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CODEX COMMITTEE ON CONTAMINANTS IN FOOD
17th Session

15-19 April 2024 Panama City

EU comments on

Agenda Item 21

Foresight on emerging issues in food and feed safety relevant to contaminants
(CX/CF 14/17/20 and CL 2024/07-CF)

Mixed Competence
European Union Vote

The European Union and its Member States (EUMS) would like to inform the Committee on ongoing European Union activities on emerging issues in food and feed safety relevant to contaminants:

Mineral oil hydrocarbons

- Mineral oil hydrocarbons (MOHs) are substances that may contaminate food in many ways: via harvesting or production processes (use of lubricants for machinery, drying processes, contact with exhaust fumes, processing aids, the use of anti-dusting agents, the use of non-stick agents, the use of hexane or mineral oils in extraction processes, etc…), the use of food or feed additives, migration from food contact materials (jute bags, recycled paper and cardboard, printing inks, waxes, etc…) or through environmental contamination.

- MOHs can contaminate all foods, but are mostly found in processed foods and in foods packaged in mineral oil containing food contact materials, such as mineral oil treated jute bags. In the following foods often MOAH are found: oilseeds, oil fruits, tree nuts (in particular coconuts), cocoa beans, coffee, tea, herbal infusions, spices, dried herbs, pulses, cereals and processed products derived from these commodities.

- MOHs are distinguished between mineral oil saturated hydrocarbons (MOSH) and mineral oil aromatic hydrocarbons (MOAH).

- In 2023 EFSA updated its risk assessment on MOHs in food (https://www.efsa.europa.eu/en/efsajournal/pub/8215).

- MOSH accumulate in liver, spleen, adipose tissue. EFSA considers that, according to the present knowledge, the current exposure to MOSH does not raise concern for human health, for all age groups. However, the consequences of long-term accumulation of MOSH for human health have not yet been investigated and thus remain uncertain.

- MOAH with 3 or more aromatic rings are associated with genotoxicity and carcinogenicity. EFSA concludes that, due to a lack of toxicological information on the effects of 1 and 2 ring MOAH, and to the presence of 3 or more ring MOAH in the diet, concerns for human health cannot be excluded.

- In view of the several findings of MOAH in various foods and of the fact that the occurrence of MOAH in food is avoidable, the EUMS agreed on a common enforcement approach for concentrations of MOAH above the limit of quantification; in June 2021 for formulae for infants and young children, and in April 2022 for all other foods (https://food.ec.europa.eu/safety/chemical-safety/contaminants/catalogue_en#MOH).

    - 0.5 mg/kg for dry foods with a low fat/oil content (≤ 4% fat/oil)

    - 1 mg/kg for foods with a higher fat/oil content (> 4% fat/oil, ≤50% fat/oil)

    - 2 mg/kg for fats/ oils or foods with >50% fat/oil

- At the moment no EU limits are in place for MOSH in food, however certain Member States have established national benchmark levels and food business operators are recommended to monitor their production and to apply mitigation measures, where needed.

- The analyses for MOH in food are typically carried out by coupling liquid and gas chromatography with subsequent flame ionization detection (LC-GC-FID). However, in cases where naturally occurring/ biogenic substances interfere with the analysis, a confirmatory analysis with two-dimensional gas chromatography (GCXGC) is needed to confirm the concentration of MOAH. The Joint Research Centre (JRC) of the European Commission published a Guidance on sampling analysis and data reporting for the monitoring of mineral oil hydrocarbons in food and food contact materials (https://op.europa.eu/en/publication-detail/-/publication/97cb92c2-d29e-11ed-a05c-01aa75ed71a1) (referred to hereafter as 'JRC Guidance').

- When MOSH or MOAH are quantified in food, the food business operators should check all steps of the process, in order to identify the source(s) of the contamination and they should apply the necessary mitigation measures, to avoid further contamination of their production. Also food contact materials should be investigated as a possible source of the MOH contamination of food. In order to avoid the contamination of food via the transfer from mineral oil based jute bags, it is recommended to use jute bags that were produced on the basis of MOH free vegetable oils.

- Taking into account the 2023 updated EFSA risk assessment, discussions have been started with the EU Member States on the regulatory follow-up. It is the intention to establish in the EU legislation on contaminants in food maximum levels for MOAH. As an increase of the exposure to MOSH might also lead to health concerns, indicative levels for MOSH in food are under discussion. The indicative levels are values that, when exceeded, should trigger investigations towards the sources of the contamination and the application of mitigation measures.

- The adoption of the EU maximum levels and indicative levels is targeted fourth quarter of 2024/ first quarter of 2025.

- As the presence of MOAH in food is avoidable, food business operators are urged to already check their processes in order to avoid the presence of MOAH in their production.

• Further information on this topic can be found on: https://food.ec.europa.eu/safety/chemical-safety/contaminants/catalogue_en#MOH

Heavy metals in algae

Because algae have a tendency to accumulate heavy metals and because the consumption of algae and algae based products is gaining popularity, the European Food Safety Authority carried out an assessment of the dietary exposure to heavy metals and iodine intake via the consumption of seaweeds and halophytes in the European population (https://www.efsa.europa.eu/en/efsajournal/pub/7798).

Because it appears that the consumption of algae results in a significant contribution to the consumer exposure to heavy metals and iodine, the EUMS have started discussions on the establishment of maximum levels for heavy metals and iodine in seaweed. The adoption of these maximum levels is targeted mid-2025.

Quinolizidine alkaloids in lupins and lupin-derived food

Increased consumption of lupins as the consequence of the transition towards more plant based, entails new risks. In particular the presence of quinolizidine alkaloids in lupins and lupin-derived products might be of concern. The European Food Safety Authority (EFSA) has published a scientific opinion on the risks for animal and human health related to the presence of quinolizidine alkaloids in feed and food, in particular in lupins and lupin-derived products (available at: https://doi.org/10.2903/j.efsa.2019.5860).

The EU is finalising a monitoring recommendation on quinolizidine alkaloids
- to gather more occurrence data on the presence of quinolizidine alkaloids in lupins and lupin-derived products,
- to carry out investigations to identify the factors leading to high levels of quinolizidine alkaloids in lupins and lupin-derived food and
- to gather more information on the effects of processing on the level of quinolizidine alkaloids[1].

The information will be used to consider the establishment of regulatory measures to reduce the presence of quinolizidine alkaloids in lupins and lupin-derived food.

Alternaria toxins

Climate change has an impact on the prevalence of toxicogenic fungi, including *Alternaria* species. The European Food Safety Authority (EFSA) adopted a scientific opinion in 2011 on the risks for animal and public health related to the presence of *Alternaria* toxins in feed and food (availble at: https://doi:10.2903/j.efsa.2011.2407). EFSA published in 2016 a scientific report on the dietary exposure assessment of Alternaria toxins in the European population (available at https://doi:10.2903/j.efsa.2016.4654). It was concluded that the estimated chronic dietary exposure to the *Alternaria* toxins alternariol, alternariol monomethyl ether and tenuazonic acid exceeds the relevant threshold of toxicological concern.

[1] Information can already be found in: Schyvers et al. The fate of quinolizidine alkaloids during the processing of lupins (Lupinus spp.) for human consumption. Food Chemistry 429 (2023) 136847

The Commission Recommendation (EU) 2022/553 of 5 April 2022 on the monitoring of presence of *Alternaria* toxins in food was adopted (availble at: http://data.europa.eu/eli/reco/2022/553/oj). The monitoring of the *Alternaria* toxins alternariol, alternariol monomethyl ether and tenuazonic acid in food, in particular in processed tomato products, paprika powder, sesame seeds, sunflower seeds, sunflower oil, tree nuts, dried figs and cereal-based foods for infants and young children is recommended. In addition, investigations to identify the factors resulting in increased presence of Alternaria toxins and on the effects of processing on the level of these *Alternaria* toxins should be performed.

The information will be used to consider the establishment of regulatory measures to reduce the presence of *Alternaria* toxins in food.

Climate change and impact on presence of mycotoxins and plant toxins in feed and food.

The increased prevalence of mycotoxins (such as deoxynivalenol, ergot alkaloids, T-2 and HT-2 toxin and fumonisins) and plant toxins (such as tropane alkaloid and pyrrolizidine alkaloids) in feed and food due to, among other factors, climate change requires constant attention in the EU to permanently guarantee the safety of feed and food.