

Food additives

Food additives are chemicals added to foods to keep them fresh or to enhance their colour, flavour or texture. They may include food colourings (such as tartrazine or cochineal), flavour enhancers (such as MSG) or a range of preservatives.

Most food additives are listed on the product label, along with other ingredients, in a descending order by weight (flavours are an exception and do not need to be identified). Sometimes, the additive is spelt out in full. At other times, it is represented by a code number: for example, cochineal may be listed as Colouring (120); sodium sulphite may be shown as Preservative (221).

Animal tests for food additive safety

Food Standards Australia New Zealand (FSANZ) is responsible for the approval of which food additives are allowed in Australian foods. All food additives used in Australia undergo a safety assessment, which includes rigorous testing, before they are approved.

Toxicological tests on animals are used to determine the amount of the additive that is expected to be safe when consumed by humans. This is usually an amount 100 times less than the maximum daily dose at which 'no observable effects' are produced by an additive consumed over the test animal's lifetime.

If there is any doubt over the safety of an additive, approval is not given. If new scientific information becomes available suggesting that a food additive is no longer safe, the approval to use the food additive would be withdrawn.

Combined effects not known

Most food additives are tested in isolation, rather than in combination with other additives. The long-term effects of consuming a combination of different additives are currently unknown.

Some people are sensitive to some additives

Some people are sensitive to particular food additives and may have reactions like hives or diarrhoea. This doesn't mean that all foods containing additives need to be automatically treated with suspicion. All foods are made up of chemicals and food additives are not always 'less safe' than naturally occurring chemicals. Many of the food additives used by the food industry also occur naturally within foods that people eat every day. For example, MSG is found naturally in parmesan cheese, sardines and tomato in significantly greater quantities than the MSG present as a food additive. People with food allergies and intolerances are also often sensitive to chemicals found naturally in certain foods, such as nuts or shellfish.

There are worse things to fear than food additives

Many people view food additives as a major food threat. However, in terms of health risk, food additives would come in at the end of the line, after food-borne microorganisms (like salmonella), inappropriate hygiene and eating habits, environmental contaminants and naturally occurring toxins.

Types of food additives

The different types of food additive and their uses include:

- **Anti-caking agents** – stop ingredients from becoming lumpy.
- **Antioxidants** – prevent foods from oxidising, or going rancid.

- **Artificial sweeteners** – increase the sweetness.
- **Emulsifiers** – stop fats from clotting together.
- **Food acids** – maintain the right acid level.
- **Colours** – enhance or add colour.
- **Humectants** – keep foods moist.
- **Flavours** – add flavour.
- **Flavour enhancers** – increase the power of a flavour.
- **Foaming agents** – maintain uniform aeration of gases in foods.
- **Mineral salts** – enhance texture and flavour.
- **Preservatives** – stop microbes from multiplying and spoiling the food.
- **Thickeners and vegetable gums** – enhance texture and consistency.
- **Stabilisers and firming agents** – maintain even food dispersion.
- **Flour treatment** – improves baking quality.
- **Glazing agent** – improves appearance and can protect food.
- **Gelling agents** – alter the texture of foods through gel formation.
- **Propellants** – help propel food from a container.
- **Raising agents** – increase the volume of food through the use of gases.
- **Bulking agents** – increase the volume of food without major changes to its available energy.

Food additives and processed foods

There is a common misconception that processed foods automatically contain food additives. Foods like long-life milk, canned foods and frozen foods are all processed, yet none of them need extra chemicals.

If you are unsure whether or not a product contains an additive, check the label. However, some listed ingredients may contain food additives without mentioning them on the label. For instance, 'margarine' might be a listed ingredient and margarine contains food additives.

Some food additives can cause reactions

For most people, additives are not a problem in the short term. However, 50 of the 400 currently approved additives in Australia have been associated with adverse reactions in some people. Some food additives are more likely than others to cause reactions in sensitive people.

It is often the additives that are used to give a food a marketable quality, such as colour, that most commonly cause allergic reactions. Some of these hypersensitive reactions include:

- **Digestive disorders** – diarrhoea and colicky pains
- **Nervous disorders** – hyperactivity, insomnia and irritability
- **Respiratory problems** – asthma, rhinitis and sinusitis
- **Skin problems** – hives, itching, rashes and swelling.

It is important to realise that many of the symptoms experienced as a result of food sensitivities can be caused by other disorders. Medical diagnosis is important. If you try to diagnose yourself, you may restrict your diet unnecessarily and neglect an illness.

Some common additives that may cause problems

Some food additives that may cause problems for some people include:

- **Flavour enhancers** – monosodium glutamate (MSG) 621
- **Food colourings** – tartrazine 102; yellow 2G107; sunset yellow FCF110; cochineal 120
- **Preservatives** – benzoates 210, 211, 212, 213; nitrates 249, 250, 251, 252; sulphites 220, 221, 222, 223, 224, 225 and 228
- **Artificial sweetener** – aspartame 951.

Diagnosing food additive sensitivity

If you think you may have a food additive sensitivity, it's important to seek professional help since all of the symptoms you may be experiencing can also be caused by other disorders.

It may help to keep a food diary and note carefully any adverse reactions. In the case of a sensitivity being identified, the usual practice is to eliminate all suspect foods from the diet and then reintroduce them one by one to see which additive (or additives) causes the reaction. This should only be done under medical supervision, since some of the reactions – such as asthma – can be serious.

Where to get help

- Your doctor
- An Accredited Practising Dietitian, contact the Dietitians Association of Australia

Things to remember

- Food additives are chemicals that keep foods fresh or enhance their colour, flavour or texture.
- A small percentage of people are sensitive to some food additives.
- Diagnosing sensitivity to food additives needs professional help, since all of the symptoms of sensitivity can also be caused by other disorders.

This page has been produced in consultation with, and approved by:

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