

NEWS

FPF study: Food contact articles from all major markets contain potential and confirmed breast carcinogens

In a peer-reviewed article, researchers from the Food Packaging Forum identify and discuss nearly 200 potential breast carcinogens detected in food packaging and other food contact materials (FCMs) on the market; when limited to migration studies published in 2020-22, 76 potential and confirmed mammary carcinogens were measured; including in FCMs from EU, US, China, and elsewhere

🕒 September 24, 2024 👤 Lindsey Parkinson ⌚ 3 minutes

Many nations have food contact material legislation intended to protect citizens from hazardous chemicals, often specifically by regulating genotoxic carcinogens. As cancer is one of the few health endpoints specifically targeted in FCM regulations and testing, carcinogenic chemicals in food packaging and other food contact materials and articles should not be commonplace.

In a [study](#) published in *Frontiers in Toxicology* on September 24, 2024, researchers from the *Food Packaging Forum* identified 189 potential and confirmed mammary carcinogens that have been detected in food contact materials (FCMs) on the market.

This study “shows that there is a huge opportunity for prevention of human exposure to breast cancer-causing chemicals,” said Jane Muncke, Managing Director of the *Food*

Packaging Forum and co-author of the study. “The potential for cancer prevention by

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By comparing a recently published list of potential breast carcinogens developed by scientists at the *Silent Spring Institute* (FPF [reported](#)) with the *Food Packaging Forum's* own Database on migrating and extractable food contact chemicals ([FCCmigex](#)), the authors found that 189 potential and confirmed breast carcinogens have been detected in FCMs, including 143 in plastics and 89 in paper or board (Figure 1).

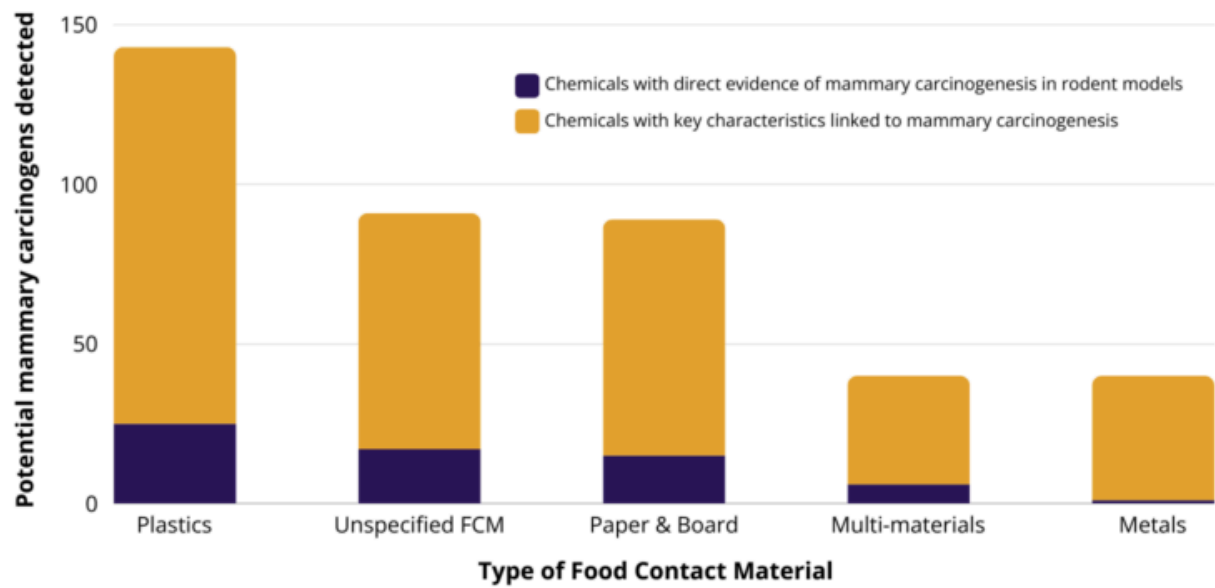


Figure 1: The number of potential mammary carcinogens as identified by Kay et al. (2024) that have been detected in migration or extraction studies of five food contact material groups. Food contact studies in FCCmigex were available online as of October 2022. Note: Potential mammary carcinogens detected, e.g., in coated cans or gaskets of metal closures, are assigned to the metal category. Columns are subdivided into food contact chemicals (FCCs) with direct evidence of carcinogenesis in rodent models (dark purple), and all other FCCs with key characteristics linked to breast carcinogenesis according to Kay et al. (yellow).

“Identifying the presence of these hazardous chemicals in food contact materials was possible thanks to our FCCmigex Database.” said Lindsev Parkinson, Data Scientist and

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When limiting the comparison to the most recently available studies in FCCmigex (2020-2022) that used migration experiments , which mimic realistic conditions, there is evidence of exposure to 76 potential and confirmed mammary carcinogens from FCMs, 61 of which (80%) are from plastics.

In all, the 76 recently detected potential and confirmed mammary carcinogens were in FCMs purchased from markets all over the world including Brazil, Canada, China, Ghana, Egypt, the European Union (Austria, Denmark, Germany, Greece, Hungary, Poland, Spain), India, Iran, Malaysia, Mexico, Nigeria, Syria, Turkey, and the United States. This indicates continued exposure of the global population to these chemicals under realistic use conditions.

Despite existing regulations intended to limit carcinogenic substances in FCMs, the study highlights gaps in current regulatory frameworks. The food contact articles were purchased within the last few years from markets in highly regulated regions, including the EU and the US. "Our findings imply that chronic exposure of the entire population to suspected mammary carcinogens from FCMs is the norm and highlights an important, but currently underappreciated, opportunity for prevention," the authors explain.

This mammary carcinogens study was published with other articles in the theme of "emerging topics on chemical safety assessment". The editors of the research topic published an opinion piece on what they consider outdated testing and risk management procedures in US federal risk assessments (FPF [reported](#)).

Reference

Parkinson, LV; Geueke, B; Muncke, J. (2024). "[Potential mammary carcinogens used in food contact articles: Implications for policy, enforcement, and prevention.](#)" *Frontiers in*

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The Food Packaging Forum Foundation is a science communication organization that provides independent and balanced information on issues related to food packaging and health. In doing so, the Foundation addresses a broad range of stakeholders including business decision makers, regulators, media and communication experts, scientists and consumers.

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