

Substances Management Information Line
Department of the Environment
Gatineau
Quebec K1A 0H3

February 4, 2026

Comments on the approach and results of investigations for 6,604 substances specified on the Domestic Substances List, Canada Gazette, Part I, December 6, 2025

Dear Madam or Sir,

We kindly thank the Department of the Environment for this opportunity to provide input on its scientific considerations presented in the science approach document. We commend the Canadian government's effort and appreciate its adoption of a science-based approach. It is important to address the chemical safety of plastics using available and reliable scientific evidence.

The Food Packaging Forum (FPF) is a charitable, independent scientific organization. Our work supports the protection of the public from hazardous chemicals in food contact materials and articles, by providing the scientific evidence base.

1. Overall comments and recommendations

We recommend using the most recent version of FCCmigex and FCChumon (Food Packaging Forum, 2025a, 2025b; Geueke et al., 2023; Geueke et al., 2025). Previous versions of the FCCmigex dataset were already included in Wagner et al. (2024) and Monclus et al. (2025), but these resources lack the most recent (2025) updates. FCChumon is a systematic evidence map of human exposure to food contact chemicals, including those associated with plastics. We are happy to provide your experts with access to plastics-specific data from either dataset if useful. In addition, information on the occurrence of chemicals in plastic products on the Canadian market can be made available. If you wish to explore these additional dataset, please let us know.

Further, we highlight the limitations of chemical risk assessment which are time consuming and resource intensive. Chemical risk assessment also cannot address all plastic chemicals that may be relevant for human exposure: commodity plastics contain thousands of "known unknowns", mostly nonintentionally added substances (NIAS). Humans and the environment are exposed to these substances, yet current tools do not allow for adequate risk characterization, harm mitigation, or adaptation. New approaches are therefore urgently needed to evaluate the toxicity of whole plastics leachate, as outlined in Muncke et al. (2023) and in Wagner et al. (2024, Chapter 8). Dedicated funding needs to be made available to support this work and we therefore encourage the government of Canada to initialize parallel

efforts that are targeted towards overcoming the limitations of “classical” chemical risk assessment (failing to address mixture toxicity, failing to address unknown NIAS, failing to address oligomers and the complexity of polymers).

Lastly, we recommend requiring transparency regarding chemicals used in the manufacture of plastics as well as the presence of chemicals in finished plastic products. We also propose simplifying authorized chemical lists for plastics manufacture by reducing the number of substances permitted for the same functional purpose (e.g., antioxidants). In addition, we would like to highlight the need to build capacity among enforcement bodies, regulators, and policymakers to improve understanding of plastics-related chemical issues, as emphasized by Wagner et al. (2024).

2. Specific comments on the methodology

We appreciate the use of science-based resources for the regulatory prioritization of chemicals. However, a few specific methodological choices were unclear and could not be reproduced. This might lead to additional chemicals needing further action than the ones presented in the published results Excel file.

2.1 Hazard screening

The conducted hazard screening appears to exclude several hazardous chemicals (marked as “did not meet hazard screening criteria” in the results Excel). FPF has compiled Globally Harmonised System (GHS)-aligned hazard data from government and other authoritative sources for all known food contact chemicals and published a list of hazardous ones – the FCCprio List (Food Packaging Forum et al., 2024). 177 of the chemicals excluded by the Canadian prioritization results (“did not meet the hazard screening criteria”) appear to be hazardous based on the FCCprio List (see Table 1, and the attached comments excel - Sheet “FCCprio List”). FPF can provide links to the original GHS-hazard data sources if needed.

Table 1: Number of chemicals identified as “not hazardous” in the Canadian prioritization approach that do not align with FPF’s prioritization according to the FCCprio List.

| Fulfilled hazard criterion (FCCprio List) | “Not hazardous” (Canadian prioritization results) |
|--|--|
| Carc. 1 | 26 |
| Carc. 2 | 11 |
| Muta. 1 | 3 |
| Muta. 2 | 24 |
| Repr. 1 | 34 |
| Repr. 2 | 51 |
| STOT-RE 1 or STOT-RE 2 | 152 |
| Endocrine disrupting | 8 |
| Persistent | 31 |
| Bioaccumulative | 11 |
| Mobile | 20 |

2.2 Exposure screening

Primary and secondary exposure screening: The exact approach followed here was unclear. It appears that some chemicals used or present in food contact plastics may have been overlooked. 383 chemicals are explicitly mentioned as used in food contact plastics according to the FCCdb database in column “Global Inventory: Plastics” (Food Packaging Forum, 2020; Groh et al., 2021), but excluded in the primary or secondary exposure screening steps. 3’696 chemicals are known to migrate or be extractable from plastics according to the FCCmigex database with filters for “plastic” & “detected” (Food Packaging

Forum, 2025b; Geueke et al., 2023), but 332 of them are excluded in the primary or secondary exposure screening (see Table 2). More details are provided in the attached comments excel - Sheets "FCCdb" and "FCCmigex".

Table 2: Number of excluded chemicals that should have been included in the primary or secondary exposure screening steps.

| Plastics relation | Rationale for exclusion | # Chemicals |
|--------------------------|---------------------------------------|--------------------|
| FCCdb - plastics | Any | 383 |
| | Primary exposure screening criteria | 139 |
| | Secondary exposure screening criteria | 244 |
| FCCmigex - plastics | Any | 332 |
| | Primary exposure screening criteria | 34 |
| | Secondary exposure screening criteria | 298 |

Tertiary exposure screening: The specific 'chemical additive type' may not directly reflect exposure, therefore this criterion should be combined with OR logic with the other indicators (e.g., 'release of matrix', 'REACH registration environmental release category'), if this is not done already.

Furthermore, for the 'release of matrix' criterion, currently only Aurisano et al. (2021), Wiesinger et al. (2021), and Wagner et al. (2024) are used. We recommend additionally including FCCmigex "migration" data (FCCmigex – filter "plastic", "migration", "detected - yes"), as this directly covers chemicals that are known to be released to food or food simulants.

Additionally, evidence for chemicals found in human biomonitoring may support the tertiary exposure screening, as presented in the FCChumon database (Food Packaging Forum, 2025a; Geueke et al., 2025).

Again, we thank the Department of the Environment for the opportunity to provide input on this important issue.

Yours sincerely,


Jane Muncke


Helene Wiesinger

Attachment:

- Excel file "Canada-Prioritization-plastic-chemicals-Comments-FPF"

References

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