

EFSA NETWORK ON THE COOPERATION AND HARMONISATION OF RISK ASSESSMENT OF FOOD CONTACT MATERIALS (FCM)

Minutes of the 9th meeting



20 April 2023

14:00-18:00

Minutes agreed on 09 May 2023

Location: Web conference

Attendees:

- o Network Participants:

Country	Name
Austria	Christa Hametner Thomas Schwartz
Belgium	Els Heyvaert Els Van Hoeck
Bulgaria	Svetlana Savova
Croatia	Lidija Baričević Nino Dimitrov Valentina Hristova-Bagdassarian Mario Ščetar Ivona Vidić Štrac
Czech Republic	Jitka Sosnovcová
Denmark	Gitte Alsing Pedersen
Estonia	Küllli Suurvarik
Finland	Merja Virtanen
Germany	Stefan Merkel Nicole Hellwig
Greece	Evgenia Lampi Zoe Mousia
Hungary	Gabriella Gaál Blanka Daniella Szilvássy
Ireland	Karl McDonald
Italy	Francesca Marcon Giorgio Padula Emanuela Testai
Lithuania	Skirmante Ambraziene Alvija Šalaševičienė
Luxembourg	Sandy Nosbusch
Netherlands	Krista Bouma Bianca Van de Ven
Norway	Inger-Lise Steffensen
Poland	Marzena Pawlicka
Portugal	Maria de Fatima Tavares Pocas Ana Teresa Sanches Silva
Slovak Republic	Karolina Rimbalová Milada Sycova
Slovenia	Viviana Golja
Spain	Juana Bustos Garcia de Castro Perfecto Paseiro Losada Ana Rivas



Sweden	Marie-Louise Nilsson
Switzerland	Beat Brüscheweiler

- **European Commission/Other EU Agencies representatives:**
Jonathan Briggs (DG SANTE), Silvia Costante (DG SANTE), Eddo Hoekstra (DG JRC), Bastian Schupp (DG SANTE), Corinne de Vries (EMA) and Panagiotis Zarogiannis (ECHA)
- **Intergovernmental organisations:**
Sussane Bahrke (CoE), Richard Brown (WHO), Federica Madia (IARC)
- **Member of Committees and Panels invited as speakers:**
Riccardo Crebelli, Gilles Rivière (EFSA Panel on Food Contact Materials, Enzymes and Processing Aids, CEP Panel); Laurence Castle (EFSA Panel on Food additives and flavourings, FAF Panel) and Emma Di Consiglio (CEP Working Group on Food Contact Materials)
- **EFSA:**
FIP Unit: Eric Barthélémy (FCM Network Coordinator, Chair), Sandra Rainieri (FCM Team Leader), Zainab Al Harraq (FCM Team) and Daniele Comandella (FCM Team)

1. Welcome and apologies for absence

Eric Barthélémy, Coordinator and Chair of the FCM Network, opened the meeting. The meeting was dedicated to the re-assessment of styrene and to the methodology proposed for the assessment of substances of natural origin. It aimed at sharing these ongoing assessments at an early stage of the process, allowing sufficient time for discussion. Additional participants from Member States (with specific interest and/or expertise on the topics of the meeting) as well as representants from the European Medicines Agency (EMA), from the International Agency for Research on Cancer (IARC) and from the World Health Organisation (WHO) participated to the item on the re-assessment of styrene. The Chair highlighted the representation of 22 EU Member States plus Norway and Switzerland, the Council of Europe (CoE), the European Chemicals Agency (ECHA) and the European Commission (SANTE and JRC). He thanked them all for attending the meeting.

Apologies were received from Cyprus, France and Iceland for the entire meeting.

2. Declarations of Interest

All participants signed either a statement of confidentiality or have an annual Declaration of Interest up to date and validated.



3. Adoption of agenda

The agenda was adopted without changes. The minutes of the 8th meeting of the Network on Food Contact Materials held on 22-24th November 2022, Parma, were agreed by written procedure on 2 January 2023 and published on the EFSA website¹.

4. Re-assessment of styrene used to manufacture FCM

a. EFSA opinion on the assessment of the impact of the IARC Monography Vol. 121 on the safety of the substance Styrene (FCM No. 193) for its use in plastic food contact materials (EFSA CEP Opinion, 2020)

Gilles Rivière presented the EFSA opinion on the assessment of the impact of the IARC Monograph Vol. 121 on the safety of the substance Styrene (FCM No 193) for its use in plastic food contact materials², published in 2020. Its abstract is reported below.

“The EFSA Panel on Food Contact Materials, Enzymes and Processing Aids (CEP) was requested by the European Commission to re-evaluate the safety of styrene (FCM No 193) for use in plastic food contact materials (FCM) following the classification by the International Agency for Research on Cancer (IARC) as ‘probably carcinogenic to humans’. The IARC Monograph pertains to hazard identification, based on studies on high-dose occupational exposures by inhalation and animal studies, also mainly by inhalation. The Panel considered that the IARC conclusions cannot be directly applied to the evaluation of risks for consumers from the oral exposure to styrene, but also concluded that, based on the data provided in the IARC Monograph and by the industry, a concern for genotoxicity associated with oral exposure to styrene cannot be excluded. The migration of styrene into foods packed in styrenic plastics is below 10 µg/kg for the majority of the foods, but up to 230 µg/kg was reported. Migration tends to be high for contact with fatty foods, and/or with high surface to volume ratios of the FCM. Dietary exposure of the consumers to styrene migrating from styrenic plastics was estimated in the order of 0.1 µg/kg body weight (bw) per day. It is in the same range as exposure from styrene present in foods as such. The dietary exposure (food component plus migration from styrenic plastics) is similar or lower than that by inhalation in the general population. Taking the human exposure data into account, the Panel concluded that a systematic review of genotoxicity and mechanistic data, comparative toxicokinetics and analysis of species differences is required for assessing the safety of styrene for its use in FCM.”

¹<https://www.efsa.europa.eu/sites/default/files/2023-01/8th-fcm-network-meeting-minutes.pdf>

²<https://www.efsa.europa.eu/en/efsajournal/pub/6247>



b. Draft mandate from the EC DG SANTE

Jonathan Briggs presented the draft mandate on Styrene. Styrene is currently authorised to manufacture plastics without specific restrictions. Following on from the EFSA opinion on the IARC Monography and the data received from the industry indicating that migration of styrene monomer from styrenics plastics into food is likely to exceed 10 µg/kg food, the EC has proposed to set a specific migration limit (SML) of 40 µg/kg food (based on the guidance value of 20 µg/kg determined by WHO for drinking water, which is based on an existing TDI and a 10% allocation factor). The new draft mandate will request EFSA to address the genotoxicity associated with oral exposure to styrene and to answer as to whether the use of styrene, if authorised in accordance with Article 5 of Regulation (EU) No 10/2011 subject to the above mentioned SML of 40 µg/kg food, is in accordance with Article 3 of Regulation (EC) No 1935/2004.

c. Answering the EC DG SANTE mandate

Gilles Rivière presented the intended approach to answer the mandate that was agreed after consultation of the CEP Panel, its Working Group (WG) on FCM and the cross cutting WG on Genotoxicity of the EFSA Scientific Committee. To address the genotoxicity potential and safety against the 40 ppb SML, EFSA favours a fit-for-purpose process in a reasonable timeframe. The approach agreed to answer the mandate considers the evaluation of (i) the new studies submitted by the US Styrenics Industry Association (SIRC) to the EC, (ii) the reliability and relevance of the oral genotoxicity studies in the IARC Monograph, (iii) the toxicokinetic studies in the IARC Monograph, along with (iv) a literature search on the new *in vivo* studies (oral exposure) published since the IARC Monograph that should cover genotoxicity, toxicokinetics and human biomonitoring studies, taking into account pharmacokinetic and metabolic differences related to the route of exposure, that can contribute to the assessment of the genotoxic potential of oral styrene in humans. Additional data to answer potential uncertainties and lack of information will be requested if needed and a public consultation will be held.

d. Questions and answers

The goals of the draft mandate and the timeline for delivering the EFSA opinion were discussed and clarified.

e. Progress and protocol

Zainab Al Harraq presented an overview of the protocol and the methodology that are being used to carry out the evaluation. She also presented the status of the evaluation.



f. New studies and genotoxicity

Riccardo Crebelli presented the evaluation and the preliminary conclusions reached so far by the EFSA FCM WG on the two recent studies from the US SIRC and on the *in vivo* oral genotoxicity studies from the IARC Monograph and the literature.

g. Toxicokinetics

Emma Di Consiglio presented the evaluation of the studies on toxicokinetics and human biomonitoring of Styrene from the 2019 IARC Monograph.

h. Next steps

Zainab Al Harraq presented the next steps and the intended timeline of the evaluation.

i. Conclusion

The FCM Network Coordinator informed that the topic will be further discussed at the next FCM Network meeting in October 2023. The additional representants from MSs as well as the representants from EMA, WHO and IARC will be invited too.

5. Use of substances from renewable biological origin to manufacture food contact materials

a. Proposed principles for the safety assessment

Laurence Castle presented the principles that could be used in the safety assessment of mixtures of natural origin to manufacture FCMs.

This presentation describes work to establish principles and procedures that could be applicable to the safety assessment of the use of mixtures of natural origin to manufacture food contact materials. There is an increasing interest in the use of substances obtained from renewable biological resources (non-fossil) to manufacture materials and articles intended for food contact. They may be single substances or simple well-defined mixtures, but more commonly they are complex mixtures with a substantial uncharacterised fraction. The source materials are plant biomass and (to a lesser degree) animal biomass. Being derived from renewable biological resources, such substances/mixtures may be considered synonymous of 'natural' and 'safe', or at least 'safer' than their synthetic alternatives, but this is not necessarily the case. Natural compounds and/or complex mixtures are assessed in several areas/sectors under the EFSA remit dealing with regulated chemicals, including novel foods, enzymes, botanicals, food and feed additives, food flavours and food contact materials. These areas have been consulted to learn best-practice. Interim



conclusions are that waiving part of the data requirements for substances derived from edible food sources (e.g. food or food ingredients) seems acceptable. Substances that migrate and give rise to concern (based on their chemical, physical or toxicological properties) but are already present in the diet, should not be (re-) evaluated but rather, their exposure from FCMs should be compared with exposure from the diet. All other components and impurities in the mixture, should be assessed using the established FCM guidelines and cross-cutting EFSA guidance. This work is on-going and is planned to be completed by end-2023.

b. Questions and answers

IT questioned on the variability in composition of the mixtures and the related representativity of the mixtures tested in toxicity studies. This variability is not only due to the intrinsic nature of such natural mixtures, but also to the manufacturing process and to separation/extraction procedures needed to prepare samples. This is critical for example for testing the uncharacterised fraction by using the whole mixture approach.

EFSA acknowledged the need to consider the variability in composition. This represents an almost unavoidable uncertainty in the evaluation of such complex mixtures and representativity is key to ensure an effective safety assessment. The EFSA guidance on the genotoxicity assessment of chemical mixtures (EFSA, 2019)³ states indeed that “the sample should be [...] representative of the mixture to be placed on the market (e.g. for regulated products) or representative for mixtures present in the environment or food (e.g. contaminants)”. This needs to be completed by clarifying how to demonstrate the representativeness of samples. Specifications on the composition and manufacturing process (possibly also e.g. on growth conditions, geographical origin, production, etc.) along with considerations on the properties of the mixture should help to partly account for uncertainties but may not be sufficient.

The topic will be scheduled at the next FCM Network in October 2023 in order to consult the FCM Network this time on the finalised proposed methodology.

6. Any Other Business

The Network was informed on the status of several collaborations between Member States that were agreed at the 8th FCM Network meeting (22-24 November 2022). DE informed that progress on DE-FR harmonisation in the safety assessment of rubber will be reported at the next Network meeting. BE informed that a template was prepared for collecting results and other (meta)data from migration tests. The template is currently under evaluation by the FCM EURL (JRC) Task Force on migration modelling and is intended to be shared with the Network once the feedback is received. The Network coordinator stressed that it would be important that Member States test the template in the coming months in order to give feedback at the next

³ EFSA guidance on the Genotoxicity assessment of chemical mixtures (<https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2019.5519>)



FCM Network in October. The Network coordinator also invited MS representatives to reflect on the proposed activities of building European database(s) of evaluated substances at EU and national levels as well as of identified (possibly evaluated) NIAS together with their mass spectra, and on prioritisation methods.

7. Concluding remarks

The FIP FCM Network coordinator remarked that the next update on the evaluation of styrene and on the proposed methodology for the assessment of substances from natural origin to manufacture food contact materials will be given at the next FCM Network meeting (17-19 October 2023 in Parma).

The Minutes of the meeting will be published on the EFSA website.

The FIP FCM Network coordinator closed the meeting by thanking the speakers and all the participants for their contributions to the discussions and the colleagues from EFSA who participated in and supported the meeting.