

Scary Ingredients Added in Food Items

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Abstract: We do not just want our food to taste good these days. It also has to look good. As a result, food producers use any of laboratory-made additives to make appear fresher, more attractive and last longer on the shelf. Most of these chemicals that enter our environment are manufactured by chemical industry band added to thousands of items in daily commercial that support our modern lifestyle. Under such circumstances, thousands of toxic chemicals have been 'grandfathered' in without adequate health and safety testing. The Food Safety and Standard Authority of India (FSSAI), Quality Assurance Division, (A statutory Authority established under the Food Safety and Standards Act, 2006) provides the clear idea about the permissible limit of the additives added in food items. International Numbering System (INS) gives s the number to food additives. INS is only for identifying the INS no of the food additives or their synonyms as per Code. The manufactures use additives. While some additives are harmless, others cause everything from hives and asthma to nausea and headaches in some people. List of the top 12 chemical additives and their possible side effects will help to decipher ingredient lists at supermarket.

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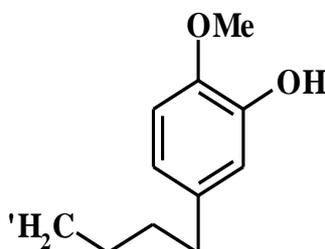
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I. Introduction

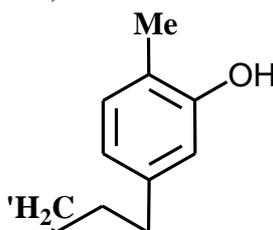
Modern food-production methods have opened major avenues of exposure to environmental carcinogens and endocrine disrupting compounds meaning it can interfere with humans' hormones. Pesticides sprayed on crops, antibiotics used on poultry, and hormones given to cattle expose consumers to involuntarily contaminants that become part of the body. Some of these exposures may increase till breast cancer risk [1,2].

Butylatedhydroxyanisole (BHA) and butylatedhydroxytoluene (BHT) are antioxidants and also delay rancidity in fats, oils, and foods that contain oils, such as cereals, sausages, dried meats, chewing gum, vegetable oil, and potato chips. Since they can easily be replaced by safer alternatives like vitamin E or packing under nitrogen instead of air, or even be completely left out, there is no reason to take the chance; these chemicals to be avoided as much as possible.

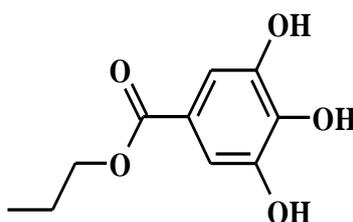
BUTYLATED HYDROXYANISOLE (BHA)



BHA is used to preserve some cereals, chewing gum and potato chips, according to the centers. It is also used in rubber and petroleum products. According to the NIH and the WHO's International Agency for Research on Cancer considers BHA is "reasonably anticipated to be a human carcinogen, because on animal studies that have shown that their chemical composition can cause tumors in rats and hamsters fore stomachs (something humans don't have) and fish livers [3,4]. FSSAI suggested that the permissible limit of BHA in food items is 200 p.p.m. and the INS No. is 320.

BUTYLATED HYDROXYTOLUENE (BHT)

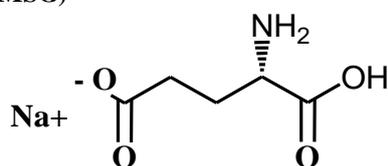
BHT the common additive used to prevent oxidation in a wide variety of foods and cosmetics is listed by the National Toxicology Program (NTP) in 2005 as “reasonably anticipated to be a human carcinogen” on the basis of experimental findings in animals. It is also used in jet fuels, rubber, petroleum products, transformer oil and embalming fluid. BHT should not be allowed to enter the environment, can cause liver damage, and is harmful to aquatic organisms. FSSAI suggested that the permissible limit of BHT in food items is 50 p.p.m. and the INS No. is 321.

PROPYL GALLATE

Propyl gallate is often used in conjunction with BHA and BHT. Propyl gallate can be found in mayonnaise, vegetable oil, chewing gum, meat products, and chicken soup base dried meats, as well as hair-grooming products and adhesives. Some scientists believe that propyl gallate is an "endocrine disruptor". Endocrine disruptors can lead to developmental, reproduction and/or neurological problems, according to the National Institutes of Health, including fertility issues and an increased risk of some cancers [5]. FSSAI suggested that the permissible limit of Propyl Gallate in food items is 90 mg/kg and the INS No. is 310.

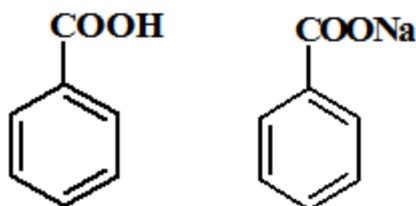
PROPYLENE GLYCOL ALGINATE (PGA-E405)

PGA – E405 is a food thickener, stabilizer and emulsifiers are derived from alginic acid esterified and combined with propylene glycol. Even though propylene glycol is used as a food additive, it has many industrial uses including automotive antifreezes and airport runway de-icers. FSSAI suggested that the permissible limit of PGA in food items is 5 g/kg and the INS No. is 405.

MONO SODIUM GLUTAMATE (MSG)

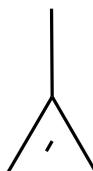
There was much hue and cry years ago when the public learned Chinese restaurants commonly added MSG to Chinese foods as a flavor enhancer. It was also learned MSG could be found in many other processed products, such as Noodles, salad dressings, condiments, seasonings, bouillons and snack chips. Some reports indicate MSG causes tightening in the chest, headaches and a burning sensation in the neck and forearms. While MSG is made of components found in our bodies' water, sodium and glutamate (a common amino acid) ingesting it is an entirely different matter [6]. FSSAI suggested that the permissible limit of MSG in food items is 5 mg/kg and the INS No. is 621.

BENZOIC ACID AND SODIUM BENZOATE



Often added to milk and meat products, these preservatives are used in many foods, including drinks, low-sugar products, cereals and meats. Both temporarily inhibit the proper functioning of digestive enzymes and cause headaches, stomach upset, asthma attacks and hyperactivity in children [7]. FSSAI suggested that the permissible limit of Benzoic acid and Sodium benzoate in food items is 50 - 1500 mg/kg. The INS No. of benzoic acid is 210 and the INS No. of sodium benzoate is 211.

1-METHYLCYCLOPROPENE



This gas is pumped into crates of apples to stop them from producing ethylene, the natural hormone that ripens fruit. Commonly known as Smart Fresh, this chemical preserves apples for up to a year and bananas up to a month. Sulfur dioxide serves the same purpose when sprayed on grapes.

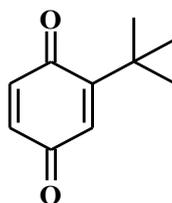
POLYSORBATE 60

It is short for Polyoxyethylene-(20) – Sorbitan mono Stearate. This emulsifier is widely used in the food industry. Made of corn, palm oil and petroleum. This gooey mix can't spoil, so it often replaces dairy products in baked goods and other liquid products [8]. FSSAI suggested that the permissible limit of Polysorbate in food items is 3000 mg/kg and the INS No. is 432.

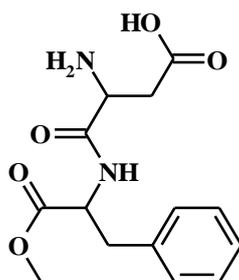
CANTHAXANTHIN

Egg yolks don't always come out golden yellow, so producers use this pigment to make them more palatable. Although the amounts used are very small, tests have shown greater quantities of canthaxanthin can cause retinal damage [9]. FSSAI suggested that the permissible limit of Canthaxanthin in food items is 200 mg/kg and the INS No. is 161.

TERT-BUTYL HYDRO QUINONE (TBHQ)



This chemical preservative is a form of butane that is used in crackers, potato chips and some fast food. It can also be found in varnish, lacquer and resin. It helps prolong the shelf life of food and, if it's consumed at low levels, is considered safe. In higher doses of TBHQ has been found to cause "nausea, vomiting, ringing in the ears, delirium, a sense of suffocation, and collapse," according to "A Consumer's Dictionary of Food Additives." It may also cause restlessness and vision problems [10]. FSSAI suggested that the permissible limit of TBHQ in food items is 200 mg / kg and the INS No. is 319.

ASPARTAME

Aspartame is found in the name brands Equal and Nutra Sweet and was hailed as a savior for dieters unhappy with a saccharine unpleasant after taste. It is composed of methanol and two amino acids. Although originally believed to be the perfect artificial sweetener, it caused brain tumors in rats in certain studies conducted in the 1970s. There was much pressure from different groups for further studies to explore the potential dangers of aspartame; it wasn't until 2005 that a new study was released. It was found that even small doses of the sweetener increased the occurrence of lymphoma and leukemia, and occasionally caused brain tumors in rats. Unfortunately, one out of 20,000 babies is born without the ability to metabolize phenylalanine, one of the two amino acids in Aspartame. As a result, it's not recommended for pregnant women or infants [11]. FSSAI suggested that the permissible limit of Aspartame in food items is 2200 mg/kg and the INS No. is 951.

II. Conclusion

Most of these chemicals that enter our environment are manufactured by the chemical industry and added to the thousands of items in daily commercial that support our modern lifestyle. Under our current system, thousands of toxic chemicals have been "grandfathered" in without adequate health and safety testing. Government is handcuffed with undue burden to prove harm before any precautionary actions can be taken to prevent chemical exposure. If this system works, we would not find hazardous chemicals in people's bodies. Furthermore, we should know the FSSAI Rules and Regulations [12] about the food additives added in the food products. From the help of FSSAI we should identify the permissible limit of the food additives. From that we can choose our food products in a pure and natural way neglecting the Worst Offenders added in food items.

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