28 July 2025

UPDATE - The Use of PFAS in Consumer Batteries

1. Our General Approach

We support all efforts to limit the environmental impact of chemicals. Therefore, we closely follow the current debate regarding the proposed restriction of per- and polyfluoroalkyl substances (PFAS). PFAS are key to the safe and effective manufacture of portable and other batteries and the technological and economic viability of Europe's battery sector. They are essential for ensuring the safety, performance, and longevity of battery systems that power millions of consumer and industrial devices across Europe – without any viable alternatives for key applications in battery production. A blanket ban of PFAS would compromise the functionality of critical consumer and medical devices as well as vital industrial and EV applications. Eventually, it would severely disrupt the battery value chain and undermine the EU's circular economy ambitions.

***For the above reasons, we are in favour of either an appropriate derogation for PFAS under the REACH legislation or similar balanced measures as referred to in section 4 of this note**.*

2. The Strategic Role of Portable Batteries in the EU Economy

Consumer batteries are a cornerstone of the clean industry transition in Europe. The demand for high-performance portable batteries will only further increase, powering essential tools e.g.,

- Medical devices such as pacemakers, hearing aids, and defibrillators
- Consumer electronics e.g., TV remotes, smoke detectors, but also mobile phones and laptops
- Wireless tools and equipment used in sustainable construction and maintenance
- Emergency systems and backup power supplies

3. Why PFAS Are Essential in Battery Manufacturing

PFAS fulfil several non-substitutable functions in battery manufacturing, especially for lithium-ion (Li-Ion) and other advanced chemistries. They possess unique chemical properties i.e., high thermal and chemical stability, non-reactivity, and dielectric strength. To ensure that battery production remains safe, efficient, and compliant with the highest standards, PFAS are required in e.g.,

a. Binders and Electrolytes

- Used as polymers in electrodes due to their exceptional (electro)chemical resistance and stability.
- Fluorinated solvents and salts are critical for electrolyte formulations, ensuring wide electrochemical stability windows and low flammability.

b. Separators

- Applied for coatings on advanced battery separators to improve thermal and mechanical stability.

c. Gaskets and Seals

- Used as elastomers (e.g., FKM and PTFE) in battery cells to ensure leak-proof, chemically resistant seals, essential for both safety and long-term durability.

d. Battery Management System (BMS) Insulation

- Excellent dielectric properties are key for miniaturisation and reliability of electronic control systems.

e. Thermal Management and Fire Safety

- Used in thermal barriers and fire-resistant materials that prevent thermal runaway and enhance the battery safety under high-stress conditions.

4. 'Third Option': Research for Viable Alternatives

Along with the broader battery industry, we continuously look for safer and more sustainable materials. As there are currently no alternatives for PFAS without sacrificing performance, safety, or lifespan, such substitutions will require long development timelines for testing, validation, and the certification of new chemistries, along with high costs and performance trade-offs.

We welcome thus the announcement of the European Chemicals Agency (ECHA) and the authorities from the five Dossier Submitters to consider a 'third restriction option' for PFAS used in batteries, beyond a full ban or a ban with time-limited derogations. Furthermore, we appreciate the commitment of the EU Commission, as set out in the European Chemicals Industry Action Plan, to provide PFAS derogations for critical applications until acceptable substitutes are found.

In this context, we support the pilot project initiated by DG GROW i.e., conduct a collaborative study to explore the role of EU Substitution Centres for PFAS substitution in batteries, and we encourage members of our association to engage in this study.

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Kevin Rejent
Chairman

Marco Baldoli
General Secretary

About EPBA – Consumer Batteries Europe

We are the leading organisation of quality manufacturers of portable batteries and power solutions in Europe. It comprises of a total of seven member companies, along with several associated members. In 2023, our members sold 5.5 billion batteries i.e. Alkaline, Zinc Carbon, Lithium coin and other button cells, and rechargeable batteries, along with two million chargers in Europe. The sector employs around 4,000 people in Europe, and the VAT contribution amounts to approximately EUR 260 million. We are dedicated to advancing the sustainable, safe, and efficient use of portable batteries across Europe. Our mission is to advocate for innovation and environmental stewardship in the battery industry, promote best practices in manufacturing and recycling, and ensure compliance with stringent safety and environmental standards. We work closely with stakeholders, including the EU institutions, policymakers, and consumers, to safeguard and enhance our positive contribution to the EU economy, the environment, and the communities in which we operate.