

Mrs. Christel Schaldemose, MEP
European Parliament
Members of the IMCO Committee
Rue Wiertz 60

B -1047 Brussels

Ref.: BEUC-X-2017-019/SMA/PMO/cm

27 February 2017

RE: New test by European consumer organisations finds toxic substances in fast food packaging

Dear Mrs. Schaldemose,

On 6 October 2016, the European Parliament adopted a Resolution on the Implementation of the Food Contact Materials Regulation¹. It calls on the European Commission to develop specific measures for the 13 non-harmonised categories of Food Contact Materials (FCMs), including as a priority paper and board FCMs.

We agree with the European Parliament that the existing legislation on materials intended to come in contact with food is deficient. The need to take action has been demonstrated anew through laboratory testing carried out by consumer organisations Altroconsumo (Italy), the Danish Consumer Council (Denmark), DECO (Portugal), OCU (Spain) and Test-Achats (Belgium).

The analysis of 65 samples of fast food packaging demonstrated that:

- In almost all samples the amount of fluorinated compounds exceeds a limit value which is recommended by the Danish food safety authorities.
- Toxic chemicals have been found in half of the sampled products, some of which are on the EU's list of Substances of Very High Concern, such as PFOA, a chemical that damages fertility and harms unborn children.
- Results indicate that fluorinated compounds are used *intentionally* for surface treatment of the paper or board materials.

This new evidence underscores the need for specific measures regulating paper and board FCMs. Fluorinated compounds should not be used intentionally in FCMs. Our members' comparative product test demonstrates that safer alternatives exist: across the five countries as well as across companies and material groups, fluorinated compounds were found in some but not in all sampled products. More than half of the tested packaging materials were thus negative in the initial screening tests.

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¹ <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2016-0384+0+DOC+XML+V0//EN&language=EN>

We would be interested to present our survey in further detail and to discuss with you how the safety of consumers can be ensured through a follow up to the Resolution on the Implementation of the Food Contact Materials Regulation.

Please find in Annex more information about the research.

Yours sincerely,

Sylvia Maurer
Head of Sustainability and Safety

Pelle Moos
Project Officer on Chemicals and Trade

Annex European consumer organisations call for action on fluorinated compounds in fast food packaging

Food contact materials (FCMs) refer to a wide range of materials: glass, metals, plastics as well as adhesives or printing inks. FCMs are used throughout the food chain, from food manufacturing to packaging. As such, they can impact the quality and safety of food throughout the entire food chain.

Recent product tests by the Danish Consumer Council have drawn attention to a new issue for FCMs: the presence of fluorinated compounds¹ in paper and board food packaging. Several of these substances are suspected to be carcinogenic, immunotoxic and endocrine disruptors. Only a few have been assessed by the European Food Safety Authority (EFSA).

Despite mounting concern about their impact on health and the environment, new evidence by EU consumer organisations now demonstrate that fluorinated compounds are used in fast food packaging. In half of the tested products, the study found fluorinated compounds, some of which the EU lists as Substances of Very High Concern.

FCM legislation in Europe: a regulatory patchwork

According to existing EU legislation, all FCMs should be safe and inert – that is, not influence the food in a negative way. Recent food contamination scares originating from food packaging (e.g. ITX, 4-methylbenzophenone, mineral oils....) have highlighted a lack of EU specific legislation for materials other than plastics.² The use and safety of substances in most non-plastic food contact materials is thus not harmonised at European level. In several cases, national legislation regulates their use. However, there are many substances present in non-plastic materials which are unregulated and are not evaluated for their safety by any national authority.³

In October 2016, the European Parliament adopted a Resolution on the Implementation of the Food Contact Materials Regulation.⁴ The Resolution calls on the European Commission to develop specific measures for the 13 categories of FCMs that are not yet harmonised at EU level. The European Parliament recommends in particular that the development of specific EU measures for paper and board (including recycled products) as well as varnishes and coatings, metals and alloys, printing inks and adhesives should be considered a priority.

¹ Fluorinated compounds is a general, nonspecific name that describes different organic and inorganic substances that contain at least 1 fluorine atom. A subset of fluorinated compounds is the highly fluorinated aliphatic substances that contain one or more carbon atoms on which all the hydrogen substituents have been replaced by fluorine atoms. These compounds are referred as per- and polyfluoroalkyl substances or PFASs.

² See HEAL, Briefing: Food contact materials and chemical contamination. February 2016. http://www.env-health.org/IMG/pdf/15022016_-_heal_briefing_fcm_final.pdf

³ For example, a 2012 European Food Safety Authority (EFSA) report on risk assessment at national level found that for the non-EU harmonised materials use of 2800 substances is regulated at national level. However, only 230 of these regulated substances are adequately risk assessed. <http://onlinelibrary.wiley.com/doi/10.2903/sp.efsa.2011.EN-139/abstract>

⁴ <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2016-0384+0+DOC+XML+V0//EN&language=EN>

Paper and board are the second most commonly used FCMs in Europe, superseded only by plastics. Specific EU legislation for paper and board FCMs does not exist, and, as documented in the recent JRC baseline study,⁵ only nine Member States have national measures in place to regulate the safety of paper and board FCMs. Moreover, of the estimated 1,710 substances covered by these measures, only nine percent are regulated by three or more Member States.

Per- and Polyfluoroalkyl Substances (PFASs)

Per- and polyfluoroalkyl substances (PFASs) are highly persistent synthetic chemicals, some of which have been associated with cancer, developmental toxicity, immunotoxicity, and other health effects. PFASs can be present in paper and board FCMs treated with fluorinated compounds due to intentional application, in form of unintended residues or due to degradation of precursor compounds. Migration of PFASs from grease-resistant food packaging is well-documented.⁶

Global concern about the impacts of PFASs on human health and the environment is mounting. More than 200 scientists from 38 different countries have thus signed the so-called Madrid Statement which highlights the potential harm of PFASs. The statement concludes with a call for international cooperation on limiting the production and use of PFASs and in developing safer non-fluorinated alternatives.

Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) are the PFASs that to date have received most attention because they satisfy the defining characteristics of persistent organic pollutants: they are toxic, extremely resistant to degradation, accumulate in food chains, and can have long half-lives in humans (from 1.5-9.1 years for PFOA and 2.29-21.3 years for PFOS). In 2009, PFOS was listed on the United Nation's Stockholm Convention on Persistent Organic Pollutants, while the EU has identified PFOA as a Substance of Very High Concern under the *EU Chemicals Regulation REACH*, because of its persistent, bioaccumulative and toxic properties.

Health effects associated with fluorinated compounds other than PFOS and PFOA are as yet not extensively studied. However, research undertaken to date indicate that other fluorinated compounds can also result in adverse human health and environmental effects.⁷

Since 2000 industry has started to replace so-called long-chain PFASs, such as PFOA, in FCMs by fluorinated alternatives, but information on these short-chain replacements, including their chemical identities, has not been made easily accessible to the public. This approach has thus hampered risk assessment and management of these chemicals.

⁵ JRC, Non-harmonised food contact materials in the EU: Regulatory and market situation. January 2017. <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/non-harmonised-food-contact-materials-eu-regulatory-and-market-situation-baseline-study>

⁶ See e.g. TH Begley *et al.* 2008. Migration of fluorochemical paper additives from food-contact paper into foods and food simulants. *Food Additives & Contaminants*. <http://www.tandfonline.com/doi/abs/10.1080/02652030701513784>

⁷ See e.g. CHEM Trust, Policy Briefing: Chemicals in food contact materials: a gap in the internal market, a failure in public protection. January 2016. <http://www.chemtrust.org.uk/foodcontact/>

A Consumer Survey: Fluorinated compounds in European fast food-packaging

In 2015, the Danish Veterinary and Food Administration recommended a limit⁸ for the total content of organic fluorine in paper and board FCMs. The limit (0.35 $\mu\text{g}/\text{dm}^2$) was set to discourage the use of fluorinated compounds in paper and board food packaging. Research by the Danish Consumer Council has however demonstrated that fluorinated compounds are still widely present in microwave popcorn packaging, pizza boxes and paper packaging for cakes.

Against this background, five consumer organisations, Altroconsumo (Italy), the Danish Consumer Council (Denmark), DECO (Portugal), OCU (Spain) and Test-Achats (Belgium) decided to investigate the presence of fluorinated compounds in paper and board FCMs intended to be used in contact with fatty and warm food in different European countries. Exposure to PFASs from fast food packaging is especially relevant for children. In the US, for example, one-third of children consume fast food daily and children may be more susceptible to the adverse health effects of PFASs.⁹

In each country, 13 samples of fast food packaging were collected, including from international brands like McDonald's, Burger King, KFC and Starbucks. Packaging samples were immediately emptied and packed in alumina foil to avoid secondary contamination. In total, the study surveyed 45 samples of cardboard packaging and 20 samples of paper packaging.¹⁰ All 65 samples were sent to a laboratory for further analysis.

For each sample, three different kinds of screening analyses were performed to assess overall fluorine content. Depending on the results of the screening analysis, a detailed analysis to determine the presence and identity of PFASs was performed.

Results: fluorinated compounds are used in fast food packaging

All 65 samples were analysed to verify the content of Total Organic Fluorine (TOF). In almost all samples, **TOF values exceed the recommended Danish limit** (0.35 $\mu\text{g}/\text{dm}^2$). The TOF values ranged from 0.04 to 3,130 $\mu\text{g}/\text{dm}^2$. 31 of the samples were also positive in one or both of the other screenings performed in the survey indicating intentional use of the fluorinated substances. These samples were therefore selected for further analysis. Most of these packaging had contained French fries or pizza, but some had also contained hamburgers or other kinds of food wrapping paper.

In all the 31 samples PFASs were found. The most commonly detected types of PFASs were fluorotelomer alcohols (FTOHs) and carboxylic acids, such as PFOA and its six-carbon cousin compounds perfluorohexanoate acid (PFHxA) and perfluorobutanoic acid (PFBA). PFOS was also present. The total amount of PFASs excluding FTOHs found in the samples ranged from 3.6 to 32.3 ng/dm^2 . The concentration of FTOHs ranged from 59 to 20,226 ng/g . The highest concentration of both FTOH, other PFAS as well as the highest TOF value (3,130 $\mu\text{g}/\text{dm}^2$) was found in a box of French fries from Italy.

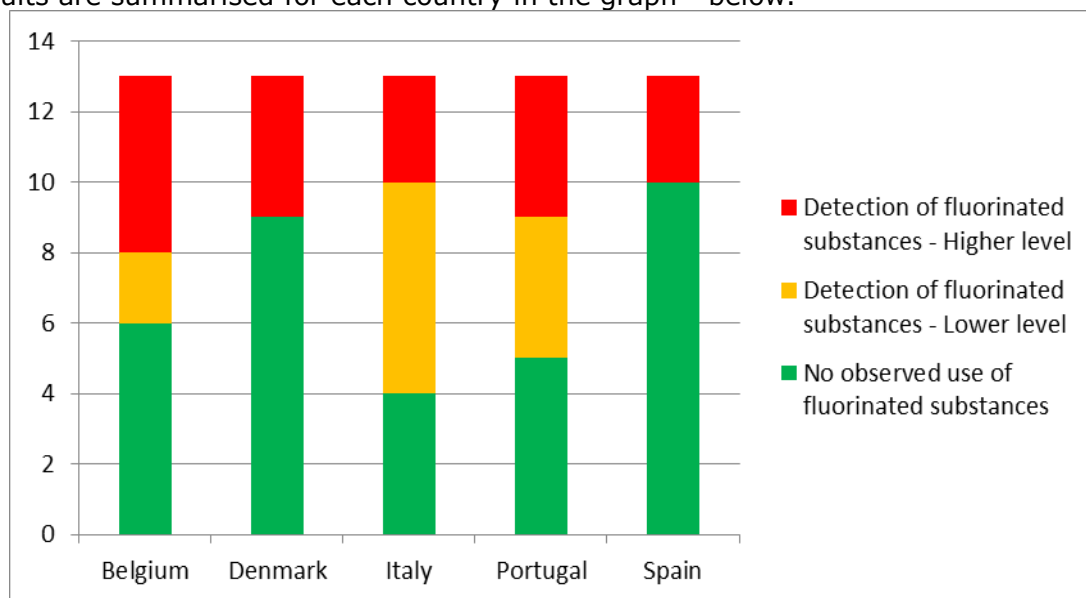
⁸ <https://www.foedevarestyrelsen.dk/english/SiteCollectionDocuments/Kemi%20og%20foedevarekvalitet/UK-Fact-sheet-fluorinated-substances.pdf>

⁹ See LA Schaidler *et al.* Fluorinated Compounds in U.S. Fast Food Packaging. Environmental Science & Technology Letters. February 2017. <http://pubs.acs.org/doi/abs/10.1021/acs.estlett.6b00435>

¹⁰ Further details on data and methods are available with the authors.

Overall, **paper bags performed worse than cardboard boxes**: almost half of the paper bag samples showed high TOF and PFASs values, while for the cardboard packaging only 1 in 5 showed high values. Although the quantities of fluorinated compounds is not estimated to present an immediate risk for consumers' health, these results are still a cause for concern: PFASs in grease-resistant food packaging has thus been shown to migrate into food and increase dietary exposure.¹¹

Results are summarised for each country in the graph¹² below.



In Spain and Denmark, fluorinated substances were found in 3 and 4 out of 13 packaging samples. The situation in Belgium, Italy and Portugal was in contrast less favourable: the analysis found that more than half of the packaging samples were contaminated by fluorinated substances.

The EU must act now on PFASs in Paper and Board FCMs

This new evidence of PFASs in paper and board FCMs underscores the need for a swift EU response. **PFASs must be replaced with safer alternatives.** Chemicals manufacturers and their downstream customers need to phase out the use of such substances. The evidence from this comparative product test tells a compelling story: across the five countries as well as across companies and material groups, PFASs were found in some but not in all sampled products. More than half of the tested packaging materials were thus negative in the initial screening tests. The evidence provided by this study demonstrates that **safer alternatives do exist.**

¹¹ See e.g. TH Begley *et al.* 2008. Migration of fluorochemical paper additives from food-contact paper into foods and food simulants. Food Additives & Contaminants. <http://www.tandfonline.com/doi/abs/10.1080/02652030701513784>

¹² Legend: Detection of fluorinated substances – lower level: TOF < 100 µg/dm²; PFASs content low. Detection of fluorinated substances – higher level: TOF > 100 µg/dm²; PFASs content high.

In view of these results, EU leaders should act to ensure that

- **A regulation of paper and board used in food contact is put in place.** The initiative should ensure a uniformly high level of safety throughout the EU by setting out where necessary minimum specific requirements.¹³ A harmonised regulation would also allow Member States with limited capacity the possibility to ensure that their position is taken into account when rules are set at EU level.¹⁴
- **Use of PFASs in all FCMs is phased-out while support for the development of safer non-fluorinated alternatives is increased.** In light of what is known about the harmful effects of fluorinated compounds, their use in consumer products such as food packaging materials must cease. In products, where the performance provided by fluorinated compounds has come to be expected, the tendency has however been to replace PFOS and PFOA with very similar substitutes. Instead of moving from one fluorinated chemical to the next, the challenge for manufacturers is to innovate and develop more benign alternatives through materials innovation and green chemistry.¹⁵
- **The combined exposure and cocktail effects of fluorinated compounds is addressed.** Exposure to fluorinated compounds is not confined to fast food packaging but also occurs through other product sectors (other FCMs, consumer products, medical devices, *etc.*) and environment (air, water). Risk assessment and risk management methods need to be updated to take into account the combined effect of different chemicals. The EU needs to introduce measures in food contact materials legislation to initiate risk assessment of mixtures, including revisions of previously established safe levels (specific migration levels).¹⁶ Testing requirements should also be updated to fully assess the impact of total exposures and of cumulative impacts, corresponding to the reality of our exposure.

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¹³ See e.g. ANEC, Hazardous chemicals in products - The need for enhanced EU regulations, June 2014. <http://www.anec.eu/attachments/ANEC-PT-2014-CEG-002.pdf>

¹⁴ European Commission, Roadmap: Food Contact Materials - Specific provisions for materials other than plastics – implementing measure. July 2012. http://ec.europa.eu/smart-regulation/impact/planned_ia/docs/2014_sanco_005_fcm_specific_provisions_for_materials_other_than_plastics_en.pdf

¹⁵ See A. Blum *et al.* The Madrid Statement on Poly- and Perfluoroalkyl Substances (PFASs). *Environmental Health Perspectives* 123(5). May 2015. <https://ehp.niehs.nih.gov/1509934/>

¹⁶ See HEAL, Briefing: Food contact materials and chemical contamination. February 2016. http://www.env-health.org/IMG/pdf/15022016_-_heal_briefing_fcm_final.pdf