



European HBCD Industry Group and EUMEPS response to BiPRO questionnaire on EU study on POPs Waste

Brussels, March 2018

Section III – “already listed POPs”

1. *Are the existing concentration limits in Annex IV and V of the EU POP Regulation for HBCD, PCB and PCDD/F appropriate to ensure a sufficient level of environmental and health protection or is it necessary to adjust **them** (e.g. due to any notable developments such as new scientific data and technical progress, etc.)? Please justify*

Answer:

The European HBCD Industry Group and EUMEPS are of the strong opinion that for HBCD the most appropriate low POP content limit ought to be 1000 mg/kg. A low POP limit of 1000 mg/kg is practical, pragmatic and environmentally sound. It will ensure both the protection of human health and of the environment. It can be implemented by the stakeholders in the waste management sector easily and effectively enforced by EU member states.

- A low POP content of 1000 mg/kg for HBCD captures all flame retarded polystyrene foam wastes from demolition¹, since such foams contain HBCD above 5000 mg/kg (EPS contains on average 5000-10000 mg/kg HBCD and XPS contains on average 8000-25000 mg/kg HBCD). A limit of 1000 mg/kg would therefore allow the destruction of HBCD incorporated in such flame retarded polystyrene foams.
- At present no robust analytical method for HBCD exists to provide satisfactory reproducible results at levels below 1000 mg/kg. A low POP limit any lower than 1000 mg/kg would make the analysis of the substance in polystyrene foam waste unnecessarily challenging, time consuming and costly, due to adequate sample preparation and extraction. Specifying a POP limit level below 1000 mg/kg cannot be easily enforced, controlled and reported.
- HBCD, being firmly incorporated in the stable polystyrene matrix, is not readily released from PS foam waste (containing HBCD) to the environment, be it to air, water or soil, and hence the environmental impact is minimal². Therefore, the dismantling, transport or disposal of the waste foams do not have negative impacts for the environment. This was also confirmed by the implementation of the German POP Waste Monitoring Ordinance (POP-Abfall-Überwachungs Verordnung) that entered into force in July 2017³. It guarantees that specifically PS foam waste containing HBCD and other waste containing POPs are permanently disposed of in a way that is safe for the environment. No additional safety measures were pronounced. The industry's 7-year environmental monitoring programme has provided further evidence for a trend of decreasing levels

¹ For Parties that have [registered](#) to make use of the exemption, the same would apply for HBCD-containing waste from construction

² ECHA (ibid); and PlasticsEurope, Exiba, EFRA, CEFIC (ibid)

³ Available at: https://www.gesetze-im-internet.de/pop-abfall-_berwv/BJNR264410017.html

of HBCD found in the environment in support of the minimal environmental impact of PS foams containing HBCD⁴.

- A 1000 mg/kg limit would allow for the recycling of polystyrene foams which are not expected to contain HBCD. Packaging polystyrene foams typically do not contain HBCD, as flame retarded properties are generally not required in these applications. Levels of HBCD in such waste streams, due to possible contamination, are expected to be far less than 1000 mg/kg. Combined with the cost of analysis, a low POP limit of 1000 mg/kg will therefore contribute in maintaining the economic viability of recycling of polystyrene foams.
- A 1000 mg/kg limit ensures alignment with the limit values deemed safe in national or international regulations, such as EU REACH which defines a level of 0.1% w/w for articles containing substances of very high concern (SVHC). Other EU legislation, such as the EU RoHS and WEEE Directives, also set an allowed threshold limit of 1,000 mg/kg for the sum of PBDEs.

Hence, a POP limit of 1000 mg/kg provides for the necessary margin of safety and can be regarded as appropriate for meeting environmental and health concerns. A low POP limit value of 1000 mg/kg will suffice to maintain the downward trend of HBCD in the environment, given that following the listing of HBCD under the Stockholm Convention and the EU POPs Regulation, the use of HBCD in products is being discontinued worldwide.

2. If the existing limit values need to be adjusted, which concentration limits for HBCD, PCB and PCDD/F in waste would you recommend and why?

Answer:

The European HBCD Industry Group and EUMEPS are of the strong opinion that the current limit should not be adjusted, for the reasons mentioned in the response to question 1.

3. What would be the major impacts from a possible adjustment of existing limit values of Annex IV or V of the EU POP Regulation? Please justify

Answer:

A low POP level of 1000 mg/kg represents a solid basis to ensure that all PS foam waste from demolition containing HBCD is channeled to destruction, providing for a sound and responsible end of life management of the HBCD-containing PS foam waste.

Considering circular economy aspirations, the low POP content limit ought to be such that it allows for the recovery and recycling of PS foams which do not contain HBCD. Even though

⁴ H. Rüdél et al Rüdél, J. Müller, M. Quack, R. Klein, 2012: [Monitoring of hexabromocyclododecane diastereomers in fish from European freshwaters and estuaries](#). Environ. Sci. Pollut. Res. 19, 772-783; and Rüdél H, Nowak J, Müller J, Ricking M, Quack M, Klein R: 'HBCD diastereomer levels in fish and suspended particulate matter from European freshwater and estuary sites - environmental quality standard compliance and trend monitoring', presentation at SETAC 2014 (A final publication summarising all the data from the environmental monitoring programme is expected to be published soon)



investigations have shown that waste fractions of EPS packaging can contain HBCD, levels of contamination are comparatively low.

Considering the effectiveness, the cost and the logistics of analysis, a low POP limit of 1000 mg/kg allows for a manageable recycling of PS foams which are not meant to contain HBCD. A level lower than 1000 mg/kg is likely to bring such recycling operations economically off balance whilst endangering their compliance obligations. Furthermore, additional costs will result from an increase of the amounts of PS foams that would have to be incinerated, including also valuable foams that do not contain any HBCD. Therefore, lower levels than 1000 mg/kg are likely to hinder the achievement of recycling targets and the transition to a circular economy.

Yours sincerely,

Dr Smadar Admon

Chair of the European HBCD Industry Group

Edmar Meuwissen

Secretary General of EUMEPS

The European HBCD Industry Group gathers HBCD producers and users in the polystyrene insulation foam sector, the major application of HBCD. The HBCD producers are represented by BSEF (the International Bromine Council) and the HBCD users in the polystyrene insulation industry are members of PlasticsEurope (for expandable polystyrene) and Exiba (for extruded polystyrene).

The European Manufacturers of Expanded Polystyrene (EUMEPS) is an association which supports and promotes the European EPS industry through National Associations. It is divided into two interest groups, reflecting the main applications for Expanded PolyStyrene (EPS): Packaging and Building & Construction. Membership of EUMEPS is open to the National Associations, raw material producers and multinational converters of EPS.