

EuRIC reaction to the proposal for restriction of TBBPA, ATO and MCCP under RoHS

EuRIC reaction to the stakeholder consultation held as part of the “Study to support the review of the list of restricted substances and to assess a new exemption request under RoHS 2 (Pack 15)”

EuRIC welcomes the comprehensive studies conducted by Öko-Insitut on TBBPA and ATO in three restriction reports, but wishes to express its concern related to the potential effects of restrictions on the circular economy.

Firstly, on TBBPA it seems to us that environmental and health effects of potential substitutes to TBBPA is not well known

There’s currently no guarantee that the proposed alternatives to halogenated flame retardants (phosphorus-based flame retardants) will not be restricted in the future because of their health and environmental effect. Indeed, the restriction report for TBBPA states that *“The environmental and human health risks of several of the organophosphorus compounds suggest that additional data is needed concerning the available alternatives to allow conclusions to be drawn as to their level of hazardousness”*. Recyclers will have to clean the material streams of legacy substances if substitutes to TBBPA turn out to be also hazardous.

As a consequence, if substitutes to TBBPA are restricted in the future, EuRIC underlines the technical issues for recycling that may arise, and that are not addressed in the report. Restricting TBBPA might have a negative effect on the efficient sorting of plastics containing flame retardants from those containing none.

Total Bromine content is useful for separating low brominated fraction from high brominated fractions, according to standard CEN TS 50625-3-1. Surprisingly, this is addressed in the restriction proposal for Sb₂O₃ (ATO), where it is stated that *“ATO is used as a sound parameter to sort out plastic containing brominated flame retardants [...] supporting the sorting technique based on sink-float that is the commonly applied process”* but not in the restriction report for TBBPA.

Both antimony (Sb) and bromine (Br) are used by state-of-the-art recycling techniques to separate flame retardant from non-flame-retardant plastics. However, we have insufficient knowledge about whether those techniques can properly deal with phosphorus-based flame retardant:

- XRF sensors cannot detect phosphorus-based flame retardants. This was also underlined by one of the contributions to the report¹;
- Density-based separation may not allow the correct separation of plastics containing phosphorus-based flame retardants (PFR) from “clean” plastic fractions, because of the density overlap between PFR and non-PFR plastic fractions.

As a consequence, the report’s statement forecasting that a restriction of TBBPA will lead to *“an increase of the amount of ABS available for recycling is to be expected”* might not be true. On the contrary, a restriction can lead, via the substitution by PFRs, to a higher residual fraction of non-recycled plastics (if a restriction is implemented), and of lesser quality of recycled plastics, containing PFR.

¹ Contribution submitted by Jef Peeters, Department of Mechanical Engineering, Faculty of Engineering & Engineering Technology, KU Leuven-University of Leuven on 15.06.2018 during the stakeholder consultation conducted from 20 April 2018 to 15 June 2018 by Oeko-Institute in the course of the study to support the review of the list of restricted substances and to assess a new exemption request under RoHS 2 (Pack 15);

Moreover, if the argument on the effect on recycling techniques is used for ATO, but not for TBBPA, it might lose its weight. Indeed, alternatives to TBBPA considered in the report are only non-halogenated flame retardants, making the use of ATO useless anyway since that to our knowledge it is only used as a synergist with halogenated-flame retardants.

Finally, EuRIC would like to point out that the conclusions of the report based on workers exposure monitoring data are using relatively old studies, conducted before requirements such as the Best Available Techniques (in the framework of the Industrial Emissions Directive²) for waste treatment, or the WEEE directive³, were implemented.

This point is confirmed regarding waste management monitoring data. If regulatory emissions controls are properly applied, concentrations near waste management sites do not significantly differ to what is found at other points of the environment.

Therefore, EuRIC advocates for the better inclusion of a risk-based approach when regulating such chemicals. Even if they are not desirable in a sustainable and fully circular economy, attention must be given to assess the real risks related to their health and environmental effects, and the counterproductive effect a restriction could have on material recycling.

EuRIC - The European Recycling Industries' Confederation - is the umbrella organisation for recycling industries. Through its Member Federations from 21 EU&EFTA countries, EuRIC represents across Europe over:

- 5,500+ companies generating an aggregated annual turnover of about 95 billion €, including large companies and SMEs, involved in the recycling and trade of various resource streams;
- 300,000 local jobs which cannot be outsourced to third EU countries;
- Million tons of waste recycled per year (metals, paper, glass, plastics, textiles, tyres and beyond);

By turning wastes into resources, recycling is the link which reintroduces recycled materials into the value chains again and again.

Recyclers play a key role in bridging resource efficiency, climate change policy and industrial transition.

² Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control)

³ Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)