

## EERA's Position Paper on PBDEs and the POP Regulation

The European Electronics Recyclers Association (EERA) is a non-profit trade organisation and are the voice of our Members in the waste electrical and electronic equipment (WEEE) sector on the continent of Europe. Members represent the leading collection, recycling, and specialist reprocessing operators, including nine EERA Members that have large-scale and commercial plastic treatment operations.

EERA understands and supports the necessity to progressively phase out persistent organic pollutants (POPs) as this is a key enabler to transition towards a non-toxic world and for cleaner recycling cycles for plastics waste. This benefits the European circular economy and the plastics recycling industry as more waste can be recycled into new products. However, this must be on an equal status not only within the European Union, but on plastics recycling overseas, and the use of recovered plastics in new electronic and electric equipment (EEE) being placed on the European market.

It was with great concern therefore that we read the recent paper<sup>1</sup> prepared by the European Commission on the unintentional trace contaminant (UTC) values for PBDEs and comment as follows:

### The Commission's position prior to November 2023:

In 2022 the Commission stated that the remaining compromise for the 200mg/kg lower limit would be reflected upon given the evidence that the recycling and plastics end-processing industry had provided showing why this would not be feasible without destroying the European market and recovery capacity. We are therefore very disappointed to see that the industry concerns have not been considered.

EERA published a Statement in October 2022<sup>2</sup> and again in November 2022<sup>3</sup> with other notable Associations (PRE; FEAD and EuRIC), with whom we collaborate on this very important topic.

Our position supported the waste industries very strong concerns then against proposals put forward by the Commission in 2022 to lower the exiting UTC threshold for PBDEs from 500mg/kg to 350mg/kg, with a potential further reduction to 200mg/kg two years after entry into force.

- **Our position has not changed.**

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<sup>1</sup> POP-CA\_11-23\_04-PBDE-UTC [CIRCABC.EUROPA - NOVEMBER 2023](#)

<sup>2</sup> EERA STATEMENT ON THE LIMIT VALUES FOR UNINTENTIONAL TRACE CONTAMINANTS (UTC) 'ONE SUBSTANCE – ONE ASSESSMENT' [EERA Statement - October 2022](#)

<sup>3</sup> JOINT STATEMENT - POP ANNEX I – COMMENTS ON THE PROPOSED UTC THRESHOLDS FOR PBDES [Joint Statement - Nov 2022](#)

Screening technology available in 2022 at our Member's state-of-the-art end-processors / reprocessors for e-waste derived plastics showed that they were able to reach 500mg/kg. However, our Members have told us that, and this is still subject to limited test methods, that they are less confident on being able to reach the 350mg/kg level on an on-going viable basis.

### **The current situation of the plastics industry:**

For certain it is not currently feasible to have a harmonious process in every Member State assuring the lower limit value of 350mg/kg is met, let alone the proposed lower 200mg/kg. An verified industrial testing process implemented on a continuous commercial footing is not only a pre-requisite for our Member's business investments and innovation and future capacity, but also to ensure there remains an European market and key, a practical circular economy for the valuable plastic secondary raw materials derived from the treatment of waste electronic and electric equipment (WEEE).

Please refer to our previous Statements in 2022 for details of the flaws in the testing methodology proposed. No new test methods have been proposed to-date.

- **A stable regulatory environment is a necessity!**

One in which it is possible to not only comply with UTC limit values over the average yearly production, and where one can state with a degree of confidence that each batch of product that leaves a recycling facility complies with the UTC limit values. In this regard lower limits would be possible for certain specific sub-streams such as the high impact polystyrene from cooling and freezing appliances but becomes difficult for other products, e.g. for small domestic appliances derived PP/PE, to the impossible, e.g. for screens derived recycle.

- **One way to address the current uncertainty is for the European Commission to clearly communicate that it has concluded that no further action on the UTC limits for PBDEs is warranted and justifiable and will remain 500 ppm until at least 2030.**

Such a communication can be used by specialised recyclers to approach current and future investors (and their own sales clients) alleviating their concerns and attracting the required private capital to expand operations rapidly.

- **Given the exponential growth in the volume of WEEE arising in Europe this is essential!**

Recyclers and end/final processing operators must first consider the legal requirements in their waste management permits, which requires them to take the precautionary approach for all their activities when considering waste received, treated and recovered as a secondary raw material. This means that if they are not able to evidence meeting the limit values through scientific testing, that they must consider their output as waste and arrange for its' disposal. There is no choice in this matter for professional and compliant operators.

- **EERA continues to advocate that it is vital for all stakeholders to ensure that there is a scientific approach, backed with validated tests using certified test methods, and that are applicable to all plastic streams given that often plastic inputs to end-processors are mixed.**

- **This must be in place before any new limits are imposed, only then can there be the assurances that the limit value is measured in the same way in each Member State and that overseas facilities meet the same obligations under the new rules set down in the Waste Shipment Regulation.**

### Unintended consequences:

It must also be recognised that without a warranted and justifiable reason to impose these draconian limit values the plastics treatment capacity within the European Union, will without doubt, shrink with most of the untreated / unseparated polymers being diverted to landfill or for waste to energy.

- **EERA strongly believes that given the lack of enforcement agency personnel available to stop and inspect all exports, that this action will only serve to cause an increase in the volume (estimated at 50%+ / 1.43 mt in 2020) of undocumented and illegal routes and/or diluted waste exports out of Europe.**

Thus, the intentions of the European Union and the objectives set down in Article 1 of the POPs Regulation to protect human health and the environment by removing plastics containing POPs from the circular chain will be counterproductive as lower treatment and environmental standards overseas will continue to allow the use of recovered plastics not meeting these limits in the manufacture of new products, which will then return to the European Union as new EEE placed on the market.

Another unintended consequence is that the achievement of recycling/recovery targets (imposed on EEE producers and WEEE recyclers as set down in the WEEE Directive 2012) is highly doubtful (*if indeed possible at all*) should plastics have to be diverted to waste disposal routes.

- **EERA do not believe that the European Commission, producers and European citizens are prepared to accept the reduction in the WEEE recycling and recovery achievements.**

Finally, there will also be no reduction in the use of virgin raw plastic in manufacturing, which has a higher carbon impact than the use of recovered plastics, thus perpetuating greater climate damage.

- **EERA do not believe that the European Commission and European citizens are prepared to accept the increase in virgin materials and loss of valuable secondary raw materials or the failure to meet objectives set down in the Green Deal.**

### New proposals discussed by the European Commission:

The POP Expert Group reconvened in November 2023 to re-discuss the limit values proposal and presented the different positions shared by both Member States and Industry associations. During the in-question meeting, the EU Commission presented the following two new approaches:

#### Option 1: PBDE-free market for consumer products:

1. Approach aiming at creating a PBDE-free market for consumer products:
  - For products sold to the general public or products that can be used by the general public: UTC limit value of 10mg/kg

- For other products: UTC limit value as of entry into force of the delegated act, UTC limit value of 350mg/kg as of 30 December 2025 and 200mg/kg as of 30 December 2027.

We note that the 10mg/kg threshold was previously discussed in **2018/2019**, resulting in the conclusion that this would hinder recycling **due to being impractical and unmeasurable**.

- **EERA is convinced that this proposal raises concerns regarding the viability of European recycling markets for plastics recovered from WEEE, creating what we fear will be a de facto prohibition on the use of recycled plastics from WEEE across most markets. This will only present opportunities for overseas plastics operators to gain a greater footing in any future recycled contents plans.**

### **Option 2: Recycling**

2. Approach taking recycling activities into account:

- For PBDE-containing recyclate mixtures: UTC limit value of 500mg/kg as of entry into force, 350mg/kg as of 30 December 2025 and 200mg/kg as of 30 December 2027.
- For mixtures and articles made from or containing PBDE-containing recyclates: 250mg/kg as of entry into force, 175mg/kg as of 30 December 2025, and 100mg/kg as of December 2027 (50% recyclate in mixtures or articles and same timeline as Annex IV)
- For mixtures and articles: UTC limit value of 10mg/kg
- **EERA advocate that the first of these two points is contrary to the very objectives of the Circular Economy Action Plan (CEAP). While the goal under the new CEAP is to promote the use of recycled materials (such as recycled plastics from WEEE), the above-mentioned proposals will without any doubt decrease it.**

For the final point above, it should be noted that the POPs Regulation defines the following:-

- *mixture*: meaning a mixture or solution composed of two or more substances;
- *article*: meaning an object, which during production, is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition;

Thus, according to the above definitions, recycled plastic is considered a **mixture**. This was further clarified with a specific exemption within Part A of the Annex IV, which states “*for the purposes of the entries on tetra-, penta-, hexa-, hepta- and decaBDE, point (b) of Article 4(1) shall apply to the sum of the concentrations of those substances up to 500 mg/kg where they are present in mixtures or articles...*”

- **EERA strongly recommends that the Commission considers the impact of imposing a UTC limit of 10mg/kg to both mixtures and articles as defined within the Annexes in the POPs Regulation** against the clear fact that vast numbers of products placed on the European Union market are made with 100% recycled plastics (e.g., automotive parts, ballpoint pens, footwear, sporting goods, construction materials, household containers and utensils, toys, and EEE – casings, housings, components etc.).

- **If a 10mg/kg limit is applied to products sold to the general public, it becomes very difficult to think that any European market that will remain for recovered plastic.**

### **Summary and final recommendations:**

- (a) EERA has collaborated with the HBCD Industry Group<sup>4</sup> on the validity of the proposed test standard (EN 62321) and in particular, the application of X-ray fluorescence spectrometry for measuring total bromine in plastic substrates containing brominated flame retardants (BFRs), and work is nearly concluded within the EU-funded CREATOR project. **The results should be available in the near future.**

Until then, it must be acknowledged that the proposed methodologies advocated by the Commission have been proven to be flawed when it comes to recycled materials, not only due to the multi-polymer content of incoming WEEE plastics, but also due to the unknown and unpredictable combination of the additives and fillers used.

- **Studies and test methods proposed have been shown to require sample batches of a minimum 1 mt for the results to be validated.**

This volume of materials is not practical given that laboratories are unlikely to be able to accommodate this amount, nor considering the impact of transport and potential export of samples as there are few specialist laboratories available across the whole of the European Union.

The lack of verifiable, scientific and accurate testing methods results in uncertainty for the industry and investors.

- **There must be a harmonious method in place across all Member States that works for the industry on a continuous and commercially viable basis.**
- ✓ **EERA strongly recommends** that the lower UTC limits are not imposed until there is a scientific testing approach that can be used on a commercial and continuous basis.

(b) The specialist plastics end/final processing industry in Europe, the UK and EEA has largely come about following the implementation of the WEEE Directive in 2006. Private companies have innovated and invested vast amounts of money since then to refine and improve the technology and treatment of waste plastics. As mentioned above, this industry supports the objectives in the circular economy and EU Green Deal to cut energy and water use and reduce the carbon impact of manufacturing.

- **For this to continue, it is essential that a long-term approach is taken, which is pragmatic and achievable.**

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<sup>4</sup> 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 Plastics Europe (for expandable polystyrene) and Exiba (for extruded polystyrene).

- ✓ **EERA strongly recommends** that limits for PBDE-containing recyclate, mixtures and articles be set at: 500mg/kg after adoption, and then (and no earlier) 200mg/kg as of 1<sup>st</sup> January 2030.
- ✓ For non-recyclate (**only**) containing mixtures and articles **EERA strongly recommends** that limits be 10mg/kg after adoption.

**END**

**26<sup>th</sup> January 2024**

*Note: EERA is a non-profit organisation and is the voice of WEEE recycling in Europe, being the professional association for the re-use, recycling and re-processing industry. Our vision is for a resource efficient economy where WEEE is managed as a resource and is returned into the economy as a secondary raw material or as equipment prepared for re-use. Our mission is to achieve a level playing field for fair competition in the WEEE value chain, harmonisation of regulations, effective and efficient recycling, and reprocessing with prevention of pollution, minimization of emissions, and the high-quality recovery of secondary raw materials and components. [www.eera-recyclers.com](http://www.eera-recyclers.com)*

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