

# Food additives:



why and for what



Organización de consumidores y usuarios

# **Food additives: why and for what**

## **Food additives: types and uses**

### **Necessary food additives**

- 1 Antioxidants
- 2 Coating
- 3 Acids, bases and salts

### **Additives that should be reduced**

- 1 For textures
- 2 Preservatives
- 3 Sulphites
- 4 Nitrites and nitrates
- 5 Sweeteners

### **Unnecessary food additives**

- 1 Colorants
- 2 Flavour enhancers

### **Adverse reactions to additives**

## Food additives: why and for what

They are on your menu even if you don't know it. There are **400 additives** approved in the European Union, most of them totally harmless. In any case, it is convenient to know what is hidden behind those codes that you can read in the ingredient lists.



## Food additives: types and uses

Additives are used to improve the preservation, appearance, texture or taste of food.

Throughout our lives we can consume up to 400 different additives ... and without realizing it.



## An additive is mainly used to:

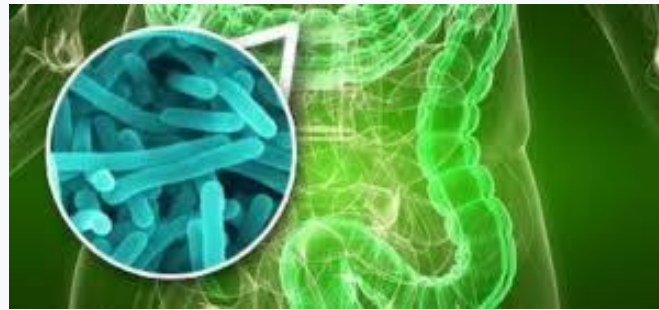
- Preserve food.
- Facilitate its manufacture
- Improve its appearance or texture.
- Increase or improve its flavor.
- Make up for the shortage of some ingredients, such as putting less strawberries in a fruit yogurt or less meat in a sausage.

Although **the vast majority of them are harmless, some can be harmful** to some people.

Others are used because their benefits outweigh their risks.

## Necessary food additives

Many additives are essential to prevent food from spoiling due to the growth of mold or bacteria or oxidation.



1 Antioxidants

2 Coating

3 Acids, bases and salts

## Necessary food additives

### 1 Antioxidants (E-3XX)

Their names begin with the letter E and 3 followed by other figures.

They serve to prevent the food from oxidizing, which causes changes in colour or flavour and loss of nutrients. The use of new packaging systems, such as modified atmospheres or vacuum packaging, are not so necessary.

**Some vitamins** appear in this group, such as vitamin E or tocopherol and vitamin C or ascorbic acid (from E-300 to E-304, from E-306 to E-309).

**Gallates** (BHA and BHT) are synthetic antioxidants that are being used less and less. These are the ones that can cause problems if consumed in large quantities:

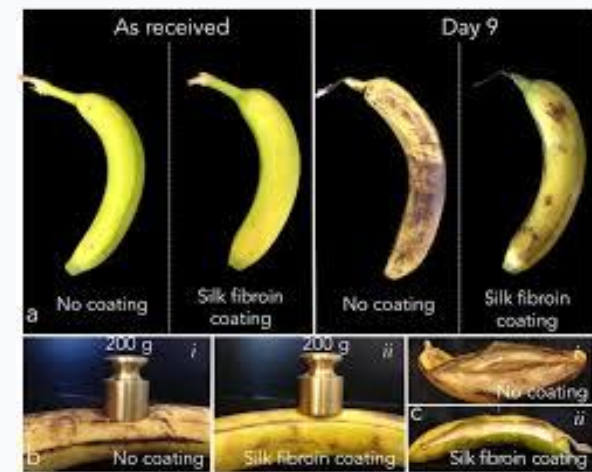
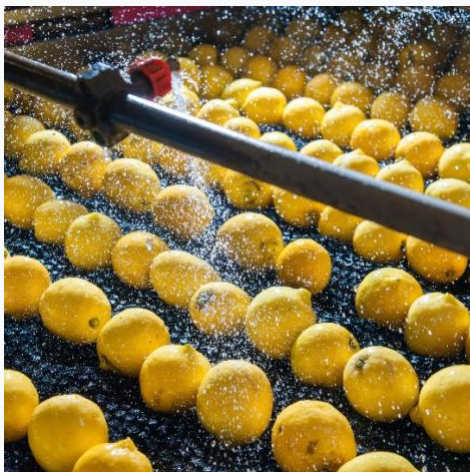
- E-310
- E-320
- E-321

In addition, **phosphates** (from E-338 to E-343) are not exactly antioxidants but are used to correct acidity, and especially to improve the water retention capacity in meat and fish derivatives (such as cooked hams) or squid rings). In addition, its use in excess can interfere with the absorption of calcium, unbalancing the calcium / phosphorus balance of the diet.

# Necessary food additives

## 2 Coating

- They are applied to the surface of a food to cover its pores and prevent germs from growing.
- Thanks to them, the food lasts longer without drying out or losing its aromas.
- Provide a shiny exterior appearance.





## Necessary food additives

### 3 Acids, bases and salts (E-5XX)

- Their names begin with the letter E and 5 followed by other figures.
- They increase the acidity of the food to avoid the growth of molds or bacteria and to prevent the colour from changing when cooked.

They favour the interaction of the different ingredients (for example: pectins give consistency to jams).



## Additives that should be reduced

Although we cannot do without many of them, they should be used only when it is not possible to avoid them. Some are more problematic, especially for sensitive people, and should be avoided as much as possible.

- 1 For textures
- 2 Preservatives
- 3 Sulphites
- 4 Nitrites and nitrates
- 5 Sweeteners

# Additives that should be reduced

## 1 For textures (E-4XX)

- Their names begin with the letter E followed by 4 and other figures.
- They are emulsifiers, thickeners, stabilizers and gelling agents widely used to add water instead of fats and sugars, thus obtaining foods with fewer calories.
- The downside is that they also allow you to dispense with basic ingredients such as eggs (in some desserts) or meat (in sausages).

# Additives that should be reduced

## 2 Preservatives (E-210 - 213)

Their names begin with the letter E followed by 2 and other figures.

They serve to better preserve fresh products, salads and sauces that cannot be sterilized. They are not needed in canned or frozen products.

Benzoic acid and its salts can cause allergic reactions in people who are sensitive to them. These are their codes:

- E-210
- E-211
- E-212
- E-213

## Additives that should be reduced

### 3 Sulphites (E-220 - 228)

Sulfites are preservatives that some people are allergic to and are included on the Notifiable List of allergens. As they are present in many products (hamburgers and minced meat preparations, fresh sausages, mustard, dried fruit, wine ...), it can be easy to exceed the daily dose (especially in children).

- E-220
- E-221
- E-222

- E-223
- E-224
- E-225

- E-226
- E-227
- E-228

## Additives that should be reduced

### 4 Nitrites and nitrates (E- 249 – 252)

Nitrites and nitrates are used in sausages and other meat products. If they are combined in our diet with amino acids, they can form nitrosamines. They are used to prevent the growth of *Clostridium botulinum*, a bacteria that can be deadly. Therefore, its benefits outweigh the risks.

- E-249
- E-250
- E-251
- E-252

## **Additives that should be reduced**

### **5 Sweeteners (from E-950 to E-969)**

They replace sugar in low calorie foods.

Among the "newcomers" are neotame (E-961) and advantame (E-696), synthetic sweeteners with very powerful sweetening power; they are 10,000 and 30,000 times that of sucrose, respectively.

There are natural sweeteners, such as stevia (E-960), composed of some glycosides obtained from a plant. Despite its "natural" origin, it also has maximum doses and risks if exceeded.

## Unnecessary food additives

1 Colorants

2 Flavour enhancers

They are almost always "**aesthetic**" additives. They improve flavour and colour, but have no effect beyond that.

If we want to avoid them, a good way to do it is to reduce the consumption of **snacks, soft drinks, precooked foods, sauces and charcuterie**. These "make-up" substances are concentrated in these foods.

They make it easier for the consumer to buy these products, since we are used to a certain aspect. For example: a soda with only 5% juice would be practically transparent and would not have that strong orange color that attracts us. xv



## Unnecessary food additives

### 1 Colorants (E-1XX)

- Their names begin with the letter E followed by 1 and other figures.
- The industry uses them to make up what we eat and make it look better. They are very common in gummies and soft drinks.
- Azoics can cause allergies. Also, research like the famous Southampton study has linked them to hyperactivity. Despite the fact that EFSA considers the results to be inconclusive, the EU decided that packaged products warn of this possible link to hyperactivity. The azoics are: E-102, E-104, E-110, E-122, E-124 and E-129.
- Its presence in food has been greatly reduced, being replaced by others of natural origin, such as fruit and vegetable concentrates or non-azoic colorants.

## Unnecessary food additives

### 2 Flavour enhancers (E-620 to E-650)

- Among them are glutamates and ribonucleotides. These additives are prohibited in baby food, although widely distributed in various food categories.
- They enhance the flavor of food, especially meat flavors, and may be hiding the absence of some quality ingredient (in order to lower costs).
- They accustom the consumer to artificial flavors and rich in enhancers.
- Glutamates are responsible for the typical "umami" flavor of bouillon tablets, which has been identified as the fifth flavor.
- Glutamates are associated with "Chinese restaurant syndrome", a highly controversial but clinically described kind of allergic reaction (associated with headaches, hot flashes, and general malaise).

## **Adverse reactions to additives**

All additives used in the European Union have been previously evaluated and their use is authorized under certain conditions (food categories, use levels ...). Although the vast majority of them are safe, some may have certain dangers but are used because their benefits outweigh their risks. In addition, the possible “cocktail effect” must be taken into account due to the presence of various additives in the food, and the existence of population groups that are especially sensitive to this substance. Apart from this, some of them can produce adverse reactions in sensitive people or if certain foods are abused:

- **Under 3 years:** additives have not been evaluated in infants and young children. We should avoid as much as possible that they consume products full of dyes and preservatives that can cause adverse reactions. Let's avoid giving them candy, soft drinks or sausages that contain nitrites, nitrates, azoic colorants or sulphites.
- **Children and adolescents:** due to their low weight, they have lower daily doses of additives than adults. Sometimes your diet contains excesses of some products such as soft drinks, sweets or pastries. This can make your consumption of an additive, as has been detected by EFSA on occasion, is excessive.
- **Allergy:** people with allergies, chronic urticaria, asthmatics ... Sulfites, benzoic acid and its salts, and azoic colorants are the ones most frequently associated with allergic reactions. People with allergies to aspirin and non-steroidal anti-inflammatory drugs may experience cross-reactions with additives such as benzoic acid and azoic colorants (which are fortunately rare).

In short.

## **Necessary food additives**

### 1 Antioxidants

**Vitamins** (from E-300 to E-304, from E-306 to E-309).

**Gallates** (BHA and BHT) are synthetic antioxidants (E-310, E-320, E-321)

**Phosphates** (from E-338 to E-343)

### 2 Coating

### 3 Acids, bases and salts. (E-5XX)

## **Additives that should be reduced**

For textures (E-4XX)

Preservatives (E-210 - 213)

Sulphites (E-220 - 228)

Nitrites and nitrates (E- 249 – 252)

Sweeteners (from E-950 to E-969)

## **Unnecessary food additives**

Colorants (E-102, E-104, E-110, E-122, E-124 and E-129)

Flavour enhancers (E-620 to E-650)