

## FOOD ADDITIVES AND THEIR EFFECTS

### A. MOST COMMONLY USED FOOD ADDITIVES AND THEIR EFFECTS

E No.	Name of Additive	Possible Health Effects
E 102	Tartrazine	Appears to cause the most allergic and intolerance reactions particularly among asthmatics and those with an aspirin intolerance. A variety of immunologic responses have been attributed to tartrazine ingestion, including anxiety, migraines, clinical depression, blurred vision, itching, general weakness, heat waves, feeling of suffocation, purple skin patches, and sleep disturbance.
E 110	Sunset Yellow	Allergic and/or intolerance reactions. urticaria (hives), rhinitis (runny nose), nasal congestion, allergies, hyperactivity, kidney tumors, chromosomal damage, abdominal pain, nausea and vomiting, indigestion,
E 122	Carmoisine	It appears to cause allergic and/or intolerance reactions, particularly amongst those with an aspirin intolerance. Other reactions can include a rash similar to nettle rash and water retention. Not recommended for consumption by children.
E 211	Sodium Benzoate	People who suffer from asthma, aspirin sensitivity or the skin disease urticaria may have allergic reactions and/or find their symptoms become worse. Can damage and inactivate vital parts of DNA. Not recommended for consumption by children.
E 224	Pottasium meta bi sulfite	Asthma, cyanosis, faintness and even unconsciousness. Not recommended to be consumed by children.
E 296	Malic Acid	Irritation. Infants and young children should avoid it
E 319	TBHQ (Tert Butyl Hydro Quinone)	Nausea, vomiting and delirium. Not permitted in the European Union.
E 414	GUM ARABIC	Weak allergic reaction in some individuals. May act as an irritant.
E 133	Brilliant Blue FCF	Asthma patients and children should avoid this. Banned in Austria, Belgium, Denmark, France, Germany, Greece, Italy, Norway, Spain, Sweden and Switzerland.
E 171	Titanium dioxide	Titanium dioxide dust, when inhaled, can be <i>carcinogenic</i> , titanium dioxide nano particles cause genetic damage. Banned in Germany.
E 320	BHA (Butylated Hydroxy Anisol)	Allergic reaction, carcinogenicity and estrogenic effects. ADHD. Not recommended for children.
E 412	Guar Gum	Flatulence, diarrhea, abdominal distension and intestinal obstruction.
E 621	Mono Sodium Glutamate (MSG)	Sensitive individuals may experience "transient" side effects such as "headache, numbness/tingling, flushing, muscle tightness, and generalized weakness" to a large amount of MSG taken in a single meal. Recent research has proposed that excessive brain receptor cell activation, caused by too much glutamate, can destroy the cells. It has been further suggested that this could play a part in neurodegenerative diseases such as Alzheimer's, Parkinson's and Huntingdon's but the part that dietary glutamates contribute is still controversial. Among controversies, there are claims that monosodium glutamate causes brain damage which can lead to retinal degeneration, endocrine disruption (e.g. reproductive disorders and gross obesity), behavior disorders, learning disabilities, irritable bowel, heart irregularities, asthma, and migraine headache.
E 627	Disodium guanylate	Disodium guanylate is not safe for babies under twelve weeks, and should generally be avoided by asthmatics

### B. OTHER FOOD ADDITIVES AND THEIR EFFECTS

E No	Name of Additive	Possible Health Effects
E104	Quinoline Yellow	Attention Deficit Hyper Activity Disorder - ADHD, Asthma, Rashes. Banned in Australia, Japan, Norway and the United States.
E123	Amarnath	Can provoke asthma, eczema and hyperactivity allergic and/or intolerance reactions, birth defects and foetal deaths
E124	Ponceau	Allergic and/or intolerance reactions, Carcinogenic, , banned in Norway and the United States.
E127	Erythrosine	In June 2008, the <a href="#">Center for Science in the Public Interest</a> (CSPI) petitioned the FDA for a complete ban on erythrosine in the United States. However, Up to now, erythrosine can be used in colored food in USA without any restriction. It could affect thyroid activity, can increase thyroid hormone levels and lead to hyperthyroidism, hyperactive behavioral disorders in children
E131	Patent Blue V	Itching, nausea, low blood pressure, tremors and breathing problems. Best avoided by people with allergy reactions
E132	Indigo Carmine / Indigotine	Itching, high blood pressure and breathing problems. Not recommended for consumption by children.
E142	Green S / Acid Brilliant Green BS	Hyperactivity, asthma, urticaria, and insomnia. Not recommended for consumption by children. Banned in Canada, Finland, Japan, Norway, Sweden and the United States.
E151	B Black PN / Brilliant Black BN	It appears to cause <a href="#">allergic</a> or intolerance reactions, particularly amongst those with an <a href="#">aspirin</a> intolerance. It is a <a href="#">histamine</a> liberator, and may worsen the symptoms of <a href="#">asthma</a> . Not recommended for consumption by children. Banned in Denmark, Australia, Austria, Belgium, Canada, Finland, France, Germany, Japan, Norway, Switzerland, Sweden, USA and Norway
E153	Carbon/Vegetable Carbon (Charcoal)	Suspected as a carcinogenic agent. Banned as a food additive in the United States of America.
E160b	Annatto, Bixin, Norbixin	There is a possibility of an allergic reactions
E200	Sorbic Acid	A possible skin irritant and may cause rashes, asthma and hyperactivity. Not approved for use in Australia
E212	Potassium Benzoate	People who suffer from asthma, aspirin sensitivity or the skin disease urticaria may have allergic reactions and/or find their symptoms become worse. Potassium benzoate was recently described by the Food Commission, who campaign for 'safer, healthier food in the UK', as "mildly irritant to the skin, eyes and mucous membranes" Not recommended for consumption by children.
E213	Calcium Benzoate	People who suffer from asthma, aspirin sensitivity or the skin disease urticaria may have allergic reactions and/or find their symptoms become worse following consumption of benzoic acid, particularly in combination with tartrazine ( <a href="#">E102</a> ). Not recommended for consumption by children.
E214	Ethyl 4-hydroxy benzoate	Has anesthetic properties and may cause numbness to the mouth, Not recommended for consumption by children. Not permitted for use in France and Australia. Benzoic acid esters may liberate histamine and thus cause pseudo-allergic reactions
E215	Ethyl 4-hydroxy benzoate, Sodium Salt	Not recommended for consumption by children. benzoic acid esters may liberate histamine and thus cause pseudo-allergic reactions
E216	Propyl 4-hydroxybenzoate)	Not recommended for consumption by children. Benzoic acid esters may liberate histamine and thus cause pseudo-allergic reactions.
E217	Propyl 4-hydroxybenzoate, Sodium Salt	Not recommended for consumption by children. Benzoic acid esters may liberate histamine and thus cause pseudo-allergic reactions

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E218	Methyl 4-hydroxybenzoate	Allergic reactions, Not recommended for consumption by children. Benzoic acid esters may liberate histamine and thus cause pseudo-allergic reactions
E219	Methyl 4-hydroxybenzoate, Sodium Salt)	Attention Deficit Hyper Activity Disorder (ADHD), Not recommended for consumption by children. Benzoic acid esters may liberate histamine and thus cause pseudo-allergic reactions
E220	Sulphur Dioxide	Cause breathing problems in asthmatic patients, provoke gastric irritation, nausea, diarrhea, skin rash, asthma attacks and difficult to metabolize for those with impaired kidney function, also destroys vitamin B1 (thiamin), and should be avoided by anyone suffering from conjunctivitis, bronchitis, emphysema, bronchial asthma, or cardiovascular disease.
E221	Sodium Sulphite	May cause an asthmatic attack, or cause gastric irritation, and destroys vitamins B1 and E. Not recommended for consumption by children
E222	Sodium Hydrogen Sulphite	Allergic reaction in some people, especially asthmatics. Destroys vitamins B1 and E. Not recommended for consumption by children. Allergy, Asthma
E223	Sodium Meta bi sulphite	Allergic reactions, particularly skin irritation, gastric irritation and asthma. Not recommended for consumption by children.
E226	Calcium Sulphite	Destroys vitamins B and E. Not recommended for consumption by children. Over exposure may cause an asthmatic attack, or cause gastric irritation.
E227	Calcium hydrogen sulphite	Destroys thiamine content and Vitamin E. Over exposure may cause an asthmatic attack, or cause gastric irritation. Not recommended for consumption by children.
E230	Biphenyl / Diphenyl	May cause damage to liver and nervous system through prolonged or repeated exposure if inhaled. Not recommended for consumption by children.
E231	2-Hydroxy Biphenyl	Not recommended for consumption by children.
E249, E252	Potassium Nitrate	shortness of breath, dizziness and headaches, nausea and vomiting, potential carcinogen, prohibited in foods for infants and young children
E250	Sodium Nitrite	Excessive ingestion may result in such high concentrations of nitrites in the bloodstream that reduced concentrations of oxygen are carried by haemoglobin in red blood cells, resulting in shortness of breath, dizziness and headaches, Carcinogen, Not permitted in foods for infant and young children.
E251	Sodium Nitrate	Not permitted in foods for infant and young children. Harmful if swallowed or inhaled.
E261	Potassium Acetate	May irritate the skin, eyes and lungs. Should be avoided by people with impaired kidney function. Not recommended for consumption by children.
E262	Sodium Diacetate	Inhalation or ingestion in large doses can produce nausea, vomiting, and chest or abdominal pain in some people.
E270	Lactic Acid	Children should avoid because of difficult for babies to metabolize
E280	Propionic Acid	migraine headaches
E282	Calcium Propionate	Attention Deficit H Can cause symptoms similar to a gall bladder attack, migraine and headaches; gastro-intestinal symptoms including stomach aches, irritable bowel, diarrhea, urinary urgency, bedwetting; eczema and other itchy skin rashes; nasal congestion.
E310	Propyl Gallate	It may cause gastric or skin irritation; gallates are not permitted in foods for infants and small children because of their known tendency to cause the blood disorder, methemoglobinemia. Not recommended to be consumed by children.
E311	Octyl Gallate	Not recommended to be consumed by children. Ref to E310

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E312	Dodecyl Gallate	Not recommended to be consumed by children. Ref to E310
E321	Butylated Hydroxy Toluene	Can cause liver damage in high concentrations; (pseudo-) allergic symptoms have also been reported. In some people with a hereditary isomer of a specific liver enzyme it can cause migraine. Due to the side effects, the EU has restricted its use.
E325	Sodium Lactate	Should not be given to babies and small children, as they have not yet developed the appropriate enzymes in the liver to metabolize these forms of lactate.
E326	Potassium Lactate	Should not be given to babies and small children, as they have not yet developed the appropriate enzymes in the liver to metabolize these forms of lactate.
E327	Calcium Lactate	Should not be given to babies and small children, as they have not yet developed the appropriate enzymes in the liver to metabolize these forms of lactate.
E338	Orthophosphoric Acid	Some study has linked this to lower bone density.
E406	Agar	High concentrations bring about flatulence and bloating, due to fermentation.
E407	Carrageenan	High concentrations bring about flatulence and bloating, due to fermentation.
E410	Locust Bean Gum (Carob Gum)	High concentrations bring about flatulence and bloating, due to fermentation.
E413	Tragacanth	High concentrations bring about flatulence and bloating, due to fermentation.
E415	Xanthan Gum	High concentrations bring about flatulence and bloating, due to fermentation.
E420	Sorbitol	High concentrations bring about flatulence and bloating, due to fermentation.
E421	Mannitol	High concentrations bring about flatulence and bloating, due to fermentation. In intolerant persons it can act as a laxative.
E422	Glycerol	
E440 a	Pectin	It may cause intestinal problems when present in high concentrations. It reduces the feeling of hunger. It can be fermented in the large intestine, resulting in flatulence.
E460	Microcrystalline / Powdered Cellulose	Large concentrations can cause intestinal problems, such as bloating, constipation and diarrhea.
E461	Methyl Cellulose	Large concentrations can cause intestinal problems, such as bloating, constipation and diarrhea.
E463	Hydroxypropylcellulose	Large concentrations can cause intestinal problems, such as bloating, constipation and diarrhea.
E464	Hydroxypropyl-Methylcellulose	Large concentrations can cause intestinal problems, such as bloating, constipation and diarrhea.
E465	Ethylmethylcellulose	Large concentrations can cause intestinal problems, such as bloating, constipation and diarrhea.
E466	Carboxymethylcellulose, Sodium Salt	Large concentrations can cause intestinal problems, such as bloating, constipation and diarrhea.
E474	Sucroglycerides	High intakes may upset the calcium/phosphate equilibrium, headaches, nausea, vomiting, dehydration, diarrhea, thirst, dizziness and mental confusion
E475	Polyglycerol Esters of Fatty Acids	
E477	Propane-1, 2 – Diol Esters of Fatty Acids	High concentrations of propyleneglycol can cause eczema in sensitive persons
E483	Stearyl Tartrate	May be a carcinogen.
E107	Yellow 2G	It is implicated in allergies, hyperactivity and asthma.
E128	Red 2G	It is potentially carcinogenic it is also implicated in hyperactivity in children. Furthermore, Red 2G may well bring about anemia and it is possibly mutagenic. Not recommended for consumption by children.

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E154	Brown FK	It can provoke allergic reactions in people sensitive to <a href="#">salicylates</a> , and can intensify the symptoms of asthma. Not recommended for consumption by children. Banned throughout the EU (except in the UK where its use is still permitted!) Also prohibited in Australia, Austria, Canada, Finland, Ireland, Japan, Norway, Sweden and the United States.
E155	Brown HT	It appears to cause allergic and/or intolerance reactions, particularly amongst those with an aspirin intolerance and asthma sufferers, also known to induce skin sensitivity. Not recommended for consumption by children. Its use is banned in Australia, Austria, Belgium, Denmark, France, Germany, Norway, Sweden, Switzerland and the United States.
E262	Sodium Acetate	Should only be avoided by people who have a(very rare) vinegar intolerance. Nausea, vomiting, and chest or abdominal pain in some people.
E 350	Sodium Malate	Not allowed in infant food, as infants lack the necessary enzymes to metabolize these compounds.
E 351	Potassium Malate	Not allowed in infant food, as infants lack the necessary enzymes to metabolize these compounds.
E 352	Calcium Malate	Not allowed in infant food, as infants lack the necessary enzymes to metabolize these compounds.
E 385	Calcium Disodium EDTA	Long-term exposure to high doses may result in depletion of metal(s) from the body (iron).
E 416	Karaya Gum	High concentrations bring about flatulence and bloating, due to fermentation by the intestinal micro flora. It has laxative properties
E 432	Polyoxyethane(20), Sorbitan Polysorbate 20	People intolerant of propylene glycol should also avoid the 430-E436 group.
E 433	Polyoxyethane (20), Sorbitan Monooleate / Polysorbate 80	People intolerant of propylene glycol should also avoid the 430-E436 group.
E 434	Polyoxyethane (20), Sorbitan Monopalmitate / Polysorbate 40	People intolerant of propylene glycol should also avoid the 430-E436 group.
E 435	Polyoxyethane (20), Sorbitan Monostearate / Polysorbate 60	People intolerant of propylene glycol should also avoid the 430-E436 group.
E 436	Polyoxyethane (20), Sorbitan Tristearate / Polysorbate 65	People intolerant of propylene glycol should also avoid the 430-E436 group.
E 476	Polyglycerol Esters of Polycondensed Esters of Caster Oil	Possible link to hyperactivity in children, it could cause miscarriage, due to castor oil content. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
E 478	Lactylated Fatty Acid Esters of Glycerol and Propane-1,2-Diol	High concentrations of propyleneglycol can cause eczema in sensitive persons, May cause headaches, nausea, vomiting, dehydration, diarrhea, thirst, dizziness and mental confusion.
E 503	Ammonium Carbonate	Can cause some gas formation in the stomach after ingestion.
E 507	Hydrochloric Acid	Irritant to mucous membranes, Alters pH of urine and may cause loss of calcium and magnesium.
E 513	Sulphuric Acid	Has teratogenic properties.
E 524	Sodium Hydroxide	it may cause burns, diarrhea, vomiting, severe stomach pain, shock and/or death if it is ingested.
E 525	Potassium Hydroxide	it may cause burns, diarrhea, vomiting, severe stomach pain, shock and/or death if it is ingested.
E 526	Calcium Hydroxide	tissue damage, the rupture of blood cells, kidney stones and heart arrhythmia that can lead to cardiac arrest. Intakes greater than 18 grams at once can result in hypercalcaemia (too much calcium in the bodily fluids) with serious and even fatal results.
E 528	Magnesium Hydroxide	Laxative in high concentration. Diarrhea is a possible side effect. Don't take it if you have kidney problems.
E 530	Magnesium Oxide	Side effects of magnesium oxide may include nausea and cramping. In quantities sufficient to obtain a laxative effect, side effects of long-term use include <a href="#">enteroliths</a> resulting in bowel obstruction.

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E 536	Potassium Ferrocyanide	Reduces oxygen transport in the blood, which in turn may cause breathing difficulties, dizziness or headache.
E 540	Dicalcium Ferrocyanide	may disturb several metabolic processes
E 544	Calcium Polyphosphates	may inhibit digestive enzymes in high concentrations.
E 545	Ammonium Polyphosphates	may inhibit digestive enzymes in high concentrations.
E 553	Magnesium Silicate / Magnesium trisilicate-Talc	
E 554	Aluminium Sodium Silicate	Cause placental problems in pregnancy and has been linked to Alzheimer's Parkinson's, bone loss.
E 556	Aluminium Calcium Silicate	Cause placental problems in pregnancy and has been linked to Alzheimer's Parkinson's, bone loss.
E 559	(KaKaolin(Aluminium Silicate))	May cause intestinal obstruction and tumours.
E 578	Calcium Gluconate	May cause stomach upsets and heart problems.
E 620	L-Glutamic Acid	Might cause similar problems as MSG <a href="#">E621</a> , young children should avoid it. It could kill nerve cells, resulting in diseases such as Huntington's, Alzheimer's and Parkinson's.
E 622	Monopotassium Glutamate	It could kill nerve cells, resulting in diseases such as Huntington's, Alzheimer's and Parkinson's. Can cause nausea, vomiting, diarrhea, abdominal cramps. Pregnant women, children, hypoglycaemic, elderly and those with heart disease are at risk from reactions.
E 623	Calcium Glutamate	It could kill nerve cells, resulting in diseases such as Huntington's, Alzheimer's and Parkinson's. Pregnant women, children, hypoglycaemic, elderly and those with heart disease are at risk from reactions possible problems for asthmatics and aspirin sensitive people.
E 631	Sodium Inosinate	Asthmatic people should avoid
E 635	Sodium 5-Ribonucleotide	Asthmatic people should avoid
E 901	Beeswax	Occasionally causes allergic reactions
E 903	Carnauba Wax	Occasionally causes allergic reactions (dermal eczema) and possible carcinogen.
E 905	Paraffins, Microcrystalline wax	Listed as having teratogenic properties probably responsible for bowel cancer and can cause defects. May inhibit absorption of fats and fat soluble vitamins, mild laxative.
E 927	Azodicarbonamide	This may cause an allergic reaction in those sensitive to other <a href="#">azo compounds</a> , such as food dyes.
E 951	Aspartame	It can cause diarrhea if consumed in quantity. cause worrying symptoms from memory loss to brain tumours, headaches/migraines, It can also cause dizziness, seizures, nausea, muscle spasm, weight gain, rashes, depression, fatigue, irritability, tachycardia, vision problems, breathing difficulties, anxiety attacks, vertigo, tinnitus, memory loss, joint pain. Parkinson's disease, Alzheimer's, birth defects, and diabetes

Note: The sources of the above additives and their effects are taken from [ukfoodguide.net](http://ukfoodguide.net), [wikipedia](http://wikipedia), [wotzinurfood.com](http://wotzinurfood.com), [foodfigures.com](http://foodfigures.com), [mbm.net.au/health](http://mbm.net.au/health) and [FoodInfo.net.uk](http://FoodInfo.net.uk).