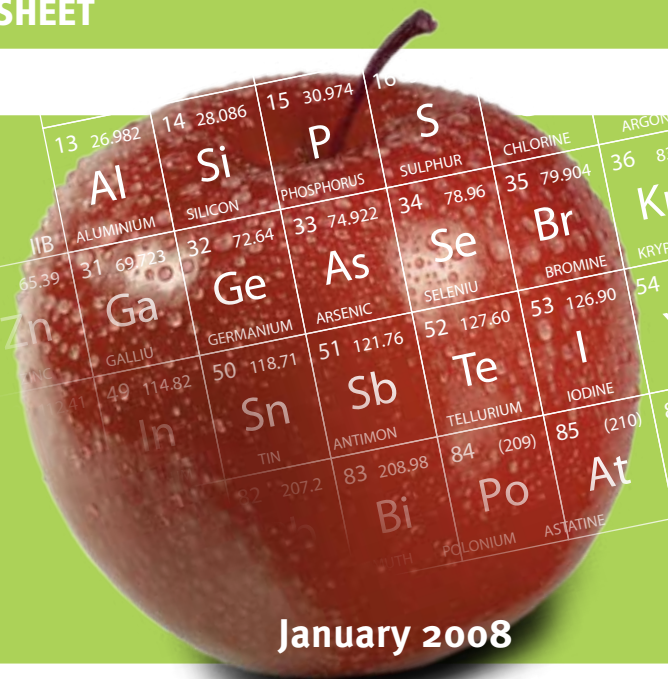


Food contaminants



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Managing food contaminants: how the EU ensures that our food is safe

Food contaminants are substances that may be present in certain foodstuffs due to environmental contamination, cultivation practices or production processes. If present above certain levels, these substances can pose a threat to human health. EU rules ensure that food placed on the market is safe to eat and does not contain contaminants at levels which could threaten human health.

Some contaminants are formed naturally, carried over to food from water, air or soil, or created as a by-product of the food production process itself. The chemical compound acrylamide sometimes found in potato crisps, for example, is the result of cooking practices. Another example are mycotoxins, such as aflatoxin, produced by fungi which can be found in nuts.

OVERVIEW OF EU RULES

When it comes to food contaminants, EU legislation stipulates that food containing a level of contaminant that is unacceptable from a public health viewpoint – in particular at a toxicological level – cannot be put on the market. Since many contaminants are naturally occurring, it would be impossible to impose a total ban on these substances. Instead, the best course of action to protect public health is to ensure that these substances are kept at levels which are as low as possible and determined on the basis of sound scientific evidence.



- Maximum levels are set for the contaminants of greatest concern to EU consumers, either due to their toxicity or their potential prevalence in the food chain. These include aflatoxins, heavy metals (such as lead and mercury), dioxins and nitrates.
- The levels are set on the basis of scientific advice provided by the European Food Safety Authority (EFSA).
- Member State authorities are responsible for sampling food products, to ensure that they comply with the legislation.
- For imported foodstuffs, the country of origin is responsible for compliance with EU legislation, and this is controlled at EU borders and on the market.

CONTROL AND RESPONSE

The EU's control and response procedures are based on a process of random checks undertaken by Member States. If a risk is identified, appropriate measures are rapidly taken.

- Member States perform random sampling and analysis of foodstuffs, regularly report findings and take action if samples are not compliant with the legislation. The EU makes these findings available to all Member States.
- If, during their checks, national authorities identify a risk, they may temporarily suspend or restrict production or distribution of products. However, they must immediately inform the other Member States and the European Commission and give reasons for their decision.
- RASFF (Rapid Alert System for Food and Feed) transmits information between national competent authorities, the European Commission and EFSA, enabling rapid action. Member States, the European Commission, EFSA, Norway, Iceland and Liechtenstein are members of the network.

> http://ec.europa.eu/food/food/rapidalert/index_en.htm



- The European Commission deploys the Food and Veterinary Office to investigate the correct application of legal provisions and prevention measures in Member States and third countries. It then makes, and subsequently follows up, recommendations which must be enforced by national authorities.

> http://ec.europa.eu/food/fvo/index_en.htm

PROMOTING BEST PRACTICE

The EU promotes best practice among all those involved in the production, storage and delivery of food to ensure that contaminant levels are kept to a minimum. Some concrete examples are described below.

PATULIN

- A good example of best practice is the EU's approach to patulin in apple juice. Patulin is a toxic chemical produced by moulds and is commonly found in rotting apples and other mouldy fruit. While it is not a particularly potent toxin, it has been shown to be a carcinogen. As a result, EU rules establish maximum levels for patulin for apple juice and apple juice ingredients in other beverages.



- In addition, because the handling and storage of fruit affect the probability of patulin contamination of juice, the EU has put forward a Code of Practice for the apple processing industry. This code includes good manufacturing practices relating to, for example, careful pruning of trees, handling fruit to minimise damage and keeping fruit dry once harvested.

> http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=32003H0598&model=guichett

FUSARIUM TOXINS

- Toxin-producing fusarium fungi are commonly found on cereals grown in the temperate regions of Europe, America and Asia. Such toxins have been shown to cause toxic effects in both experimental animals and livestock, and have also been suspected to cause high levels of toxicity in humans.

- Together with setting maximum levels, the EU promotes a range of good agricultural practices during the handling, storage, processing and distribution of cereals for human food and animal feed, in order to prevent or minimise contamination by fusarium toxins. These practices include crop rotation, timely harvesting and dry storage.

> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006H0583:EN:NOT>

ACRYLAMIDE

- Acrylamide forms in certain food as a result of cooking practices and is commonly found in starchy foods, such as potato and cereal products which have been deep-fried, roasted or baked at high temperatures (above 120°C). This substance is known to have potential carcinogenic effects. Research is being undertaken to better understand the process of its formation and to find ways to reduce its presence in food (See the Heatox project below.)
- A careful selection of raw material as well as certain cooking practices are known to help limit the formation of acrylamide in potato products and bread. A toolbox and a series of brochures containing practical recommendations have been developed by the food industry in close cooperation with the European Commission and the Member States.



> http://ec.europa.eu/food/food/chemicalsafety/contaminants/acrylamide_en.htm

RESEARCH

Research forms the backbone of the EU's legislation on contaminants and Community measures are regularly reassessed in the light of the most recent scientific knowledge. The European Commission is co-funding various research projects on this issue.

- The **HEATOX project** (2003–2007) discovered more about acrylamide and other substances formed during the cooking of starchy foods. HEATOX also investigated whether the levels of such compounds can be reduced by altering cooking practices, and helped in assessing the risk to consumers who eat these foods. This project received €4.2 million in EU funding and participants represented 14 countries, including Chile and Turkey.

> www.heatox.org

- **BioCop** (2005–2010) is an integrated project which aims to develop new tools and methods based on emerging biotechnologies to screen food for a range of chemical contaminants. Its ultimate goal is to supply regulators, consumers and industry with long-term solutions to the complex problems associated with chemical contaminant monitoring. The European Commission has provided almost €10 million in funding and the partners represent 16 EU Member States, Canada and Switzerland.

> www.biocop.org

- **BENERIS** (2006–2009) uses a benefit–risk approach to explore food risks and contaminants. The project aims to stimulate awareness of the health benefits of food in a clear and transparent way, and investigate the food risks consumers face every day. Over 45 months, the project will develop and use integrated methods to evaluate both the risks and health benefits for specific food items. Receiving

over €1.1 million from the European Commission, BENERIS brings together partners from eight EU Member States and involves epidemiologists, toxicologists, nutrition scientists, exposure assessors, risk analysts, and authorities.

> www.beneris.eu





FURTHER INFORMATION

- European Commission website on food and feed safety
http://ec.europa.eu/food/food/index_en.htm
- European Commission website on contaminants
http://ec.europa.eu/food/food/chemicalsafety/contaminants/index_en.htm
- The Standing Committee on the Food Chain and Animal Health
http://ec.europa.eu/food/fs/rc/scfcah/index_en.html
- "50 Years of Food Safety in the EU"
http://ec.europa.eu/food/food/50years_foodsafety_en.htm
- European Food Safety Authority (EFSA)
<http://www.efsa.europa.eu>

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http://ec.europa.eu/dgs/health_consumer/index_en.htm

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