

## Communication 58/2023

16 November 2023

### **Smoke flavourings may contain substances that are hazardous to health**

#### Re-evaluation by the European Food Safety Authority (EFSA) with new rating

---

The European Food Safety Authority (EFSA) has carried out a new safety assessment on eight primary products for the production of smoke flavourings. The assessment was necessary because the manufacturers have applied for an extension of the authorisation, which expires on 1 January 2024, for a further ten years in the EU. In the process, EFSA has taken into account the latest scientific findings and the current assessment criteria. For their part, manufacturers are obliged to provide up-to-date testing data on these primary products. EFSA has now come to a new safety assessment.

Genotoxic substances (substances that damage the genetic material of cells) have been detected in six of these primary products; the other two primary products are suspected of having genotoxic effects, which still needs to be experimentally clarified. The German Federal Institute for Risk Assessment (BfR) shares EFSA's concerns regarding the genotoxic potential of these primary products. EFSA has concluded that all of the eight primary products assessed can no longer be considered harmless to health.

The separation of risk assessment and risk management has been enshrined in European law since 2002. It is now the responsibility of risk management (representatives of the European Commission and EU Member States) to decide, taking into consideration the current EFSA scientific opinions, whether and, if applicable, under what conditions the authorisations for the eight primary products for the production of smoke flavourings can be extended.

Smoke flavourings give an aromatic smoke flavour to various foods, such as fish, meat, cheese, and even to some foods that are not traditionally smoked (e.g. soups, sauces and snacks). Unlike the smoking process, which also preserves the food for longer, smoke

flavourings primarily have a flavouring function. The flavourings are incorporated directly into the food or applied to the surface by dipping or spraying.

The primary products for the production of smoke flavourings are obtained in a complex manufacturing process through the controlled burning of wood and subsequent chemical-physical processing. This results in complex mixtures of numerous components, not all of which could be identified. According to the EFSA guidance published in 2019 on the assessment of the genotoxicity of mixtures, the presence of a substance with genotoxic potential means that the product can no longer be considered harmless to health. Genotoxic substances can damage our genetic material. No health-based guidance value can be derived for these substances, since even low intakes of such substances can be associated with increased health risks, especially if consumed regularly.

Up to now, ten primary products for the production of smoke flavourings have been granted market authorisation in the EU. Authorisation is limited to ten years and expires on 1 January 2024. Manufacturers have applied for an extension of the authorisation for ten more years for eight of these substances. There are health concerns regarding the genotoxic potential of six of the eight primary products assessed because they contain furan-2(5H)-one, which is known to be genotoxic in vivo. Four of these primary products also contain 1,2-dihydroxybenzene (synonym: catechol, pyrocatechol), which is also genotoxic in vivo. For the other two smoke flavouring primary products, there are indications of genotoxic potential that still need to be experimentally clarified. In addition, furan-2(5H)-one was not identified in one of these two primary products with the (inadequate) analytical methods used, but the absence of this substance was not conclusively demonstrated. As a result, EFSA has concluded that all of the eight primary products assessed can no longer be considered harmless to health. Since smoke flavourings must be declared in the list of food ingredients, they can be identified as ingredients. This means that consumers have the opportunity to adjust their consumption behaviour according to their individual safety requirements.

Link to the EFSA press release and to the eight EFSA scientific opinions:

<https://www.efsa.europa.eu/de/news/smoke-flavourings-qa-wim-mennes-efsas-working-group-chair-flavourings>

## About the BfR

The German Federal Institute for Risk Assessment (BfR) is a scientifically independent institution within the portfolio of the Federal Ministry of Food and Agriculture (BMEL) in Germany. The BfR advises the Federal Government and the States ('Laender') on questions of food, chemicals and product safety. The BfR conducts independent research on topics that are closely linked to its assessment tasks.

*This text version is a translation of the original German text which is the only legally binding version.*

### Legal notice

Publisher:

**German Federal Institute for Risk Assessment**

Max-Dohrn-Straße 8-10

10589 Berlin, Germany

T +49 30 18412-0

F +49 30 18412-99099

bfr@bfr.bund.de

bfr.bund.de/en

Institution under public law

Represented by the president Professor Dr Dr Andreas Hensel

Supervisory Authority: Federal Ministry of Food and Agriculture

VAT ID No. DE 165 893 448

Responsible according to the German Press Law: Dr Suzan Fiack



CC-BY-ND

**BfR** | Identifying Risks –  
Protecting Health