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BSEF position on the revision of ecodesign requirements for e-displays

BSEF – the International Bromine Council, welcomes the ecodesign directives and regulations and the improvement they can offer to circularity and sustainability, but is still greatly concerned about the restriction of the use Halogenated Flame Retardants (HFRs) in the enclosure and stand of electronic displays. This document is intended to provide further information on how chemicals such as HFRs are already regulated, and why a restriction would increase regulatory burden and lack of harmonization in the current legislative framework without bringing any health and/or environmental benefit.

Key messages:

- Halogenated Flame Retardants (HFRs) play a key role in ensuring high levels of fire safety in products. They are a preferred choice for numerous Electrical & Electronic products, thanks to their good technical compatibility with various materials, stable nature during plastic processing, and their efficiency at low concentrations.
- HFRs are currently integrated in the circular economy, being well-controlled and easily sorted during conventional recycling processes. Evidence shows that over 95% of the Br load can be sorted out, and continued advancement in technologies could offer a future longer-term alternative to mechanical recycling processes, supporting continued improvement in the efficiency of BFRs extraction.
- HFRs are already regulated at the EU level ensuring the highest level of safety on both production, use and end-of-life management. Therefore, there is a need to avoid duplication and overlap within the existing chemical framework, including regulatory tools intended to address the production, service-life and the end of life of these substances.
- Identified substances of concern that prevent recycling under the ESPR, should be addressed and restricted as appropriate under REACH. This would bring the highest level of environmental and human protection. This would also ensure that chemical management is overseen by the European Chemicals Agency (ECHA) and based on sufficient scientific and technical expertise.

BSEF position

As outlined in its [statement](#) as part of the European Commission's call for evidence, BSEF maintains that a ban on HFRs is unwarranted and not consistent with EU chemical legislation. Furthermore, such a ban would not ensure that the requirements would contribute to efficiency and CO2 emissions abatement, and to achieve a high level of environmental and consumer protection in a cost-effective way.

Fire safety and Flame Retardants

According to conservative estimates, every year in the EU, 5,000 people lose their lives and 50,000 get injured by fire related incidents¹. Flame retardants significantly enhance fire safety and fire prevention by providing flame retardancy to a wide range of materials, including electric and electronic appliances. Flame retardants slow the spreading of fire and therefore extend the time available for people to evacuate and emergency services to intervene, saving lives and limiting the damages caused by fire.

HFRs, which include Brominated Flame Retardants (BFRs), play a key role in ensuring high levels of fire safety in products. They are a preferred choice for numerous Electrical & Electronic, products thanks to their good

¹ <https://www.europeanfiresafetyalliance.org/our-focus/statistics>

technical compatibility with various materials, stable nature during plastic processing, and their efficiency at low concentrations. As we move towards an increased use in plastics, alongside more electrification and the development of the IoT/5G, preventative measures contributing to fire safety have never been as important as they are today.

The unwarranted ban on HFRs in e-displays is not based on any substantive scientific risk assessment and targets an entire class of chemicals nearly all of which are not subject to regulatory restriction. Indeed, modern generation HFRs are thoroughly researched to ensure they are safe for human health and the environment in their intended uses. They meet strict legal requirements and certification schemes (flammability and product standards) and are safe for users and workers. In the EU, only products that have demonstrated safe use are allowed under chemical legislation. Being registered under REACH, they are as such assessed for safe use². Any restriction or reduction of the presence of HFRs in electronic displays would increase fire risks without bringing environmental and/or health benefits.

Waste from Electrical and Electronic Equipment (WEEE) containing BFR are ready for circularity

The European Commission argues that the presence of HFRs in waste hinders recycling. However, this argument is not supported by any scientific data, conversely, there is evidence that BFR plastics are currently integrated in the circular economy and effectively recycled. A recent study³ carried out by DSS+ recycling experts shows that BFR containing plastics from EEE are well-controlled and easily sorted during conventional recycling processes. Currently, over 95% of BFRs can already be eliminated in WEEE plastics, and new techniques such as solvent-based recycling, thermolysis, and gasification are showing potential in converting plastics to fundamental elements and fresh materials.

The vast majority of WEEE plastics containing bromine are processed to result in plastics free of BFRs or with <2,000 PPM of bromine. The separated polymers from WEEE will then be extruded and if needed compounded. Plastics recycling saves large amounts of CO₂ emissions and energy compared to virgin plastics. The data above is already outstanding given that the issue of waste treatment of plastics from electronic and electrical equipment, including displays and stands, is part of a much more complex situation involving multiple variables beyond flame retardant additives, such as overall additive loadings, multiplicity of polymer types and broader issues with WEEE collection systems.

Ensuring coherence in EU chemical legislation & guidance

In order to ensure legislation meets its intended objectives, there is a need for coherence and consistency with other policy initiatives. Ecodesign regulations are not the appropriate space to introduce chemical restrictions, as this would lead to double regulation and would only add pressure and additional burden on manufacturers without bringing any health and/or environmental benefit. Chemical requirements should be prescribed under relevant chemical legislation (REACH), which have proven to be highly effective in limiting the amounts of substances of concern being placed on the EU market, and is currently under revision (REACH revision) to meet the latest requirements.

Existing legislative instruments are already in place to regulate HFRs in articles and products. The Regulation on the registration, evaluation, authorization and restriction of chemicals (REACH)⁴ is the main EU law to protect human health and the environment from potential risks posed by these chemicals. Additionally, the European Commission and EU Chemicals Agency (ECHA) are currently evaluating a potential restriction of flame retardants

² In line with ECHA's ambition for One Substance, One Assessment – REACH should be the one and only place where chemical hazards and risks should be assessed.

³ Brominated Flame Retardants and the Circular Economy of WEEE Plastics <https://www.bsef.com/wp-content/uploads/2023/09/Brominated-Flame-Retardants-and-the-Circular-Economy-of-WEEE-Plastics.pdf>

⁴ https://environment.ec.europa.eu/topics/chemicals/reach-regulation_en#:~:text=The%20Regulation%20on%20the%20registration,can%20be%20posed%20by%20chemicals.

under the Flame Retardants Strategy⁵, as reiterated in the updated Restriction Roadmap for Chemicals⁶. Similarly, the European Union already has legislative instruments for addressing chemicals in electrical and electronic equipment, namely the Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive⁷.

The Ecodesign for Sustainable Products Regulation (ESPR)⁸ aims to ensure that sustainable products become the norm, strengthening protection of human health and the environment, with a clearer administration of potential substance restrictions. As restrictions on the ground of hazard will be identified via the ESPR but likely handled via REACH, the ESPR should focus on identifying substances of concern that prevent recycling, which is its main environmental added value. Similar to other associations (**see annex 1**) BSEF is of the opinion that chemicals should indeed be regulated via (i) the REACH Regulation, overseen by the European Chemicals Agency (ECHA), and based on sufficient scientific evidence and technical expertise, or (ii) via horizontal rules addressing groups of products under the ESPR, pending a detailed scientific assessment. **Therefore, BSEF encourages the European Commission and its services to avoid rolling over existing ESPR provisions and ask to conduct an in-depth science-based impact assessment to review the need to regulate HFRs under the ESPR and remove any reference to chemicals in Ecodesign requirements for electronic displays.**

Conclusions

HFRs play a key role in ensuring high levels of fire safety in products, including electronic displays. They are already regulated at the EU level, ensuring the highest safety standards on both production and end-of-life management.

Chemicals are best addressed via REACH in end-products and, in turn, those end-products through a horizontal measure under the ESPR. Identifying substances of concern that prevent recycling under the ESPR, and addressing any potential substance restrictions under REACH, would bring the highest level of environmental and human protection while maintaining fire safety standards for electrical and electronic equipment.

BSEF calls on the European Commission to remove existing references to chemicals and refrain from introducing any additional one in Ecodesign requirements for electronic displays.

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About BSEF

BSEF – the International Bromine Council, is the global representative body for bromine producers and producers of bromine technologies. Originally founded in 1997, BSEF works to foster knowledge on the societal benefits of bromine and its applications. The members of BSEF are Albemarle Corporation, ICL Industrial Products, Lanxess, Haiwang and Tosoh.

BSEF is actively involved in responding to and engaging with the EU Green Deal and in particular the EU Circular Economy Action Plan and Chemicals Strategy for Sustainability. Additionally, its member companies are active in a range of projects and investments (some EU co-funded) designed to align bromine technologies with Green Deal goals.

Visit www.bsef.org to learn more and follow BSEF on LinkedIn for the latest news and information. For further information, please contact Patrick Fox, Head of Public Affairs & Advocacy (pfox@bsef.org).

⁵ <https://echa.europa.eu/documents/10162/d041806d-6082-b44a-d218-d5c0452eb56a>

⁶ <https://circabc.europa.eu/ui/group/a0b483a2-4c05-4058-addf-2a4de71b9a98/library/6a637e81-b326-48d9-b418-6fa28e9f1f01/details>

⁷ https://environment.ec.europa.eu/topics/waste-and-recycling/rohs-directive_en#:~:text=Restriction%20of%20Hazardous%20Substances%20in,the%20environment%20and%20public%20health.

⁸ https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/ecodesign-sustainable-products-regulation_en

Annex 1: Value chain positions

As part of the Commission's call for evidence, a number of stakeholders also highlighted the need to address chemical requirements under relevant legislation such as the REACH Regulation or RoHS Directive. Below is an overview of key contributions.

Digital Europe

Digital Europe, the leading trade association representing digitally transforming industries, [highlights](#) that Ecodesign regulations are not the appropriate place to prescribe substance requirements, as these should instead be addressed by specific chemical regulations like REACH or RoHS. These chemical regulations have been extremely effective in limiting the amounts of the regulated substances placed on the EU market. The organization strongly advocates against double regulation when regulatory tools are already available, as further complication of the EU regulatory environment will place additional burden on manufacturers.

Cefic

Cefic, the European trade association for the chemical industry, [calls](#) on the Commission to remove any reference to chemicals in Ecodesign requirements for electronic displays, as they are better addressed under the proposed Ecodesign for Sustainable Products Regulation (ESPR). The organization stresses that restrictions on the ground of hazard [draft Article 2(28) a, b] will be identified via ESPR but likely handled via REACH. This will allow the ESPR to place its full attention on identifying substances of concern that prevent recycling [draft Article 2(28) c] in the given product group, which is its main environmental added value.

Samsung Electronics

The company [raises concerns](#) that Ecodesign regulations are not the appropriate place to prescribe substance requirements, limiting or restricting substances of concern, as these are already dealt with sufficiently in specific chemical regulations (including REACH or RoHS). Samsung is therefore calling for keeping requirements for chemicals in legislative tools that are already in place and working effectively.

Other relevant contributions

Several organizations, including the [Beryllium Science and Technology Association \(BeST\)](#), the [European Heating Industry \(EHI\)](#), and [APPLiA Europe](#), call for avoiding double regulation and warn against overburdening the industry. BeST notably highlights that measures that propose restrictions and substitution of specific substances used in product categories can lead to regrettable substitution of materials with less-performing materials and higher negative environmental impact. Furthermore, APPLiA Europe recall the importance of avoiding a cascading approach, as regulation of products or components integrated into already regulated products does not increase their overall efficiency.