Position papers

Updated position paper on Bamboo Bio-Composites in Food Contact Materials

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1. Risk assessment advice on biobased food contact materials (BBFCMs) has been increasingly requested from the Food Standards Agency (FSA), hence it was considered timely for the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT) to review the available toxicological information on BBFCMs (COT, 2021a).

2. The COT acknowledged the challenges and complexities associated with BBFCMs and highlighted several limitations and knowledge gaps on BBFCMs research and regulation. These included labelling, composition (including biodegradability), contamination and standardisation (COT, 2021a).

3. The COT undertook a more detailed review of the potential health risks of bamboo composites in Food Contact Materials (FCMs) due to the increased number of incidents reported of non-compliant bamboo composite items (e.g. coffee cups) being placed onto the European market (COT, 2021b).

4. In December 2020, reports in relation to bamboo composite FCMs were predominantly related to misleading labelling on packaging and/or their advertisement, as well as incidences of formaldehyde/melamine migration levels exceeding legal limits. In 2021, and due to the EU’s conclusion, that bamboo is an unauthorised additive within plastic FCMs, reports received by the FSA had predominantly been of non-compliance of plastic-bamboo FCMs in the European market. This included the advertisement of products from UK businesses on EU facing markets.

5. In 2019, the EFSA panel on FCMs was asked by the European Commission (EC) to assess whether the authorisation of untreated wood flour and fibres (FCM no. 96) as an additive in plastic food contact materials was still in accordance with EC Regulation 1935/2004, and also to consider whether bamboo could be considered under the scope of this authorisation. EFSA concluded that wood and bamboo should be considered distinct and each material regarded on a case-by-case basis (EFSA, 2019). In addition, the food safety authorities of Belgium, Luxembourg and the Netherlands (Benelux) published a joint letter calling for the market withdrawal of bamboo-melamine plastics (NVWA, 2021a). In April 2021, the EC recommended that Member States should take stringent action on bamboo composite FCMs and set out a coordinated control plan. The FSA is aware of the stance by the EC and of the individual Member States and is considering an appropriate course of action based on scientific evidence.

6. The COT previously assessed the reports by the German Federal Institute for Risk Assessment (BfR) and the Netherlands Food and Consumer Product Safety Authority (NVWA) and noted that the BfR applied their own tolerable daily intake (TDI) of 0.6 mg/kg/day for formaldehyde whereas the NVWA and EFSA used a lower TDI of 0.15 mg/kg/day (BfR 2020; NVWA 2021b; COT 2021c). Overall, the COT concluded that the exposure assessments were conservative but not necessarily worst-case. It was agreed that although the NVWA and BfR opinions took slightly different approaches, in general the same conclusions were reached. Based on the assessment of the BfR and NVWA reports the Committee concluded that the migration of formaldehyde and melamine from bamboo composite cups was a potential concern to human health (COT 2021c).

7.To assist the COT with their assessment the FSA launched a call for evidence in 2023 to obtain further information from industry, consumers, or interested parties on the safety and stability of plastic contact materials and articles containing bamboo and other plant-based material. In March 2024, the COT assessed the information submitted to the FSA in response to the call for evidence as well as an additional report (EU-ChinaSafe, 2022).

8. Based on the considerations of the new evidence submitted to the FSA and the currently available data, the COT agreed that there was still insufficient exposure data on which to perform a complete risk assessment. Concerns remained regarding the migration of formaldehyde and melamine from these FCMs, while the actual composition of these products remained uncertain.

COT Position paper

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Abbreviations

BBFCMs	Biobased food contact materials
BfR	German Federal Institute for Risk Assessment
NVWA	Netherlands Food and Consumer Product Safety Authority
COT	Committee on Toxicity
EC	European Council
EFSA	European Food Safety Authority
EU	European Union
FCM	Food Contact Material
TDI	Tolerable daily intake

References

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