydroxide to make the calcium or sodium salt, respectively. All forms of this additive toughen bread dough so that it can be processed with machinery. They create increased bread volume by making the gluten structure stronger and can assist as a whipping agent in egg and dairy products.
Rating: A

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Dextrins (wheat-derived: maltodextrin)
Stabilizer, sweetener, thickener. A water-soluble white or yellow powder consisting of short fragments of carbohydrates made from the breakdown of starch by acid and heat. These forms of dextrins act as fiber, slowing the release of sugar into the bloodstream. Used extensively in numerous products (baked goods, beverages, gravies, pie fillings, puddings, soups) due to its safety and low cost. Avoid if allergic.
Rating: A

Maltose (barley-derived: dried maltose syrup, maltose syrup, dried malt syrup)
Stabilizer, sweetener. Sugar derived from malt (barley is often the source). Made of two glucose units and only about one-third as sweet as table sugar. Can be fermented and thus is widely used in beers, cakes, and bread. Avoid if you are gluten intolerant.
Rating: A

Modified food starch (wheat-derived)
Emulsifier, fat substitute, stabilizer, thickener.Starch from corn, wheat, potato, rice, or tapioca that has been treated with chemicals so that its properties are optimized for a specific food application--for example, allowing it to perform under high heat. They are also used as thickeners in products like cheeses, sauces, pie fillings, gravies, and baked products. Concern has been raised regarding the chemicals used to modify the starch. Those who are sensitive to the starch sources named above should be aware that they may be sensitive to processed foods containing this ingredient. **Rating: B**

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Mono-and Di-glycerides (wheat carrier)
Dough conditioners, emulsifiers, flavoring agent, stabilizers. Type of fat that has either one (mono-) or two (di-) fatty acids attached to a glycerol molecule. These fats are derived from animal and plant sources. Works as an emulsifier in several foods (for example, peanut butter, margarine, and shortening). They give foods like margarine, breads, bagels, and baked goods a better consistency. Gluten-intolerant individuals should probably avoid.
Rating: B

Additives Sodium-Sensitive Individuals Should Limit

- All additives with “sodium” in the name
- Alladditives with “salt” in the name
- Aluminosilicic acid (aluminum sodium salt, aluminum sodium silicate, disodium citrate)
- Baking soda (bicarbonate of soda, sodium hydrogen carbonate, sodium bicarbonate)
- Calcium disodium EDTA
- Disodium EDTA
- Disodium guanylate
- Disodium inosinate
- Disodium tartrate (monosodium citrate)
- Monosodium glutamate (MSG)
- Monosodium tartrate
- Potassium sodium tartrate
- Sodium acid pyrophosphate
- Sodium alginate
- Sodium aluminosilicate (sodium aluminosilicate)

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- Sodium aluminum phosphate
- Sodium benzoate
- Sodium bisulfite
- Sodium carbonate (washing soda, soda ash)
- Sodium carboxymethylcellulose
- Sodium caseinate
- Sodium caseinate
- Sodium chloride (salt)
- Sodium citrate
- Sodium erythorbate
- Sodium gluconate
- Sodium hexametaphosphate
- Sodium metabisulfite
- Sodium nitrite (sodium nitrate)
- Sodium polymetaphosphate
- Sodium potassium tartrate
- Sodium propionate
- Sodium silicoaluminate
- Sodium sorbate
- Sodium stearoyl lactylate
- Sodium sulfite (trisodium citrate)

Aluminosilicic acid (aluminum sodium salt, aluminum sodiumsilicate, disodium citrate)
Anti-caking agent. Fine, white crystalline solid that promotes the free flow of table salt and dried egg-yolk products at a level not to exceed 2 percent. This additive contains both sodium and aluminum. The association of aluminum with Alzheimer's disease remains inconclusive. Sodium-sensitive individuals should limit intake.
Rating: F

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Baking soda (bicarbonate of soda, sodium hydrogen carbonate, sodium bicarbonate)
Anti-caking, buffer, leavening agent, stabilizer. Fine, white, alkaline powder that combines with acidic ingredients or additives (lemon juice, cream of tartar, phosphates) to produce carbon dioxide gas, causing a food product to rise. Added to “self-rising” products like self-rising flour or self-rising corn meal, and incorporated into sweet baked goods (pastries, pies, cakes), breads, beverages, vegetable-based products, and cocoa products. Contains sodium. Limit if you are sodium sensitive.
Rating: A

Calcium disodium EDTA(Disodium EDTA)
Acid, chelating agent. Widely used food and cosmetic additive that binds metals such as manganese, iron, lead, and copper left in foods from processing. In lab animals, it has been found to be toxic to cells and genes, but not cancer causing. Acceptable daily intake (for calcium disodium EDTA) established for humans at 0–2.5 milligrams per kilogram body weight. Sodium-sensitive individuals should limit sodium forms of EDTA.
Rating: B

Disodium guanylate(Disodium inosinate)
Flavoring agents. Disodium salts of guanylic and inosinic acids. Used to provide a savory (“umami”) flavor to noodles, snack foods, rice, vegetables, cured meat, and soups, often together with monosodium glutamate. ndividuals with gout or uric acid kidneystones should limit their intake of these purine-containing additives. Sodium-sensitive individuals should also limit intake. May cause allergic reactions.
Rating: B

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Tartaric acid (monosodium tartrate, disodium tartrate, monopotassium tartrate, cream of tartar, dipotassium tartrate, sodium potassium tartrate, potassium sodium tartrate)
Acid, firming agent, flavoring agent, humectant.Naturally occurring acid, found in fruits like grapes. Commercially synthesized as a byproduct of wine making. Found in its acid and salt forms in baking powder, jams, jellies, cocoa powder, wine, citrus dessert mixes, meat, and cheese products. Potassium bitartrate is also known as cream of tartar. Sodium salts provide sodium; therefore, sodium-sensitive individuals should limit intake.
Rating: B

Phosphates (particularly sodium aluminum phosphate, sodium acid pyrophosphate, tetrasodium phosphate)
Acid, chelating agent, color stabilizer, dough conditioner, emulsifier, firming agent, nutrient. Phosphoric acid is used as an acid and flavoring in bakery products, cheeses, beverages, candy, and dairy products. In addition to providing calcium as a nutrient, calcium phosphate is used in bread products, canned vegetables, and jellies.
Rating: A

Alginate (particularly sodium alginate)
Bulking agent, emulsifier, fiber, stabilizer, thickener. Brown seaweed-derived ingredient that can stabilize foam and act as a thickener in products like jellies, salad dressings, beverages, custards, ice cream, soups, and cheese.
Rating: A+

Sodium silicoaluminate (sodium aluminosilicate, aluminum sodium salt, aluminosilicic acid, aluminum sodium silicate)
Anti-caking agent. Fine, white crystalline solid that promotes the free flow of table salt and dried egg-yolk products at a level not to exceed 2 percent.

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This additive contains both sodium and aluminum.
Rating: F

Sodium benzoate (benzoic acid)
Preservative. Sodium benzoate is a chemically synthesized preservative used in soft drinks, fruit juices and preserves, jams, and margarine. In animal studies, high amounts caused damage to the nervous system and brain
Rating: D

Sulfites (sodium metabisulfite, sodium sulfite, sodium bisulfate)
Antioxidant, antimicrobial dough conditioner, preservative. Sulfur-containing compounds that can occur naturally in foods (for example, wine) or be added to foods (dried fruits and vegetables, dried potatoes, vinegar) as preservatives to help retain fluidity and color. Highly allergenic ingredient, particularly for those with asthma; can lead to migraines, hives, itching, and breathing difficulties. In particular, sulfur dioxide may be especially problematic. Avoid these if you are allergic.
Rating: F

Sodium carbonate (washing soda, soda ash)
Anti-caking agent, buffer, leavening agent, stabilizer. Sodium salt of carbonic acid. This white alkaline powder is added to breads, baked goods, noodles, pastas, confections, ice cream, and numerous other products. Contains sodium, so sodium-sensitive individuals should limit intake.
Rating: A

Sodium Carboxymethylcellulose (cellulose gum, CMC)
Bulking agent, emulsifier, fiber, stabilizer, thickener. Odorless, white to yellow, water-soluble plant fiber (cellulose) derivative reacted with an acid. Considered a fiber source.
Rating: A

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Sodium caseinate
Emulsifier, food coloring, nutrient, texturizer, thickener. Main high-quality, complete (contains all essential amino acids) protein in cow's milk. Added to foods like cream, coffee creamers, processed meats, cheeses, and frozen desserts, serving in a number of functional roles.
Rating: A+

Salt (sodium chloride, iodized salt, iodized table salt, table salt)
Flavoring agent, preservative. Sodium chloride, or common table salt, is one of the oldest known food additives. Iodized table salt is salt with added iodide. Too much salt in the diet can lead to high blood pressure and increased risk for heart disease in susceptible individuals. Processed foods (frozen dinners, canned vegetables, and canned juices) contain relatively high amounts of sodium. Claims such as "low sodium" indicate that the food has 140 milligrams of sodium or less per serving. "Reduced sodium" implies that sodium has been reduced by 25 percent. The American Heart Association advised eating no more than 2400 milligrams of sodium(about one teaspoon) per day. The average American eats more than this amount (some sources cite typical consumption at 3300 milligrams per day). Sea salt is an alternative to iodized table salt.
Rating: C

Sodium citrate (monosodium citrate, disodium citrate, trisodium citrate)
Acid, antioxidant, emulsifier, flavoring agent. The sodium salt of citric acid in the form of colorless crystals or white powder. Found within a broad spectrum of foods: dairy-based drinks, condensed milk, cheeses, margarine, processed fruit, breakfast cereals, soybean products, processed meats, vinegar, sauces, soups, condiments, and alcoholic beverages. Sodium-sensitive individuals should limit intake.
Rating: C

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Sodium erythorbate
Antioxidant.White-yellowish, water-soluble, crystalline antioxidant derived from vegetables and produced from sucrose. Used as an antioxidant in meat, dairy products, processed fruit, dried and canned vegetables, cereals, egg products, artificial sweeteners, condiments, soups, beverages, and baked goods.
Rating: A

Sodium gluconate
Chelating agent.Sodium salt of gluconic acid (see Gluconic acid) [XREF] produced commercially by glucose fermentation. A fine, white crystalline powder added to dairy-based products (cheeses, margarine, frozen desserts), breakfast cereals, grain products (noodles, pastas), rice cakes, soy-based products.
Rating: A

Sodium hexametaphosphate (sodium polymetaphosphate, Graham's salt)
Emulsifier, sequestrant, texturizer. Sodium salt with high phosphate content. Note that high phosphate intake may lead to imbalance between other minerals in the body, such as calcium and magnesium. Added to breakfast cereals, cake, fish, ice cream, beverages, puddings, and jellies. Used in water treatment—may be found in bottled water.
Rating: C

Sodium nitrate, sodium nitrite
Flavoring agent, food coloring, preservative. Sodium nitrate is the sodium salt of nitric acid, often appearing in the form of clear, colorless crystals. Both compounds are commonly used to preserve color in fish and meats. . Sodium nitrate has been shown to be toxic in mammals. A single dose of one gram is toxic to humans; eight grams may be fatal and ingestion of thirteen

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to fifteen grams is generally fatal. Various sources recommend that children and pregnant women avoid these compounds, as nitrites can cross the placenta.
Rating: F

Sodium gluconate
Chelating agent.Sodium salt of gluconic acid (see Gluconic acid) [XREF] produced commercially by glucose fermentation. A fine, white crystalline powder added to dairy-based products (cheeses, margarine, frozen desserts), breakfast cereals, grain products (noodles, pastas), rice cakes, soy-based products.
Rating: A

Sodium hexametaphosphate (sodium polymetaphosphate, Graham's salt)
Emulsifier, sequestrant, texturizer. Sodium salt with high phosphate content. Note that high phosphate intake may lead to imbalance between other minerals in the body, such as calcium and magnesium. Added to breakfast cereals, cake, fish, ice cream, beverages, puddings, and jellies. Used in water treatment—may be found in bottled water.
Rating: C

Sodium nitrate, sodium nitrite
Flavoring agent, food coloring, preservative. Sodium nitrate is the sodium salt of nitric acid, often appearing in the form of clear, colorless crystals. Both compounds are commonly used to preserve color in fish and meats. . Sodium nitrate has been shown to be toxic in mammals. A single dose of one gram is toxic to humans; eight grams may be fatal and ingestion of thirteen grams is generally fatal. Various sources recommend that children and pregnant women avoid these compounds, as nitrites can cross the placenta. **Rating: F**

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Sodium propionate
Preservative.White or colorless crystalline solid that prevents bacteria and mold growth on products like bread, rolls, dairy products, processed sweet baked goods; also used to prevent fungal growth on growing produce. se of this additive in all forms is relatively widespread. There is debate about whether this additive is safe. odium-sensitive individuals to limit or reduce intake of sodium propionate.
Rating: C

Sodium sorbate
Preservative. Naturally occurring preservative, first identified in unripe berries of Sorbus aucuparia, a plant grown in the northern hemisphere. Long-term feeding of 5 percent sorbic acid to rats resulted in no negative effects. Prevents mold, yeast, and bacterial growth. Overall, sorbates are used in a wide array of food (and cosmetic) products.
Rating: A

Sodium stearoyl lactylate
Dough conditioner, emulsifier, whipping agent. All forms of this additive toughen bread dough so that it can be processed with machinery. They create increased bread volume by making the gluten structure stronger and can assist as a whipping agent in egg and dairy products.
Rating: A

Customer Resources
Center for Science in the Public Interest (CSPI) - https://www.cspinet.org/
Institute forAgriculture and Trade Policy - https://www.iatp.org/
International Programme on Chemical Safety - https://inchem.org/#/
Organic Consumers Association - https://www.organicconsumers.org/
Environmental Working Group - https://www.ewg.org/foodnews/