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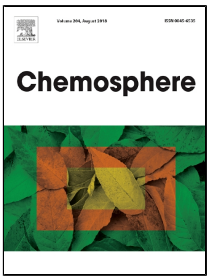

Occurence of legacy and novel brominated flame retardants in food and feed in France for the period 2014 to 2016

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OCCURENCE OF LEGACY AND NOVEL BROMINATED FLAME RETARDANTS IN FOOD AND FEED IN FRANCE FOR THE PERIOD 2014 TO 2016

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Abstract

Determination of the occurrence levels of legacy and novel BFRs is today required to better understand the trends of BFRs contamination in food consecutive to the EU PBDEs restrictions and to proceed to a recent human food exposure in parallel. Therefore, concentrations of a large set of brominated flame retardants (BFRs) (n=27) including PBDEs, HBCDDs, TBBPA and novel flame retardants (nBFRs) have been determined in more than 600 food and feed samples collected between 2014 and 2016 in the context of French monitoring plans. Although legacy BFRs had already been studied in France, such a survey constituted the very first determination of nBFRs occurrence in foodstuffs at the national level. The concentration levels measured in fish and fish products were in general higher than in the other food categories. PBDEs were detected in 70% of the samples and were observed as the most abundant congeners (representing 80% of the sum of the monitored BFRs), while α-HBCDD could also be considered as a predominant congener (up to 26% of the sum of the monitored BFRs in fishes). nBFRs concentration levels were most of the time below the LOQ, except PBT, PBBz and HBBz which were more frequently detected at low levels. Also investigated in the study, BRPs exhibited high concentration levels in crustaceous (maximum value>2700 pg/g ww).

Keywords

BFRs