





OPEN LETTER

European and Global Endocrine Community Call for Legislative Measures to Address Endocrine Disrupting Chemicals

As EU policymakers prepare proposals for the revisions of EU legislation, including the REACH chemicals regulation and cosmetics regulation, alongside a proposed ban on per and polyfluoroalkyl substances (PFAS), we, the European Society for Paediatric Endocrinology, the Endocrine Society and the European Society of Endocrinology, call on you to take this unique opportunity to prioritise protection of human health by limiting exposure to endocrine-disrupting chemicals (EDCs). Our societies represent the field of endocrinology, and our members are scientists and clinicians at the leading edge of advancing discoveries and clinical practice related to the endocrine system. In this letter we describe the primary reasons why stronger EU regulation is needed to effectively reduce the current high exposure to EDCs of the European population, and issue specific recommendations to reduce exposure.

Failure of Existing Regulations to Prevent Harm

Existing EU regulations have clearly been unable to prevent the increasing trend of EDC exposures and the rising incidence of chronic diseases. This continued trend will have major health, environmental, and financial implications. Urgent action is needed to prevent EDC exposure for all populations.

Increasing Health Concerns

Clinicians and scientists working in the field of endocrinology are concerned about an increase in the incidence of endocrine disorders such as infertility, obesity, diabetes, immune system and neurodevelopmental disorders, and cancers, which have been observed in recent decades. Peer-reviewed scientific studies consistently show that EDCs are contributing factors to these diseases¹. All populations are at risk from EDC exposure, but vulnerable groups including pregnant women, children, and adolescents are particularly susceptible due to sensitive developmental windows^{2,3}. Additionally, individuals with higher or more complex exposure levels, such as farmers and agricultural workers, require special consideration^{4,5}. The widespread use of PFAS in various industrial and consumer products, combined with their persistence and mobility, has led to global environmental contamination and human bioaccumulation⁶.

Significant Economic Burden

EDCs are associated with significant economic costs, estimated to be in the order of hundreds of billions of euros annually in the EU⁷, with a substantially higher financial burden globally. Additionally, the remediation efforts for persistent EDCs like PFAS will require substantial time and financial resources. Remediating PFAS contamination in Europe, if emissions remain unrestricted, is projected to cost €2 trillion over a 20-year period, or an annual bill of €100 billion⁸. These costs, combined with health and environmental impacts, are an unsustainable burden for society.

Extensive Environmental Damage

Beyond disease and public health, EDCs can cause ecological damage and have adverse consequences for food and agricultural systems⁹. Again, as an example, PFAS are extraordinarily prevalent and persistent in the environment and are already contaminating ecosystems endangering both humans and wildlife¹⁰.







Therefore, tighter EU regulation is critical to reduce exposure and protect the health of current and future generations, specifically through the revision of the REACH chemicals regulation and the universal restriction of PFAS.

We are following the EU policy debate and refer to a recent submission by the Endocrine Society, the European Society of Endocrinology and the European Society for Paediatric Endocrinology to the CARACAL expert working group on the upcoming REACH revision, which reflects our current stance on this legislative file in more detail¹¹. The document lists priorities which follow from decades of scientific studies on EDCs linked to human and environmental harms. These recommendations were all included in the Chemicals Strategy for Sustainability and now need to be embedded in EU chemical regulation. We therefore ask you to support effective measures for identification and control of EDCs in these areas:

Recommendations:

- **Better data to identify EDCs**: Compulsory requirements for companies to test specifically for endocrine disrupting properties regardless of annual production volumes, using updated testing methods to address sensitive endpoints.
- Group restrictions to control similar chemicals: Effective identification and faster, more comprehensive restrictions of harmful EDCs by addressing groups of similar chemicals, such as bisphenols, in CLP classifications, SVHC identifications and restrictions under REACH.
- Chemical mixtures: Establish an additional safety factor a Mixture Assessment
 Factor (MAF) to address the hazards from combined exposure to chemicals with
 similar or additive effects from various sources such as consumer products, food, and
 drinking water. The MAF should apply to all uses of EDCs at all tonnage levels under
 REACH.
- Ban EDCs in all consumer products: Introduce a general EU ban on the use of EDCs in all consumer products by including these under the generic risk management approach (GRA) under REACH and ban their use in product-specific regulations including and beyond toys, food packaging and cosmetics. Both known and suspected EDCs (CLP category 1 and 2) should be included in such approaches.

Proposed universal restriction of PFAS

We welcome and support the proposal for a universal restriction of PFAS, while appreciating that an essential use approach may be necessary for specific applications. "Essential" means that the use of PFAS should only be permitted in those items that are critical for the functioning of society, where no alternatives are available, and having a short half-life i.e., time within the human body¹². We note that national governments, such as France, have initiated regulatory processes regarding PFAS; such measures should be expanded at the EU level.

We appreciate your acknowledgement of our position on the EDC debate and remain at your disposal to support your important work in this area.

European Society for Paediatric Endocrinology

Endocrine Society

European Society of Endocrinology







About the European Society for Paediatric Endocrinology

The European Society for Paediatric Endocrinology (ESPE) is an international society registered in Europe that promotes the highest levels of clinical care for infants, children and adolescents with endocrine problems throughout the world, including in less advantaged areas. At the EU level, it works with the EU and partner organisations to create a healthier environment for children and adults.

To find out more about ESPE, please visit eurospe.org.

About Endocrine Society

Endocrinologists are at the core of solving the most pressing health problems of our time, from diabetes and obesity to infertility, bone health, and hormone-related cancers. The Endocrine Society is the world's oldest and largest organization of scientists devoted to hormone research and physicians who care for people with hormone-related conditions.

The Society has more than 18,000 members, including scientists, physicians, educators, nurses, and students in 122 countries. To learn more about the Society and the field of endocrinology, visit our site at www.endocrine.org. Follow us on X (formerly Twitter) at @TheEndoSociety and @EndoMedia.

About the European Society of Endocrinology

The European Society of Endocrinology (ESE) provides a platform to develop and share leading research and best knowledge in endocrine science and medicine. Through the 50 National Societies involved with the ESE Council of Affiliated Societies (ECAS) and partnership with specialist endocrine societies, ESE and its partners jointly represent a community of over 20,000 European endocrinologists.

ESE and its partner societies work to promote knowledge and education in the field of endocrinology for healthcare professionals, researchers, patients and the public.

ESE informs policymakers on health decisions at the highest level through advocacy efforts across Europe. Find out more: www.ese-hormones.org.







References

- 1. Gore AC, Chappell VA, Fenton SE, et al. Executive Summary to EDC-2: The Endocrine Society's Second Scientific Statement on Endocrine-Disrupting Chemicals. *Endocr Rev.* 2015;36(6):E1–E150. doi:10.1210/er.2015-1010
- Rivollier F, Krebs M, Kebir O, et al. Perinatal Exposure to Environmental Endocrine Disruptors in the Emergence of Neurodevelopmental Psychiatric Diseases: A Systematic Review. Int J Environ Res Public Health. 2019;16(8):1318. doi:10.3390/ijerph16081318
- 3. Parent A, Naveau E, Gerard A, Bourguignon J, Wstbrool G, et al. Early developmental actions of endocrine disruptors on the hypothalamus, hippocampus, and cerebral cortex. *J Toxicol Environ Health B Crit Rev.* 2011;14(5–7):328–345. doi:10.1080/10937404.2011.578556
- 4. Shekhar C, Khosya R, Thakur K, Mahajan D et al. A systematic review of pesticide exposure, associated risks, and long-term human health impact. *Toxicol Rep.* 2024;30(13):101840. doi:10.1016/j.toxrep.2024.101840
- Fucic A, Duca RC, Galea KS, Maric T et al. Reproductive Health Risk Associated with Occupational and Environmental Exposure to Pesticides. Int J Environ Res Public Health. 2021;18(12):6576. doi:10.3390/ijerph18126576
- Bulawska N, Sosnowska A, Kowaslka et al. PFAS (per- and polyfluorinated alkyl substances) as EDCs (endocrinedisrupting chemicals) – Identification of compounds with high potential to bind to selected terpenoids NHRs (nuclear hormone receptors). *Chemosphere*. 2025;370:143967. doi:10.1016/j.chemosphere.2024.143967.
- 7. Trasande L, Zoeller RT, Hass U, Kortenkamp A, Grandjean P, Myers J, DiGangi J, Bellanger M, Hauser R, Legler, J, Skakkebaek N, Heindel J, et a. Estimating burden and disease costs of exposure to endocrine-disrupting chemicals in the European union. *J Clin Endocrinol Metab*. 2015;100(4):1245–1255. doi:10.1210/jc.2014-4324
- 8. Calatayud JM, et al. The forensics of the plastic industry disinformation campaign to defend PFAS. *The Forever Lobbying Project*. 2025 Jan. Available from: https://foreverpollution.eu/lobbying/the-disinformation-campaign/
- 9. Jaacks LM, Prasad S. The ecological cost of continued use of endocrine-disrupting chemicals. *The Lancet Diabetes* & Endocrinology. 2017 Jan;5(1):14–15. doi:10.1016/S2213-8587(16)30399-0
- Statement by the European Society of Endocrinology, the Endocrine Society and the European Society for Paediatric Endocrinology. CARACAL group document. Available from: https://circabc.europa.eu/ui/group/a0b483a2-4c05-4058-addf-2a4de71b9a98/library/db9177c4-7c60-4e4e-bd13-27db375b3a1f/details
- 11. European Society for Paediatric Endocrinology. ESPE Statement: The detrimental impact of Per- and polyfluoroalkyl substances on children. 2024 Feb. Available from: https://www.eurospe.org/wp-content/uploads/2023/11/ESPE-PFAS-Statement--FINAL.pdf
- 12. Glüge J, London R, Cousins IT, et al. Information Requirements under the Essential-Use Concept: PFAS Case Studies. *Environ Sci Technol.* 2022;56(10):6232–6242. Available from: <u>Information Requirements under the Essential-Use Concept: PFAS Case Studies PubMed</u>