

# Food supplements containing caffeine

What consumers need to know about food supplements containing caffeine.

## What is a food supplement?

A food supplement is defined as 'any food the purpose of which is to supplement the normal diet, and which is a concentrated source of a vitamin or mineral or other substance with a nutritional or physiological effect, alone or in combination and is sold in dose form.

A wide range of nutrients and other ingredients might be present in food supplements. These can include:

- vitamins
- minerals
- amino acids
- essential fatty acids
- fibre
- various plants and herbal extracts

Important

Food supplements are only intended to 'supplement' people's diets and should not be used to replace a varied, healthy diet.

Food supplements are not medicines, and their use is not intended to treat, cure, or prevent diseases in humans.

## Caffeine in food supplements

Caffeine is a substance that is found naturally in many products such as tea and coffee and it is one of the most widely consumed stimulants worldwide.

Caffeine is commonly added to food supplements, and it is often marketed with physiological effects such as increased focus and performance enhancement. Caffeine is not a vitamin or mineral, but it does fit the definition of a substance with a physiological effect, and it can therefore be used as an ingredient in food supplements.

Caffeine food supplements can often contain high levels of caffeine, sometimes from multiple ingredients which may themselves be a source of caffeine intake (for example kola nuts, guarana, certain tea leaves such as black tea). As caffeine is rapidly absorbed into the bloodstream, stimulatory effects may begin 15 to 30 minutes after ingestion and may last for a number of hours exerting physiological effects or leading to side effects (for example headaches and nausea).

## Forms of food supplements containing caffeine

Caffeine is found in a variety of food supplements, including:

- 100% caffeine powder, which is the most concentrated form of caffeine that can be found on the UK market
- caffeine supplements which contain caffeine and other ingredients and are sold in dose form
- food supplements in which caffeine is not specified in the name of the product but is listed in the ingredients, for example, pre-workout supplements
- food supplements in which caffeine is not listed as an ingredient on the packaging but contains an ingredient with a significant amount of caffeine, for example, guarana

## Advised caffeine intake and side effects of high caffeine

For most individuals, based on the [European Food Safety Authority \(EFSA\) 2015 opinion](#), caffeine intakes of up to 400mg per day are unlikely to cause adverse effects. However, individuals who are sensitive to caffeine at low doses and/or individuals with underlying health conditions may experience some side effects such as jitteriness, anxiety or difficulty concentrating.

The [National Health Service \(NHS\) website](#) advises to not consume over 200mg of caffeine a day during pregnancy. The EFSA opinion advises that 'Habitual caffeine consumption up to 200 mg per day by pregnant women does not give rise to safety concerns for the foetus. Single doses of caffeine and habitual caffeine intakes up to 200 mg consumed by lactating women do not give rise to safety concerns for breastfed infants.'

High levels of caffeine can cause anxiety, sleeplessness, agitation, palpitations, diarrhoea and restlessness, and individuals with a mental health condition can experience worsened psychosis. These effects may be more severe in individuals who are caffeine sensitive and/or have underlying health issues such as heart disease or high blood pressure, and effects may occur at lower doses.

Excessive caffeine consumption is associated with a number of serious adverse effects such as rapid heart rate, abnormal heart rhythms and seizures, which have been observed at intakes of approximately 1.2 grams (1,200 mg) of caffeine. Caffeine intakes of above 10-14 grams (10,000-10,400 mg) have been reported to be fatal, although smaller doses can also be life-threatening to sensitive populations. These cases have occurred where pure caffeine has been measured incorrectly.

It's important to note that the daily caffeine intake of up to 400 mg for healthy adults and up to 200 mg for pregnant women encompasses all sources of caffeine. This can sometimes be a single product or combination of products. This means that when monitoring your caffeine intake, you should consider the cumulative amount from all caffeinated products you consume throughout the day. For example, common sources of caffeine include:

- **coffee** - a mug of coffee contains about 100-140 mg of caffeine, though this can vary widely
- **tea** - a mug of tea contains about 75 mg of caffeine
- **energy drinks** - these can vary significantly, often containing 80mg of caffeine in a 250ml can of energy drink
- **soft drinks** - a can of soft drink typically contains about 40 mg of caffeine
- **chocolate** - there is around 25mg of caffeine in a 50g bar of plain dark chocolate and around 10mg in a 50g bar of plain milk chocolate
- **medications and supplements** - some pain relievers, weight loss pills, and dietary supplements can also contain significant amounts of caffeine

# **How to avoid excessive caffeine consumption**

## **As with all food supplements, read the label and be mindful of your caffeine intake**

Neglecting to check the caffeine content per serving could lead to consuming excessive amounts, potentially resulting in adverse effects. Avoid consuming supplements at doses greater than 200mg of caffeine per a single serving or over 400mg of caffeine in servings throughout the day.

Limit your caffeine intake in other food sources such as tea, chocolate, energy drinks and coffee throughout the day if you are consuming food supplements containing caffeine.

If pregnant, limit your intake food supplements containing caffeine and be aware of labelling on products that state "Contains caffeine. Not recommended for children or pregnant women".

## **100% pure caffeine powder**

When consuming 100% caffeine powder, which is the most concentrated form of caffeine that can be found on the UK market, always follow the dose stated on the label. Be sure to use appropriate measuring equipment to precisely measure the quantity so as to not exceed the stated dose.

## **Follow the dosage instructions**

Disregarding dosage instructions may result in consuming more caffeine than recommended.

Increasing serving sizes based solely on personal tolerance or perceived effects may lead to unsafe consumption levels. Deviating from recommended dosage instructions may result in consuming too much or too little caffeine, leading to potential adverse effects or reduced effectiveness of the supplement.

## **Use provided measuring device**

Relying on alternative methods of measurement, such as estimation, increases the likelihood of inaccuracies in dosage, potentially leading to unintended health consequences. Never guess the measurement.

## **Avoid 'Dry Scooping'**

Dry Scooping is the practice of consuming food supplement powders without diluting them with water as per the instructions on the label. Dry scooping products containing caffeine may exceed the stated recommended daily dose.

## **Be alert to products sold online**

Beware of counterfeit products, particularly when buying products on the internet and where the product price is cheaper than other sellers. Do not buy supplements over the internet unless you are confident the seller is reputable.

## **Consult healthcare professionals for guidance**

Always seek professional guidance when unsure about supplement usage or dosage. Ignoring advice from healthcare professionals may result in inappropriate dosage or usage, potentially

exacerbating health issues or interfering with other medications.

## **Reporting a food safety incident**

If you believe a food supplement containing caffeine which has been supplied is either harmful to health, unfit for people to eat if it exceeds suggested safe levels or does not meet legal requirements, you should [report the issue to your Local Authority or District Council](#). The Local Authority or District Council will report a food safety incident to the Food Standards Agency in England, Wales or Northern Ireland. If you are located in Scotland, they will report a food safety incident to Food Standards Scotland.