

The Surprising Truth about How Many Chemicals are in Everything We Eat

Natural & Artificial Flavors:

Taste and flavor is not the same thing, although the two are often confused. **Flavor** is how we perceive food and other substances based on a combination of senses, which include taste, touch, and smell (as much as 80% of what we perceive as taste actually comes from smell). In addition, the idea that there is a difference between "**Natural**" chemicals, like those found in fruits and vegetables, and the **Synthetic** version of those chemicals is just a bad way of looking at the world.

All foods (and everything else around us) are made up of chemicals, whether they occur in nature or are made in a lab. That means everything we smell or taste is a response to chemicals. The characteristic smell of cloves, for example, comes from one chemical called **Eugenol**. And **Cinnamon**, which is just the dried inner-bark of specific trees, gets its aroma and flavor from the compound **Cinnamaldehyde**.



So, both artificial and natural flavors contain chemicals. The distinction between natural and artificial flavorings is the source of chemicals.

Natural Flavors:

Natural flavors are created from anything that can be eaten (i.e. animals and vegetables), even if those edible things are processed in the lab to create flavorings.

Artificial Flavors:

Artificial flavors come from anything that is inedible (i.e. petroleum) that is processed to create chemicals of flavorings.



Official FDA Definition of Natural & Artificial Flavoring:

Natural Flavor:

"Natural flavor is the essential oil, oleoresin, essence or extractive, protein hydrolysate, distillate, or any product of roasting, heating or enzymolysis, which contains the flavoring constituents derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, seafood, poultry, eggs, dairy products, or

fermentation products thereof, whose significant function in food is flavoring rather than nutritional."

Artificial Flavor:

The FDA's definition of an artificial flavor is any substance that does not meet the definition of a natural flavor.



Chemical Flavoring:

Sometimes a **chemical flavoring** could be made from either natural or artificial sources — the resulting molecule is the same, but the route to making it can be different. So, why use artificial flavors at all? Well, the synthetic chemicals in artificial flavors generally cost less to produce than finding natural sources of chemicals. They are also potentially safer because they have been rigorously tested and used. Producing them can be more eco-friendly as well, since it doesn't require growing fields of food first.



Vanilla:

The compound **vanillin**, for example, is responsible for the flavor and smell of vanilla. In nature, vanillin comes from an orchid native to Mexico. The process of extracting this pure, natural chemical is extremely lengthy and expensive. So scientists found a way to make a synthetic version of vanillin in a lab.



In 2006, Japanese researcher **Mayu Yamamoto** figured out how to extract vanillin from cow poop. She was awarded the Ig Nobel Prize at Harvard University for this development.



Artificial Strawberry Flavor:

Most people don't realize that there can be as many chemicals in a food's natural flavor as its artificial counterpart. The number of chemical ingredients used to make the artificial strawberry flavor in a fast food strawberry shake, for example, is similar, chemically to the number of chemicals in a fresh strawberry.



Artificial Grape-Flavor:

Artificial grape-flavor is derived from a chemical in concord (purple) grapes — not the red or green grapes we're used to buying in supermarkets. This is why artificial grape-flavored things like candy, soft drinks and Dimetapp are purple and why store-bought grapes taste nothing like this fake stuff.



Cyanide & Benzaldehyde:

Some natural flavors can be more dangerous than the artificial ones. Traces of cyanide can be found in almond flavor, or Benzaldehyde, when derived from nature. That's why in movies, the smell of bitter of almonds on the victim is often linked to cyanide poisoning.



Raw Soybeans:

Raw soybeans, from which soy sauce is made, are also toxic. Industrial soy sauce (the stuff you find in convenient to-go packets) is made from acid-hydrolyzed vegetable protein, not boiled soybeans.



Monosodium Glutamate (MSG):

Many people worry about "chemicals" like MSG added to their foods. The link between headaches and MSG, called "Chinese restaurant syndrome," is just a myth. Researchers think that symptoms related to eating Chinese food are caused by high amounts of salt.



Important Difference Between Natural and Artificial Flavors:

One other important difference between natural and artificial flavors is regulation. Due to the manner in which they are made, "artificial flavors often undergo even stricter safety evaluations than natural flavors," according to John H. Cox, the executive director of Flavor and Extract Manufacturers Association.

"When a flavorist creates a flavor from scratch it can be guaranteed that every component of the flavor has been safety-tested and verifiably approved for consumption," Cox writes, citing co-director of the Food Science and Nutrition Department at the University of Minnesota, Gary

Reineccius. "Flavorists have more control over what goes into the composition of a flavor they develop rather than an extract from nature," Cox added.

Reference:

<https://www.businessinsider.com/facts-about-natural-and-artificial-flavors-2014-1>

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