

TH024 Analyses of chlorinated paraffins and pesticides in the indoor environment for human exposure assessment

I. Van der Veen, S. Brandsma, VU University Amsterdam / Environment & Health; S.J. Harrad, The University of Birmingham; G. Poma, University of Antwerp, Toxicological Center / Toxicological Center; C. Christia, University of Antwerp; A. Covaci, University of Antwerp / Toxicological Center; C. de Wit, Stockholm University ACES; N. Wemken, National University of Ireland Galway / School of Physics & the Ryan Institute; M. Coggins, National University of Ireland Galway; M. Lamoree, VU University Amsterdam / Department Environment & Health; P.E. Leonards, VU University Amsterdam / Environment & Health. Daily, people spend a lot of time indoors, either at work in offices or at home. In the indoor environment they are exposed to a variety of compounds, released from furniture, carpets, electronic devices, insulation or construction materials by a combination of evaporation and abrasion. Within the SHINE (Target and non-target Screening of cHemicals in the Indoor enviroNment for human Exposure assessment) project, target analyses and non-target screening were performed on indoor dust and air samples for the presence and concentrations of emerging compounds of different compound classes, such as phosphate flame retardants (PFRs), new and legacy brominated flame retardants (BFRs), chlorinated paraffins (CPs), hexabromocyclododecanes (HBCDs), per- and polyfluoroalkyl substances (PFASs), novel plasticizers and pesticides. These results will be used in existing human exposure models to predict the internal human exposure for a set of emerging substances in EU populations. Here, the results for concentrations of 15 pesticides, and short-, medium- and long chain CPs in dust samples from daycare centers, offices and houses from Sweden, Ireland, Belgium and The Netherlands are presented. Results showed that pesticides as well as short, medium and long chain CPs were detected in indoor dust. The highest concentrations of pesticides were found for permethrin, which had also the highest detection rate. The highest concentrations of CPs were detected for MCCPs. Dust from houses of The Netherlands were less contaminated with pesticides and CPs than houses from Belgium, Ireland and Sweden.