

# 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

**Feedback**

- **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.

**Feedback**

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- **Flour treatment** – improves baking quality.
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- **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.

# 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.



## Food Additives: Uses & Health Concerns

Chemical	Food-Related Use	Selected Health Concerns
Bisphenol A (BPA)	<ul style="list-style-type: none"> <li>• Hardens plastic containers</li> <li>• Prevents rust on metal food and beverage cans</li> </ul>	<ul style="list-style-type: none"> <li>• Can act like estrogen in the body and may change the timing of puberty, decrease fertility, increase body fat, and possibly affect the nervous and immune systems</li> </ul>
Phthalates	<ul style="list-style-type: none"> <li>• Makes plastic and vinyl flexible for use in plastic tubing</li> <li>• Used in industrial food production</li> </ul>	<ul style="list-style-type: none"> <li>• Can affect male genital development increase childhood obesity and metabolic function, and may affect the cardiovascular system</li> </ul>
Perfluoroalkyl chemicals (PFCs)	<ul style="list-style-type: none"> <li>• Creates grease-proof paper and cardboard in food packaging</li> </ul>	<ul style="list-style-type: none"> <li>• Can reduce immune response, birth weight, and fertility</li> <li>• May also cause changes to the thyroid hormone system, which is crucial for metabolism, digestion, muscle control, brain development, and bone strength</li> </ul>
Perchlorate	<ul style="list-style-type: none"> <li>• Controls static electricity in some dry food packaging</li> </ul>	<ul style="list-style-type: none"> <li>• May interfere with thyroid hormone, affecting early life brain development and growth</li> </ul>
Synthetic artificial food colors (AFCs)	<ul style="list-style-type: none"> <li>• Helps improve the appearance of processed foods and beverages— common in children's food products</li> </ul>	<ul style="list-style-type: none"> <li>• Can sometimes act as substitute for nutritious ingredients, such as in fruit juice drinks that contain little or no actual fruit</li> <li>• May have effects on child behavior and attention</li> </ul>
Nitrates/nitrites	<ul style="list-style-type: none"> <li>• Preservative and color enhancer— especially to cured and processed meats, fish, and cheese</li> </ul>	<ul style="list-style-type: none"> <li>• Linked with tumors in the digestive and nervous system, as well as thyroid problems</li> <li>• Can cause methemoglobinemia in infants and toddlers</li> <li>• Can interfere with the blood's ability to deliver oxygen in the body</li> </ul>

Food Additive

Colourants

Stabilizers

Preservative

Flavour

Antioxidants

Antimicrobials

Natural Colourants

Synthetics Colourants

Sweetener

Flavouring

Flavour enhancer

Nutritive Sweetener

Non-nutritive Sweetener

# What is food additive?

Food additive is a substance that is added to a food (usually used to enhance its quality or preserve it).

According to World Health Organization (WHO), food additives are substances that are added to a food to maintain the safety, freshness, taste, texture, or appearance of the food. Example of food additive is sugar that is used as a preservation in marmalade. Indeed, there are some harmful effects of food additives on health and environment.





# Types of food additives?

Based on their uses, food additives can be classified into several types that can be seen as listed below.

- **Anti-caking agent:** It is a type of food additive that is used to prevent ingredients from being too lumpy
- **Antioxidants:** It is a type of food additive that is used prevent food from oxidizing
- **Artificial sweeteners:** It is a type of food additive that is used to increase the sweetness level of a food

- Color additives: It is a type of food additive that is used to enhance (or add) color to the food
- Emulsifiers: It is a type of food additive that is used to prevent fats from clotting together
- Flavors: It is a type of food additive that is used to add flavor
- Flavor enhancers: It is a type of food additive that is used to increase the power of food flavor
- Flour treatment: It is a type of food additive that is used to improve baking quality



- Foaming agent: It is a type of food additive that is used to maintain uniform aeration of gases in foods
- Food acids: It is a type of food additive that is used to maintain the acid level of a food
- Gelling agent: It is a type of food additive that is used to alter the texture of a food through gel formation
- Glazing agent: It is a type of food additive that is used to improve appearance of a food (and protect it)
- Humectants: it is a type of food additive that is used to maintain food's moisture level

- Mineral salts: It is a type of food additive that is used to enhance the texture and flavor of a food
- Preservatives: It is a type of food additive that is used to prevent microbes from spoiling the food
- Propellants: It is a type of food that is used to help propel food from a container
- Raising agents: It is a type of food additive that is used to increase the volume of a food through the use of gases
- Stabilizers and firming agent: It is a type of food additive that is used to maintain even food dispersion



- **Thickeners and vegetable gums:**  
It is a type of food additive that is used to enhance food's texture and consistency





# **Effects of food additives on health and environment**

Although food additives are mainly beneficial, food additives may also lead to some potential health risk, such as:

There are also some food additives that are worth taking note of for its potential health risk it may cause, such as:

- Artificial food colors: It may lead to allergy, asthma, hyperactivity, and it can possibly be carcinogenic
- Artificial flavor: It may cause allergic reaction
- Aspartame and Saccharin: Those artificial sweeteners may cause hyperactivity, allergic reactions, and they are possibly carcinogenic

- Benzates (BHT, BHA, TBHQ): It may potentially lead to ADHD-related symptoms
- Hydrogenated fats: It leads to Cardiovascular disease and obesity
- Monosodium Glutamate (MSG): It may cause allergic reaction, headaches, dizziness, chest pain, depression, mood swing, brain nerves damage and it is possibly neurotoxin
- Nitrates: It can develop into nitrosamines inside the body, which can be carcinogenic

- Cancers
- Asthma and allergic reaction
- Bowel symptoms
- Brain damages
- Hypoglycemia
- Hyperactivity and attention deficit disorder (ADD)
- Headaches
- Increased risk of heart disease
- Neurologic problems
- Allergy
- Risk of weight gain