

Food additives

Food additives are ingredients that are added to foods to carry out particular functions.

Under EU law, manufacturers must provide information about any additives used in the foods they produce. You can find this information in the list of ingredients on the packaging. It will tell you what each additive does, followed by its name or E number.

Different types of food additives

Food additives are grouped by what they do. The additives that you are most likely to come across on food labels are:

- antioxidants – these stop food becoming rancid or changing colour by reducing the chance of fats combining with oxygen
- colours
- emulsifiers, stabilisers, gelling agents and thickeners – these help to mix or thicken ingredients
- preservatives – used to keep food safer for longer
- sweeteners – including intense sweeteners like stevia and aspartame which are many times sweeter than sugar

How we make sure food additives are safe

Additives must be assessed for safety before they can be used in food. We also ensure that:

- the science on additives is strictly reviewed
- the law is strictly enforced
- action is taken where problems are found

We investigate any information that casts reasonable doubt on the safety of an additive.

Food colours and hyperactivity

We funded research into possible links between food colours and hyperactivity in children. It found that consuming certain artificial food colours could cause increased hyperactivity in some children.

These artificial colours are:

- sunset yellow FCF (E110)
- quinoline yellow (E104)
- carmoisine (E122)
- allura red (E129)
- tartrazine (E102)
- ponceau 4R (E124)

Food and drink containing any of these six colours must carry a warning on the packaging. This will say 'May have an adverse effect on activity and attention in children'.

We encourage manufacturers to work towards finding alternatives to these colours. Some manufacturers and retailers have already taken action to remove them.

It's important to remember that hyperactivity can also be caused by other things. So being careful about what a child eats may help manage hyperactive behaviour but it may not stop it.

E numbers

An E number means that a food additive has passed safety tests and is approved for use here and in the rest of the EU.

All the foods we eat consist of chemicals in one form or another. Many food additives are chemicals which exist in nature such as antioxidants ascorbic acid (vitamin C) or citric acid, found in citrus fruits.

Due to technological advancements, many other additives are now man-made to perform certain technological functions. Whether or not the chemicals used in additives exist in nature, they are subject to the same safety evaluations by the European Food Safety Authority (EFSA).

Some consumers think of food additives (E numbers) as a modern invention used to make cheap foods. In reality, food additives have a long history of consumption and are used in many traditional foods. For example, wines including Champagne contain sulphites, and bacon contains the preservatives nitrates and nitrites to prevent the growth of botulism.

Caffeine in 'energy drinks' and other foods

Energy drinks are generally drinks with high-level of caffeine that manufacturers say give you more 'energy' than regular soft drinks like cola. They're different to 'sports drinks' which you might use to replace electrolytes lost during exercise.

Energy drinks can contain high levels of caffeine, usually about 80 milligrams (mg) of caffeine in a small 250ml can – which is what you would find in two or three cans of cola or a mug of instant coffee. There are also larger 500ml cans available which contain about 160mg of caffeine. Some of the smaller 'energy shot' products can contain anywhere from 80mg to as much as 160mg of caffeine in a 60ml bottle.

How much caffeine is safe for me?

In May 2015, The European Food Safety Authority published a report on the safety of caffeine. They looked at research on the short term adverse effects of caffeine such as interrupted sleep, anxiety and behavioural changes and increased blood pressure.

EFSA's advice for those without underlying health problems such as hypertension, is that:

- Pregnant and breast-feeding women: Daily intakes of caffeine up to 200mg do not raise safety concerns for the unborn child or breast-fed child. For breast-feeding women, single doses of caffeine up to 200mg are not a safety concern for the child.
- Adults: Single doses of caffeine up to 200mg and daily intakes of caffeine up to 400mg do not raise safety concerns.
- Children and Adolescents: Single doses of caffeine up to 3mg/kg body weight (bw) and daily intakes of caffeine up to 3mg/kg bw do not raise safety concerns. For a 10-year-old child weighing 30kg, this would work out to around 90mg of caffeine, which is just over one 250ml can of energy drink.

Our advice

Based on current scientific opinions on the safety of caffeine, we advise that children, or other people sensitive to caffeine, should only consume caffeine in moderation. Pregnant and breast-feeding women are advised not to have more than 200mg of caffeine over the course of a day, which is roughly two mugs of instant coffee or one mug of filter coffee. Drinks like espresso and lattes, which are made from ground coffee, typically contain higher levels of caffeine per mug.

What will the label tell me?

The EU Food Information Regulation (Regulation (EU) No. 1169/2011) requires specific labelling for high caffeine drinks and foods where caffeine has been added for a physiological effect. This labelling helps consumers to identify foods with high caffeine content in those products where they may not expect to find it.

Drinks

Drinks that contain caffeine from whatever source at a level over 150mg per litre (mg/l) must state: 'High caffeine content. Not recommended for children or pregnant or breast-feeding women'.

This must be in the same field of vision as the name of the product, along with the amount of caffeine expressed in mg per 100ml.

Foods

Foods (other than drinks) to which caffeine is added for a physiological purpose must state: 'Contains caffeine. Not recommended for children or pregnant women'.

This must be in the same field of vision as the name of the food along with the amount of caffeine in mg per 100g or per 100ml.

BSDA Voluntary Code

The British Soft Drinks Association has a voluntary Code of Practice on energy drinks, which suggests that the term 'Consume Moderately' (or similar words) should be included on the label and that such products should not be promoted or marketed to those under 16 years of age.

Caffeine added for flavouring

The above labelling rules do not apply to foods (including drinks) where caffeine is added for flavour rather than for a physiological purpose. These types of foods and drinks must comply with EU flavouring legislation (Regulation (EC) No 1334/2008). This limits the use of caffeine for flavouring purposes and sets maximum levels depending on the particular food or drink it is used in. For regular soft drinks like cola, the maximum amount of added caffeine permitted is 150 mg/l. The EU labelling legislation (Regulation (EC) No 1169/2011) requires that where caffeine is used as a flavouring, the term 'caffeine' must appear after the word 'flavouring(s)' in the list of ingredients.

Team contacts

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