

General comments

The European Society of Endocrinology (ESE) and the Endocrine Society welcome the opportunity to contribute to ECHA's evaluation of whether endocrine-disrupting chemicals (EDCs) should be included within the scope of Directive 2004/37/EC on the protection of workers from risks related to exposure to carcinogens, mutagens or reprotoxic substances at work (CMRD).

The Endocrine Society serves as the leading global voice of the field with over 18,000 members across 133 countries. Concurrently, ESE acts as the central 'voice for endocrinology' in Europe, representing over 22,000 specialists through its direct membership and 51 national organisations under the ESE Council of Affiliated Societies (ECAS).

Our societies have consistently advocated for reducing human exposure to EDCs through scientific engagement, policy contributions and collaborative initiatives with other endocrine societies.

Scientific rationale

EDCs interfere with hormone action and can affect virtually every organ system. The evidence linking EDC exposure to adverse health outcomes has grown substantially over the past two decades. While EDCs are defined by their ability to alter endocrine function rather than by specific toxicological endpoints, many EDCs also exhibit carcinogenic, mutagenic and/or reproductive toxic properties.

Examples include:

- Bisphenol A (BPA) and diethylstilbestrol (DES): associated with reproductive toxicity and increased cancer risk via hormonal pathways.
- Certain pesticides and industrial chemicals: exhibit both endocrine-disrupting and mutagenic properties.
- Phthalates and PFAS: linked to reproductive, metabolic and developmental effects through endocrine mechanisms.

Collectively, EDCs and CMR substances are associated with hormone-sensitive cancers, infertility, metabolic disorders (including obesity and diabetes), thyroid dysfunction, immune effects and neurodevelopmental disorders. Many of these non-communicable diseases are increasing in prevalence across Europe, imposing growing burdens on health systems and economies. Importantly, many EDC exposures are preventable, making exposure reduction an effective strategy for disease prevention and long-term health cost reduction.

Occupational considerations

Workers in multiple industrial sectors can experience higher, more frequent, or unique exposure profiles compared with the general population, making occupational settings critical for primary prevention. Key considerations include:

- Critical windows of susceptibility: exposure during pregnancy or other developmental windows can cause effects that manifest later in life or in subsequent generations.
- Cumulative and long-term exposure: endocrine effects may arise from cumulative exposures over years, underscoring the need to prevent sustained occupational exposures.
- Distinct occupational risk profiles: the timing, magnitude and routes of workplace exposure can differ from consumer or environmental exposure, warranting targeted preventive measures.

Given these characteristics, protecting workers from EDCs is both a current occupational health imperative and a preventive measure for lifelong endocrine health. Where robust evidence indicates endocrine-disrupting properties, action should not be delayed pending absolute scientific certainty.

Inclusion of endocrine disruptors within the CMRD

The CLP Regulation establishes hazard classes for EDCs, confirming that they are substances of equivalent concern to carcinogens, mutagens and reprotoxic substances. Our societies therefore support their inclusion within the CMRD.

The Directive's existing hierarchy of preventive measures—substitution, engineering controls, exposure reduction, health surveillance, and worker information and training—is appropriate for EDCs and would strengthen worker protection.

Any inclusion should be based on harmonised, science-based criteria aligned with existing EU legislative frameworks (notably REACH and CLP). Alignment would promote regulatory coherence, legal certainty and consistent protection for workers across the EU.

Conclusions

We, as representatives of the European and International endocrine community, support extending the CMRD to explicitly cover EDCs. This aligns with current scientific understanding of endocrine disruption, would strengthen prevention of occupational disease, and help protect hormone health across the life course. Recognising EDCs within the CMRD would reduce preventable occupational exposures, lower the burden of endocrine-related disease, and support the EU's objective of a high level of human health protection through coherent, science-based chemicals legislation.

Further reading

- ❖ **Chemicals Omnibus and Chemicals Action Plan: the EU's deregulation trend prioritises corporate interests over citizens' health:** <https://www.e-se-hormones.org/news/e-se-and-partners-counter-proposed-eu-simplification-measures-around-chemicals/> (2025)
- ❖ **The European and international endocrine community has sent an open letter to the national Governments of the EU27 Member States calling for an immediate reduction in exposure to harmful chemicals** <https://www.e-se-hormones.org/news/the-european-and-international-endocrine-community-has-sent-an-open-letter-to-the-national-governments-of-the-eu27-member-states-calling-for-an-immediate-reduction-in-exposure-to-harmful-chemicals/> (2025)
- ❖ **Endocrine disrupting chemicals are a threat to hormone health: a commentary on behalf of the ESE**
<https://pubmed.ncbi.nlm.nih.gov/38388677/> (2024)