Whether or not you have symptoms of salicylate and/or additive sensitivity, as you learn more about the additives currently in use, you may wish to avoid eating them. They are not necessary. Let us show you how to enjoy a tasty "normal American diet" without them. See our website at FEINGOLD.ORG or call 800-321-3287.

Artificial Colors

Artificial color certified "FD&C" is permitted by the Food & Drug Administration (FDA) to be added to foods, drugs and cosmetics. "D&C" means the certified color may be used only in drugs and cosmetics. These colorings, originally manufactured from coal tar, are today made from petroleum. The FDA certification rules list the permissible amounts of contaminants and residues such as lead, mercury, arsenic, and certain carcinogens such as benzidine. It is interesting to note that the D&C colors permitted only in cosmetics and in medications (and given to sick children) are allowed to have twice the amount of lead contaminant as colorings allowed in food.[1]

In commercially available FD&C Yellow #5 and #6, benzidine (which causes cancer) has been found in amounts up to 200 times the officially allowed level.[2] FD&C colorings continue to be listed as "Generally Recognized As Safe" (GRAS) despite studies showing neurological effects (Tanaka, 1992; 1993; 1996; 2001; Vorhees 1983), DNA damage (Rosenkranz 1990; Sweeney 1994; Tsuda 2001; Sasaki 2002) and elevated cholesterol (Aboel-Zahab 1997). In 2002, more than 16 *million* pounds of color additives were certified by FDA inspectors. The FDA receives a "user fee" from the manufacturer for each pound of food dye certified.

Artificial Flavors

Used as low-cost substitutes for natural flavorings, these chemicals are not usually listed individually. One that may be listed separately is vanillin *(imitation vanilla*), widely used in chocolate as well as in vanilla-flavored items. Some people who believe they are allergic to chocolate may actually be reacting to this artificial flavoring. One source of imitation vanilla flavoring is the waste product of paper mills; another is petroleum. Therefore, while vanillin is technically identical to one of the chemicals in pure vanilla flavoring, the manufacturing methods result in high levels of sulfites and other contaminants.

A single artificial flavoring can be a combination of hundreds of individual chemicals, many of which are derived from petroleum. For example, the formula for a synthetic raspberry flavoring is: Vanillin, Ethylvanillin, Alphaionone, Maltol, 1-(p-hydroxyphenyl)-3-Butanone, Dimethyl Sulphide, 2,5-Dimethyl-N-(2-pyrazinyl) Pyrrole. Where's the fruit?

Some artificial flavorings may not be problematic for most people, but since they are not identified, the Feingold Program eliminates all of them.

The FDA does not monitor these flavorings nor require that they be tested. Rather, the concept of "threshold of toxicological concern" has been proposed to set acceptable daily intake for chemicals of unknown toxicity, apparently on the theory that a little bit can't hurt. This would save the "time, cost, animal use and expertise" usually needed for "extensive toxicity testing and safety evaluations."[3] Even when testing is done, however, it may be ignored. Vanillin, for example, continues to be listed as GRAS despite its ability to inhibit the liver enzyme dopamine sulphotransferase by 50%.[4] Other flavorings affect RNA, thyroid, and enzymes (el-Saadany 1991). Most flavorings have never been studied for safety and neurotoxicity.

1. Title 21 – Food & Drugs, Part 74--**Listing Of Color Additives Subject To Certification** www.access.gpo.gov/nara/cfr/waisidx_99/21cfr74_99.html
2. Lancaster FE, Lawrence JF, *Food Additives and Contaminants,* 1999 Sep;16(9):381-90, **Determination of Benzidine in the food colours Tartrazine** *(Yellow #5)* **and Sunset Yellow FCF** *(Yellow #6)* **…**
3. Kroes R, Kozianowski G., *Toxicology Letters* 2002 Feb 28;127(1-3):43-6, **Threshold of Toxicological Concern in Food Safety Assessment.**
4. KJ Bamforth et al., *Biochem Pharmacol* 1993 Nov 17; 46(10); pp.1713-20), **Common Food Additives are Potent Inhibitors of Human Liver 17 Alpha-Ethinyloestradiol and Dopamine Sulphotransferases**

Preservatives

BHA	*Butylated Hydroxyanisole*
BHT	*Butylated Hydroxytoluene*
TBHQ	*Tertiary Butylhydroquinone*

Preservatives are used primarily to prevent fats from becoming rancid, allowing foods to have a longer "shelf-life." Most are not believed to be a health hazard, but the above three petroleum-based preservatives have been found to trigger behavior and health problems.

Studies on these chemicals are disturbing. As early as 1973, a study by Fisherman & Cohen reported that when pregnant mice were fed BHA and BHT, it affected the brain chemistry of their offspring, reducing the levels of cholinesterase and serotonin to half their normal levels. They reported, "The affected mice weighed less, slept less and fought more than normal controls."

Since BHA, BHT, and TBHQ are included in so many products containing other additives as well, it would be prudent to study them in combination with these other chemicals. One of the few combination studies looked at the combination of BHA and BHT. It seems that BHA can "facilitate the activation of BHT in the lung" and increase its toxicity (Thompson 1988, 1989). Yet it is common to find both of them in the same meal.

Although studies on the combination of preservatives and other ordinary additives seem to be missing, a study has been done on the combination of BHA and THC (from marijuana)[1] The combination reduced cellular ATP and promoted cell death much more than either one did separately, resulting in "deleterious health effects in the lung."

These preservatives continue to enjoy GRAS (Generally Recognized As Safe) status despite evidence that **they are toxic to various cells and organs** (Zoccarato 1987; Thompson 1988; Kahl 1983, 1993; Siman 1996; Gudz 1997; Stolze 1999; Safer 1999; Yu 2000; Groten 2000), **they are tumor promoters** (Kahl 1984; Parke 1992; Kahl 1993; Bauer 2001), **they weaken the immune system** (Tryphonas 1999), **they impact the nervous system and behavior** (Stokes 1974;Tanaka 1993), **they have a negative effect on sperm and/or egg production** (Takami 1999), **and reproduction and development** (Meyer 1980; Vorhees 1981; McFarlane 1997). Sasasaki et al (2002) say that many of the 39 common additives they studied produced DNA damage at low doses close to the "allowable daily intake."

The National Institutes of Health (NIH) Eighth Report on Carcinogens states: "There is sufficient evidence for the carcinogenicity of butylated hydroxyanisole (BHA) in experimental animals … administration of butylated hydroxyanisole in the diet induced papillomas *(noncancerous tumors)* and carcinomas *(cancer)* of the forestomach in mice."

In the year 2000, the NIH Ninth Report on Carcinogens again states – and the Tenth Report repeats – that BHA "is reasonably anticipated to be a human carcinogen based on sufficient evidence of carcinogenicity in experimental animals." When put in their diet, BHA caused papillomas and carcinomas in the forestomach of rats, mice, and hamsters. The NIH Tenth Report goes on to say, **"No data were available to evaluate the carcinogenicity of butylated hydroxyanisole in humans."**

Preservatives are not always listed on product labels. However, they can be avoided by using the Feingold Association's *Foodlist.*

Most additives have ***never*** been studied in combination with each other or in combination with environmental toxins, medications, or vaccines.

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1. Sarafian TA, Kouyoumjian S, Tashkin D, Roth MD., *Toxicol Lett* 2002 Jul 21;133(2-3):171-9, **Synergistic cytotoxicity of Delta(9)-tetrahydrocannabinol and butylated hydroxyanisole.**