

# FOOD ADDITIVES

Most food additives are safe, even if they have long chemical names (such as sucrose acetate isobutyrate or sodium erythorbate). Try to avoid the most questionable additives and you'll also avoid many of the least healthy foods.

## THE TERRIBLE

### SALT

(and other sources of sodium)



The government has recommended that people cut their sodium consumption roughly in half, because excess sodium boosts blood pressure, contributing to kidney disease, heart attacks, and strokes. Many processed foods contain large amounts of sodium, while some restaurant foods contain huge amounts. If all Americans cut their sodium consumption in half, that would save about 100,000 lives per year.

### SUGAR & HIGH-FRUCTOSE CORN SYRUP



These sweeteners, especially in drinks, contribute to obesity, diabetes, and heart disease. They also promote tooth decay. The average person consumes almost a quarter pound (about half a cup) of sugar, HFCS, dextrose, and other refined sugars each day.

### PARTIALLY HYDROGENATED OIL



The artificial trans fat in this oil is the single most harmful kind of fat, contributing to heart disease. It had been widely used in shortening, margarine, restaurant fryers, and many packaged foods. Usage declined by 75 percent between 2005 and 2013, but Americans still consumed almost two billion pounds of the oil in 2013. In 2015, the Food and Drug Administration banned the use of partially hydrogenated oil, with an effective date of 2018. The food industry is seeking numerous exemptions.



## OTHERS TO WATCH



**FOOD DYES** (Blue 1, Blue 2, Green 3, Red 3, Red 40, Yellow 5, Yellow 6) – Dyes trigger symptoms of ADHD in sensitive children. In the 1980s the FDA determined that Red 3 is a carcinogen, but industry pressure prevented the agency from banning it. In the 1990s FDA studies found high levels of a carcinogen (benzidine) in Yellow 5 and 6. Dyes are often used together with artificial flavorings to simulate—and replace—real fruit, egg, or vegetable ingredients.



### ASPARTAME

Three studies by an independent lab found that this artificial sweetener caused cancer in rats and mice.



### CAFFEINE

A moderately addictive stimulant drug that is being added to more and more foods and beverages. Fine in small doses, but large doses might cause insomnia, anxiety, and reduced fertility. Children and women who are or might become pregnant should avoid caffeine. Powdered caffeine sold as a supplement, and possibly energy drinks, have caused deaths.



### ACESULFAME-POTASSIUM

A poorly tested artificial sweetener that might increase the risk of cancer.



### BHA

The federal government considers this chemical, which slows rancidity of oils, to be a carcinogen.



### SACCHARIN

Saccharin appeared to cause cancer in many animal and human studies, but the government has concluded that those studies were not conclusive.

## 2 LITTLE-KNOWN ALLERGENS

### MYCOPROTEIN

A processed fungus in Quorn-brand imitation meat that causes severe vomiting, diarrhea, and even fatal anaphylactic reactions.



### CARMINE/COCHINEAL EXTRACT

This red coloring (extracted from an insect) causes occasional allergic reactions, including anaphylaxis.



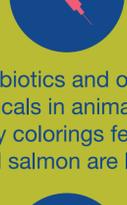
## TYPES OF FOOD INGREDIENTS

listed on the food label

>7,000 not required to be individually listed



Normal, unregulated ingredients—such as flour and eggs



Antibiotics and other chemicals in animal feed (only colorings fed to farmed salmon are labeled)



Contaminants from the environment and packaging



Pesticides (some are listed on shipping crates, which consumers don't see)



Food additives—ingredients specifically approved by FDA (they may be listed vaguely on labels as "artificial flavorings" or "color added")



GRAS ("generally recognized as safe")—ingredients either reviewed (but not formally approved) by FDA or declared safe by companies following FDA



## PURPOSES THAT ADDITIVES SERVE



>10,000 CHEMICALS IN FOOD

- 1,480 direct food additives approved by FDA
- 140 color additives approved by FDA
- 2,700 natural or artificial flavors determined to be GRAS
- 900 GRAS and listed, affirmed, or reviewed by FDA
- 1,000 GRAS as determined by manufacturer and not reviewed by FDA
- 500 pesticides
- 3,800 indirect additives/food contact substances

Data from Pew Food Additives Project.



## WAYS FOOD ADDITIVES ARE USED TO TRICK CONSUMERS



Colorings and flavorings are used to simulate real fruit juice, tricking people into paying more for a beverage based on chemicals.



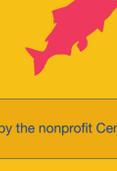
Vitamins and minerals added to junk food make them appear to be healthy.



Mixtures of colorings, flavorings, fat, and a thickening agent can be used to create imitation berries or other fruit.



Transglutaminase ("meat glue") is an enzyme that splices small pieces of meat into larger steaks.



Caffeine is mildly addictive and added to soft drinks partly to encourage people to drink more of them.



Hydrolyzed vegetable protein and MSG bring out meaty flavors and allow companies to use less real food.



Canthaxanthin and astaxanthin are carotenoid colorings used to make farmed wild salmon appear as pink as more-expensive wild salmon.