BRUSSELS, 17 MARCH 2025

HEAL's comments on the Commission's proposal to adapt Annex I of Regulation (EU) 2019/1021 on persistent organic pollutants (POPs)

The Health and Environment Alliance (HEAL) welcomes the opportunity to comment on the Commission's proposal to adapt Annex I of Regulation (EU) 2019/1021 on persistent organic pollutants (POPs) to scientific and technical progress by lowering the Unintentional Trace Contaminant (UTC) limit values for polybrominated diphenyl ethers (PBDEs) in mixtures and articles. We support this initiative as a necessary follow-up to the lowering of concentration limits for PBDEs in waste (Regulation (EU) 2022/2400) and the withdrawal of the specific exemptions for recycling of articles containing PBDEs from the Stockholm Convention [1, 2].

PBDEs have been used as flame retardants in several applications and are known to disrupt endocrine functions e.g. by affecting thyroid hormone homeostasis. They are also associated with effects to reproductive health as well as developmental and neurotoxic effects. This toxicity profile, combined with their high persistence and potential to bioaccumulate has led to their inclusion in the Stockholm Convention as persistent organic pollutants (POPs) [3, 4, 5]. Meanwhile, several studies have reported on the presence of PBDEs in consumer products, including children's toys, made from recycled materials and marketed in Europe [6, 7, 8].

Generally, achieving low concentrations of PBDEs in products made from recycled materials will also promote efforts for a circular economy by reducing legacy pollutants and problematic byproducts such as polybrominated dibenzodioxins and dibenzofurans (PBDD/Fs) in the material streams [8, 9, 10]. As such, this initiative is in line with the Circular Economy Action Plan and the Circular Economy Act that was announced in the Clean Industrial Deal.

Widespread occurrence of PBDE in homes and offices calls for lowering the UTC limit values for all mixtures and articles to 10 mg/kg or below

While we strongly support lower UTC limit values for PBDEs in mixtures and articles made from both new and recycled materials and appreciate the intent to specifically protect children, by proposing lower limit values for products that are in close contact with them, we would like to point out that scientific studies suggest that children's exposure to PBDEs is likely occurring mainly via dust ingestion or dermal contact to dust [11, 12, 13, 14, 15]. Additionally, PBDE-containing house dust contributes to the level of these chemicals in human milk and breast feeding has been indicated as the main exposure route to PBDEs for infants [11, 16]. As high concentrations of PBDEs in indoor dust are due to the widespread occurrence of these highly lipophilic chemicals in homes and offices [17, 18, 19], we would be in favour of lowering the UTC limit values for all mixtures and articles to 10 mg/kg or below. At the very least, the proposed reduction of the UTC for children's products to 10 mg/kg should be implemented swiftly.

References

[1]https://chm.pops.int/Implementation/Exemptions/SpecificExemptions/TetraBDEandPentaBDERoSE/tabid/5039/Default.aspx
[2]https://www.env-health.org/environmental-health-groups-celebrate-end-to-eu-allowance-for-banned-flame-retardant-chemicals-to-enter-recycling-streams-new-products/
[3] UNEP/POPS/POPRC.2/17/Add.1 (2006). Risk profile on commercial pentabromodiphenyl ether. Report of the Persistent Organic Pollutants Review Committee on the work of its second meeting.
[4] UNEP/POPS/POPRC.3/20/Add.6 (2007). Risk profile on commercial octabromodiphenyl ether. Report of the Persistent Organic Pollutants Review Committee on the work of its third meeting.
[5] UNEP/POPS/POPRC.10/10/Add.2 (2014). Risk profile on decabromodiphenyl ether (commercial mixture, c-decaBDE). Report of the Persistent Organic Pollutants Review Committee on the work of its tenth meeting.
[6] https://www.env-health.org/european-study-exposing-toxic-e-waste-chemicals-in-childrens-products-spurs-calls-for-policy-to-end-recycling-exemptions-for-hazardous-waste-2/
[7] Vojta, Š., Bečanová, J., Melymuk, L., Komprdová, K., Kohoutek, J., Kukučka, P., & Klánová, J. (2017). Screening for halogenated flame retardants in European consumer products, building materials and wastes. Chemosphere, 168, 457-466.
[8] Olisah, C., Melymuk, L., Audy, O., Kukucka, P., Pribylova, P., & Boudot, M. (2024). Extremely high levels of PBDEs in children's toys from European markets: causes and implications for the circular economy. Environmental Sciences Europe, 36(1), 183.
[9] Weber, R., & Kuch, B. (2003). Relevance of BFRs and thermal conditions on the formation pathways of brominated and brominated–chlorinated dibenzodioxins and dibenzofurans. Environment international, 29(6), 699-710.
[10] Behnisch, P., Petrlik, J., Budin, C., Besselink, H., Felzel, E., Strakova, J., Bell, L., Kuepouo, G., Gharbi, S., Bejarano, F., Jensen, G.K., DiGangi, J., Ismawati, Y., Speranskaya, O., Da, M., Pulkrabova, J., Gramblicka, T., Bracova, K., & Brouwer, A. (2023). Global survey of dioxin-and thyroid hormone-like activities in consumer products and toys. Environment International, 178, 108079.
[11] Jones-Otazo, H. A., Clarke, J. P., Diamond, M. L., Archbold, J. A., Ferguson, G., Harner, T., Richardson, G.M., Ryan, J.J., & Wilford, B. (2005). Is house dust the missing exposure pathway for PBDEs? An analysis of the urban fate and human exposure to PBDEs. Environmental science & technology, 39(14), 5121-5130.
[12] Lorber, M. (2008). Exposure of Americans to polybrominated diphenyl ethers. Journal of exposure science & environmental epidemiology, 18(1), 2-19.
[13] Frederiksen, M., Vorkamp, K., Thomsen, M., & Knudsen, L. E. (2009). Human internal and external exposure to PBDEs–a review of levels and sources. International journal of hygiene and environmental health, 212(2), 109-134.
[14] Trudel, D., Scheringer, M., von Goetz, N., & Hungerbühler, K. (2011). Total consumer exposure to polybrominated diphenyl ethers in North America and Europe. Environmental science & technology, 45(6), 2391-2397.
[15] Linares, V., Bellés, M., & Domingo, J. L. (2015). Human exposure to PBDE and critical evaluation of health hazards. Archives of toxicology, 89(3), 335-356.
[16] Bramwell, L., Harrad, S., Abdallah, M. A. E., Rauert, C., Rose, M., Fernandes, A., & Pless-Mulloli, T. (2017). Predictors of human PBDE body burdens for a UK cohort. Chemosphere, 189, 186-197.
[17] Allen, J. G., McClean, M. D., Stapleton, H. M., & Webster, T. F. (2008). Linking PBDEs in house dust to consumer products using X-ray fluorescence. Environmental science & technology, 42(11), 4222-4228.
[18] Rauert, C., & Harrad, S. (2015). Mass transfer of PBDEs from plastic TV casing to indoor dust via three migration pathways—A test chamber investigation. Science of The Total Environment, 536, 568-574.
[19] Hammel, S. C., Hoffman, K., Lorenzo, A. M., Chen, A., Phillips, A. L., Butt, C. M., Sosa, J.A., Webster, T.F., & Stapleton, H. M. (2017). Associations between flame retardant applications in furniture foam, house dust levels, and residents' serum levels. Environment international, 107, 181-189.