European Commission

IMPLEMENTATION OF ARTICLE 5 ON THE PFAS RESTRICTIONS IN FOOD CONTACT PACKAGING

DRAFT: PFAS in food contact packaging – harmonized sampling and testing developed by the PFAS task force

Online meeting 20 May 2026 , 9 – 1 pm
European Commission, Directorate B
Unit B.1 Bioeconomy and sustainable materials

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1. Introduction and legal requirements

- Packaging possibly containing PFAS (per- and polyfluoroalkyl substances) => risk for human health
- Legal requirements
- Summary of scientific publications and/or documents e.g. ECHA
- Recommendations for:
  - Laboratories involved in the control of PFAS in food contact packaging
  - Manufacturers
  - Competent authorities

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2. Sampling

Unit of packaging - e.g. glass bottle with a metal cap

Proposal:

- where the packaging consists of a homogeneous material, it is analysed as one sample.
- where the packaging comprises two or more different materials as homogeneity is concern, these should be analysed separately.
- for packaging that contains multilayer structures (e.g., cardboard with films or coatings) that cannot be physically separated, the sample is analysed as a single homogeneous fraction.

Sampling strategy: to be further developed

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3. Material and Methods of analysis

- There is no one method that can detect and quantify all PFAS
- The current analytical methods are not capable of quantifying all possible PFAS substances
- No standardised method for analysing PFAS in food – contact packaging

Thus:

- Attempt to describe the methods of analysis currently used/from peer reviewed article grouped in accordance with the three PFAS limit values

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3. Material and Methods of analysis – cont.

a) any PFAS excluding polymeric PFAS – limit value 25 ppb

- targeted analysis with liquid chromatography coupled with tandem mass-spectrometry detection (LC-MS/MS)

b) limit value 250 ppb for the sum of PFAS measured as the sum of targeted PFAS analysis

- Direct – TOP assay (oxidative conversion followed by LC – MS/MS)

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3. Material and Methods of analysis – cont.

c) 50 ppm total fluorine

- Combustion ion chromatography
- Ion Selective Electrode

if total fluorine is above 50 ppm - determine if the fluorine is from PFAS or other sources

- Pyrolysis-gas chromatography mass spectrometry
- Ion Selective Electrode
- Total organic fluorine via indirect measure etc.

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4. Recommendations for laboratories

- Laboratories should be accredited according to ISO/IEC 17025.
- Ideally, the laboratories should be proficient in the analysis of PFAS at the concentrations of interest

and

- should demonstrate this by e.g. participation to proficiency testing schemes (interlaboratory exercises)
- contamination should be avoided

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5. Recommendations for manufacturers

- Manufacturer to prepare the technical documentation as part of DoC and make it available at the request to the Market Surveillance Authority
- The technical documentation should include:
  - A description of the conformity assessment procedure, including the hazard analysis for critical points in the production chain that could be the source for PFAS contamination
  - Such assessment should at least comprise the following 3 pillars (Wack et al.* developed such approach in a recently published study):

1. Verification of intentional use: Use of supplier declarations confirming that PFAS are not intentionally added at any stage of the value chain.
2. Assessment of specific risks of unintentional presence: Consideration of realistic sources of cross contamination (e.g., PFAS containing lubricants or cleaning agents, legacy PFAS in recycled inputs) and process related factors (carry-over from one production to another).
3. Assessment of material intrinsic likelihood of PFAS occurrence: Evaluation of whether PFAS would have any known technical function or persistence in a given material category.

* Development of a Risk Matrix for Assessing PFAS in Food Packaging, Wack et al.

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5. Recommendations for manufacturers – cont.

- Supplier documentation including, if available, screening of risk for PFAS contamination at any point of the value chain.

- Testing/Analytical reports from accredited laboratories including:
  - the analytical method descriptions
  - the LOD/LOQ, sample size, and sampling points.

  Preferably, it should be avoided to draw conclusions from a single test.
  The reports should be linked to the exact packaging batch

DoC – Declaration of Conformity
LOD – limit of detection
LOQ – limit of quantification

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6. Recommendations for the competent authority

- Enforcement of PFAS limits: market surveillance authorities are competent to verify compliance with the PFAS limits (MS are free to nominate authority and official labs).

- The activities of the market surveillance authorities are described in Regulation (EU) 2019/1020 on market surveillance and compliance of products

- Article 11 of Regulation (EU) 2019/1020: "…shall perform appropriate checks on the characteristics of products on an adequate scale, by means of documentary checks and, where appropriate, physical and laboratory checks based on adequate samples, prioritising their resources and actions to ensure effective market surveillance and taking into account the national market surveillance strategy "

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6. Recommendations for the competent authority – cont.

For packaging in particular, the following should be done:

1. Risk based selection of packaging for which the DoC should be verified.
2. Careful check of the documents provided by the manufacturer in the DoC

if any suspicion:

3. Physical analysis based on adequate sampling and applying the harmonised testing protocol

- In case of evident risk to human or animal health: "the market surveillance ….should alert the authorities competent to carry out controls appointed pursuant to Regulation (EU) 2017/625"

For info: European cooperation on market surveillance - Administrative Coordination (ADCO) group - establishment of network between the market surveillance authorities for packaging

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7. Example of methodology for the determination of PFAS in food – contact packaging

PARC* approach - a stepwise approach

- **Step 1**: Information Collection

Is there any indication of PFAS use or risk of contamination from the supply-chain information?

- **Step 2:** Total Fluorine (TF) Quantification in mg F/kg….
  - If TF is between 10–50 ppm – proceed to target analyses
  - If TF > 50 ppm – proceed to determine if F is coming from PFAS or non – PFAS

  ….

* Partnership for the Assessment of Risks from Chemicals | Parc

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PARC approach - a stepwise approach – cont.

Step 3: Pyrolysis-GC/MS (Qualitative) – is the fluorine detected in step 2 attributable to PFAS?

- If PFAS is detected (fragments containing CF_2/CF_3 chemistry): The sample is non-compliant.
- If no PFAS is detected: The fluorine is expected to originate from inorganic sources or non-PFAS fluorinated materials, indicating no intentional PFAS use. The risk of exceeding any of the PFAS concentration limits is low

Step 4: Targeted PFAS analysis

- If ΣPFAS > 250 ppb after degradation of precursors (e.g. via the total oxidizable precursor assay (TOP)): The sample is non-compliant.
- If any individual PFAS > 25 ppb: The sample is non-compliant.

Thank you!