

**MO062 Brominated flame retardants in Belgian foodstuffs - recent evaluation by a novel UPLC-MS/MS method** [S. Malysheva](#); S.

Gosciny, Scientific Institute of Public Health Belgium; G. Malarvannan, University of Antwerp / Toxicological Center Dept of Pharmaceutical Sciences; G. Poma, University of Antwerp / Toxicological Center; M. Andjelkovic, Institute of Public Health; S. Voorspoels, Flemish Institute for Technological Research VITO NV; A. Covaci, University of Antwerp / Toxicological Center; J. Van Loco, Scientific Institute of Public Health Belgium. The study was undertaken as consequence of the Commission Recommendation 2014/118/EU on the Europe-wide monitoring of brominated flame retardants (BFRs) in food. BFRs are anthropogenic chemicals that are added to a wide variety of consumer products in order to improve their fire resistance. BFRs may leach from the products into the environment. Due to their persistence and potential to bioaccumulate in the food chain, BFRs may cause toxic effects in humans and animals. There is a lack of information on the occurrence of BFRs in foodstuffs, which has hampered accurate completion of intake assessments. The main objective of this work was to evaluate the presence and to measure the levels of BFRs, namely brominated phenols (BPs), hexabromocyclododecanes (HBCDs), tetrabromobisphenol A (TBBPA) and its derivatives in foodstuffs consumed by the Belgian population. Quantitative measurements were performed using ultra-high performance – tandem mass spectrometry (UPLC-MS/MS) on an ACQUITY UPLC system coupled to a Xevo-TQ-S mass spectrometer. Sample preparation protocol consisted of a QuEChERS-based extraction followed by two parallel clean-up procedures. Column chromatography with acidified silica gel and dispersive solid-phase extraction with C18 and carbon sorbents were used to eliminate lipids, pigments and eventually other matrix components from the extract. The method is applicable to a wide variety of food matrices and was in-house validated. Representative portions of food samples belonging to different categories, such as fish and seafood, meat and meat products, chicken eggs, oils and fats, milk and dairy products, were collected from Belgian (super)markets in 2015. The samples were pooled per food category according to the consumption data of the Belgian Food Consumption Survey, after which they were lyophilized and subjected to the multi-analyte LC-MS/MS analysis. In this work, data on the occurrence and levels of BFRs in different food commodities consumed in Belgium will be presented. The results will be discussed with regards to the frequency of occurrence and highest detected concentrations of the BFRs, and compared to existent data for other (European) countries. This data will be decisive in the subsequent calculation of intake levels. *Acknowledgments:* Financial support from Federal Public Service (FPS) Health, Food Chain Safety and Environment