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## FOOD ADDITIVES

Historically, foods were grown, collected, and eaten directly from a relatively unpolluted Earth. Wild foods were sought and gathered. Cleaner oceans, lakes and rivers fed us nutritious fish. As the human population grew exponentially, farming progressed, trade developed, and local markets shared a variety of goods among a diversity of people. Techniques for food preparation and preservation, such as pickling, salting, and smoking, were developed to deal with the new problems of storage, waste, and food-borne illnesses. With advanced technology, our modern food industry's reliance on processing and additives continues to increase. This seemingly abundance of foodstuffs found in our supermarkets of today is deceiving our bodies by selling foods products that are chemically altered and designed to appeal to us.

For decades now, the food industry has continually created new chemicals to manipulate, preserve, and transform our food. With the use of chemicals, scientists are able to mimic natural flavors, color foods to make them look more "natural" or "fresh," preserve foods for longer and longer periods of time. There are even foods products that are made entirely from chemicals. Coffee creamers, sugar substitutes, and candies consist almost completely of artificial ingredients. Such manipulation of our food can have a profound effect on our body's unique biochemical balance.

### What are the effects of food additives?

Avoiding or minimizing toxins in your diet is an important step toward enhancing your health and lowering your risk of disease. Foods, amongst other things (cosmetics & medications), represent a source of these toxins. Why take a risk with your health and the health of your children if you don't need to? You may not even know that you are being affected by food additives. Effects of food additives may be immediate or may be harmful in the long run if you have constant exposure. Immediate effects may include headaches, change in energy level, and alterations in mental concentration, behavior, or immune response. Long-term effects may increase your risk of cancer, cardiovascular disease and other degenerative conditions.

Begin by avoiding the most questionable additives. Make a decision to either cut down on or cut out altogether those food additives that may be hazardous to your health. Although it may seem difficult to change habits and find substitutes for foods you enjoy, remind yourself that you will be adding to your diet some new wholesome foods that you will come to enjoy even more. Look for foods that are not packaged and processed, but enjoy nature's own bounty of fresh fruits, vegetables, grains, beans, nuts and seeds. Find foods that resemble what they looked like when they were originally grown. Did you ever see a field of Oreo cookies?

### Food additives and safety

Some studies have linked some food additives to hyperactivity in children. A recent British study found that children without a history of any hyperactive disorder showed varying degrees of hyperactivity after consuming fruit drinks with various levels of additives. Among those that were studied were: Sodium benzoate (E211), Tartrazine (E102), quinoline yellow (E104), Sunset yellow (E110), Carmosine (E122), Allura red (E129). See tables below for more information.

## Colour additives to avoid

Colour :	Status worldwide:	Where found:	Possible negative effects:
<b>Erythrosine</b> FD&C Red No. 3	Banned for use in cosmetics and external drug, but not food and ingested drugs in the U.S.	Cherries in fruit cocktail and in canned fruits for salads, confections, baked goods, dairy products, snack foods.	Cancer
<b>Tartrazine (E102)</b> FD&C Yellow No. 5,	Banned in Norway and Austria.	Ice cream Carbonated drinks Fish sticks	Hyperactivity, asthma, skin rashes, and migraine headaches.
<b>Quinoline yellow (E104)*</b>	Banned in Australia, Japan, Norway and the U.S. Restricted to max. permitted levels in U.K.	Soft drinks Ice creams Desserts Candies Sauces Cosmetics & medications	Asthma, rashes and hyperactivity. Potential carcinogen in animals: implicated in bladder and liver cancer. Altered reproduction in animals
<b>Sunset yellow (E110)*</b> Yellow FCF Orange Yellow S	Banned in Norway, Sweden and Finland. Restricted to max. permitted levels in U.K.	Sweets Snack foods Ice-creams, Yoghurts Drinks	Growth retardation and severe weight loss in animal studies. AVOID in allergies & asthma. Cancer – DNA damage, increases tumors in animals.
<b>Carmosine (E122)*</b>	Banned in Canada, Japan, Norway, Austria, Sweden and the U.S. Restricted to max. permitted levels in U.K.	Yoghurts Sweets	DNA damage and tumours in animals.
<b>Allura red (E129)*</b> FD&C Red No. 3	Banned in Denmark, Belgium, France, Germany, Switzerland, Sweden, Austria and Norway	Carbonated drinks Bubble gum, snacks, Sauces, preserves, Soups, wine, cider, etc.	May worsen or induce asthma, rhinitis (including hayfever), or urticaria (hives).
<b>Ponceau 4R (E124)*</b> Conchineal	Banned in US, Canada, Norway, Sweden and Japan. Restricted to max. permitted levels in the UK	Carbonated drinks Ice-creams Confectionery items Desserts	Cancer - DNA damage and tumours in animals. Can produce bad reactions in asthmatics.
<b>Amaranth (E123)</b>	Banned in the U.S.	Wine Alcoholic drinks Fish roe	May worsen or induce asthma, allergies or hives.
<b>Indigo Carmine (E132)*</b>	Banned in the US, Japan, Australia and Norway. UK use restricted to max. permitted levels.	Ice-creams Sweets Baked goods Confectionery items Biscuits	May cause nausea, vomiting, skin rashes, breathing problems and brain tumours. DNA damage and tumours in animals.
<b>Brilliant Blue (E133)*</b>	Banned in Austria, Belgium, France, Norway, Sweden, Switzerland and Germany. Restricted to max. permitted levels in U.K.	Dairy products Sweets Drinks	Hyperactivity and skin rashes. Listed as human carcinogen by the US EPA. Causes DNA damage and tumours in animals.



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**Food Preservatives to Avoid:**

<b>Sodium benzoate (E211)*</b>		Carbonated drinks Pickles Sauces Certain medicines (even some "natural and homeopathic" medications for kids)	Aggravates asthma and suspected to be a neurotoxin and carcinogen, may cause fetal abnormalities. Worsens hyperactivity
<b>Sulphur Dioxide (E220)*</b>	Not banned anywhere.	Carbonated drinks Dried fruit Juices Cordials Potato products	May induce gastric irritation, nausea, diarrhea, asthma attacks, skin rashes. Destroys vitamin B1. Causes fetal abnormalities and DNA damage in animals.
<b>Sodium metabisulphite</b>		Preservative and antioxidant.	May provoke life-threatening asthma
<b>Potassium nitrate (E249)</b>	Not banned anywhere	Cured meats and canned meat products.	May lower oxygen-carrying capacity of blood; may combine with other substances to form nitrosamines that are carcinogens; may negatively effect the adrenal gland.
<b>Calcium benzoate (E213)</b>	Not banned anywhere	Drinks, low-sugar products, cereals, meat products.	May temporarily inhibit digestive enzyme function and may deplete levels of the amino acid glycine. AVOID with allergies, hives, & asthma.
<b>Calcium sulphite (E226)</b>	In the U.S., sulphites are banned from many foods, including meat.	In a vast array of foods-from burgers to biscuits, from frozen mushrooms to horseradish. Used to make old produce look fresh.	May cause bronchial problems, flushing, low blood pressure, tingling, and anaphylactic shock. Avoid them if you suffer from bronchial asthma, cardiovascular or respiratory problems and emphysema.
<b>Butylated Hydroxy-anisole (E320) BHA/BHT</b>		Particularly in fat-containing foods, confectionery, meats.	BHA/BHT is may be carcinogenic to humans. BHA also interacts with nitrites to form chemicals known to cause changes in the DNA of cells.
<b>Benzoic acid (E210)</b>		Drinks, low sugar products, cereals, meat products.	May temporarily inhibit digestive enzyme function. May deplete glycine levels. AVOID in asthma, or allergies.



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## Flavourings & Sweeteners

<b>Monosodium Gluatamate MSG (E621)* **</b>	Not banned anywhere	Processed foods & drinks, soup mixes.	Destroys nerve cells in brain and linked with aggravating or accelerating Huntington's, Alzheimer's and Parkinson's diseases. Causes cancer, DNA damage and fetal abnormalities in animals. Increases hyperactivity.
<b>Aspartame (E951)*</b>	US Air Force pilots are banned from drinking soft drinks containing aspartame.	200 times sweeter than sugar	May cause neurological damage, especially in younger children where brain is still developing. Breaks down in the body to phenylalanine (neurotoxin - may cause seizures), aspartic acid (damages developing brain) and methanol (converts to formaldehyde). Crosses the placental barrier from mother to baby, even in small doses. Implicated in diseases such as MS and Non-Hodgkin's Lymphoma. May contribute to obesity.
<b>Acesulphame K (E950)*</b>	Not banned anywhere.	200 times sweeter than sugar	Causes cancer in animals. Linked to hypoglycemia, lung tumours, increased cholesterol and leukemia. May contribute to obesity
<b>Saccharine (E954)*</b>	Banned in Germany, Spain, Portugal, Hungary, France, Malaysia, Zimbabwe, Fiji, Peru, Israel, Taiwan.	350 times sweeter than sugar	May interfere with blood coagulation, blood sugar levels and digestive function. Causes cancer of the bladder, uterus, ovaries, skin and blood vessels in animals. Linked to DNA damage and congenital abnormalities in animals. May contribute to obesity.
<b>High Fructose Corn Syrup (HFCS)</b>	Not banned anywhere	Carbonated drinks other sweetened drinks (juices) baked goods candies canned fruits jams & jellies dairy products	Obesity Accelerated aging Insulin resistance Diabetes mellitus Complications of diabetes Fatty liver Increased triglycerides Increased uric acid Chronic diarrhea Irritable bowel syndrome Hives



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*\*All of these additives are considered the "Dirty Dozen Food Additives" and are prohibited in the UK for foods marketed for children less than 36 months.*

\*\*MSG-intolerant people can develop MSG symptom complex, which is characterized by one of more of the following:

- A burning sensation in the back of the neck, forearms and chest.
- Numbness in the back of the neck, radiating to the arms and back.
- A tingling, warmth and weakness in the face, temples, upper back, neck and arms.
- Facial pressure or tightness, swelling of lips/face
- Chest pain, rapid heartbeat
- Headache, nausea, drowsiness
- Bronchospasm (difficulty breathing) in MSG-intolerant people with asthma.

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## Resources:

Agriculture and Agri-Food Canada  
Canadian Food Inspection Agency  
Food Safety Network

Food and Drug Administration (U.S.)

U.S. Department of Agriculture

Codex Alimentarius Commission

The Joint FAO/WHO Expert Committee on Food Additives (JECFA)

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