Teleconference of 2nd SIWG meeting after COP-14

Determining LPC values for decaBDE, a recycler's perspective

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EuRIC at a glance

The European Recycling Industries Confederation (EuRIC) brings together recycling federations from 20 EU & EFTA Member States and represents:

- 5,500+ companies, many of them SMEs.
- 300,000 local jobs.
- Millions of tons of waste recycled/year.
- An annual turnover of about €95 billion.

EuRIC represents technical plastics recyclers (from WEEE, End-of-Life Vehicles…) Through its European Plastics Recyclers Branch.

Handling decaBDE: a recycler's perspective

What is the issue?

- FR applications where there is a high risk of fire, (in EEE housings, foams, textiles in cars…)
- old TVs and computer monitors can have decaBDE levels up to 237,000 mg/kg.

Typical concentrations in decaBDE by WEEE category (Ramboll, 2019)	Median value (in mg/kg)
Flat screens, TV, CRT monitors, Displays	3100
SHA, IT & Telecommunication, Consumer Electronics	210

These values give an order of magnitude of concentrations, but can be much higher in individual products

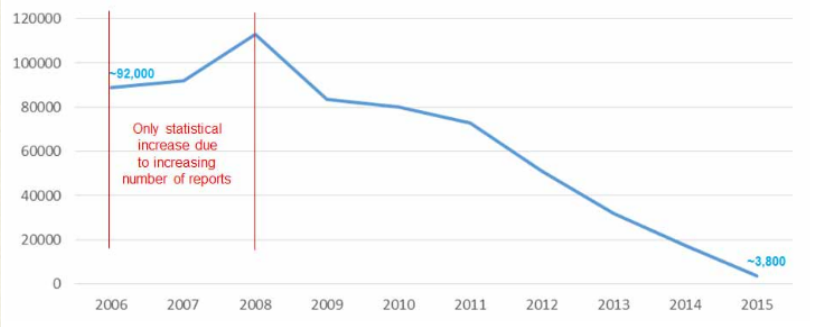
How the industry currently handles deca BDE ?

- For the last 20 years, recycling industry know how to separate brominated from non-brominated plastics (density-based processes) at a 1000-ppm level of decaBDE, by standardized screening of Br content (not decaBDE);
- Study by Anderson (2019) showed concentrations of decaBDE well below regulatory levels in recycled plastics from EEE and ELVs collected in the EU.

Recycling Industry CAN manage run-down in decaBDE levels in WEEE & ELV

- The recycling industry can separate BFR containing plastics from those without but not at a 100 % efficiency.
- The car and electronics industry already managed a gradual reduction of PBDEs content, to keep circular economy functioning while gradually phasing out decaBDE as consequence of RoHS and REACH
- Restriction in decaBDE uses translates into a reduction of its concentration in waste sent to recycling (with delay of several years depending on product lifetime)

Amount of annual transmitted data sheets containing decaBDE (ACEA, 2015)



➔ **Study on Swiss WEEE (Taverna et al, 2017) showed a significant reduction for all PBDEs in WEEE between 2003 and 2011.**

A too low LPC threshold for decaBDE will harm responsible recycling

➔Set **scientific and risk-based threshold** allowing responsible recycling is crucial

- A very low 50-ppm LPC for decaBDE (similar to threshold for other LPCs mentioned in TG), fails to take into account the **lower risk** of decaBDE compared to those substances;
- Measuring PBDE or Deca-BDE concentrations in plastics on a daily basis is very expensive;
- A screening standard exist for Br concentrations at 1000 ppm (IEC EN 62321–3–1), but no validated standard exist for lower concentrations;

➔A "cliff-edged" reduction (to a 50-ppm LPC) would harm the recycling industry, making the compliance with this threshold impossible at industrial scale

Therefore, a too low threshold would lead to detrimental environmental impacts for all stakeholders:

- Lower quality management of decaBDE-containing waste (landfilling, burning,…)
- Hinder the emergence of responsible recycling in non-EU countries
- Stopping the recycling option for most WEEE and ELV plastics in EU countries

Thank you for your attention !

EuRIC - European Recycling Industries' Confederation AISBL
Bluepoint Brussels • Boulevard Auguste Reyers 80 • 1030 Brussels • Belgium
T. +32 2 706 87 20 • M. +32 471 689 319
euric@euric-aisbl.eu

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