

The ENKORE cluster <https://enkore-cluster.eu/> is comprised of five projects: EDC-MASLD, ENDOMIX, HYPiEND, MERLON and NEMESIS, funded under the EU call HORIZON-HLTH-2023-ENVHLTH-02-03 (Health impacts of endocrine-disrupting chemicals: bridging science-policy gaps by addressing persistent scientific uncertainties). The ENKORE cluster's policy goal is to inform current and future policy processes in the EU to ultimately improve the health and well-being of European populations. The cluster finds the update of the CPR of central importance for exposure of the European population to endocrine disruptors (EDs) and would like to emphasise the urgency to pursue efforts in minimizing ED exposure and protect the health of women, vulnerable groups and future generations.

## The ENKORE cluster calls for a prohibition of EDs in the CPR:

In the scientific papers published by the ENKORE cluster thus far, the urgency of minimizing exposure to endocrine disruptors (EDs) have been underscored.

Epidemiological studies report rising trends in hormone-related diseases, including reproductive and metabolic disorders, and animal studies confirm that similar effects can be induced by exposure to EDs (Svingen et al., 2024; Parent et al., 2025; Heikkinen et al., 2025; Gogola et al., 2025; Holmer et al., 2025). Despite this rapidly increasing knowledge-base and intensified regulatory efforts to improve the identification of EDs relevant for humans within the European Union over the past 15 years (Holmer et al., 2025), a continuous low-dose exposure of EDs through every-day products, including cosmetics, is inevitable (Svingen et al., 2024; Parent et al., 2025; Hakomäki et al., 2024; Gogola et al., 2025).

There are reports of increased consumption of cosmetics in adults and children (McKinsey & Company 2024) and higher use of personal care products is correlated with higher levels of multiple EDs (Bloom et al., 2024). Further, dermal exposure to EDs is often neglected, but it is a significant exposure route. The kinetics from dermal exposure is different than from oral exposure and may lead to higher internal levels due to bypass of first-pass metabolism (Abraham et al., 2022; Liu et al., 2017; Shin et al., 2023; Martinez et al., 2018). Also, human biomonitoring studies continue to detect levels of EDs in the general European population, and for some EDs, the levels exceed estimated tolerable intakes (EEA 2023).

On this basis, the ENKORE cluster calls for the revision of the CPR to include a prohibition of CLP-classified EDs in category 1 and category 2 for human health (HH), in line with the recent restriction of use of ED-classified substances under the Toys Regulation (EC 2025).

## References:

Abraham et al., 2022: *Transdermal absorption of 13C4-perfluorooctanoic acid (13C4-PFOA) from a sunscreen in a male volunteer - What could be the contribution of cosmetics to the internal exposure of perfluoroalkyl substances (PFAS)?* Environ Int. 2022 Nov;169:107549. <https://doi.org/10.1016/j.envint.2022.107549>

Bloom et al., 2024 *Impact of Skin Care Products on Phthalates and Phthalate Replacements in Children: the ECHO-FGS.* Environ Health Perspect. 2024 Sep;132(9):97001. <https://doi.org/10.1289/EHP13937>



EEA 2023: *Human exposure to Bisphenol A in Europe*. Briefing published 14 sept 2023. Retrieved from: <https://www.eea.europa.eu/publications/peoples-exposure-to-bisphenol-a/>

Hakomäki et al., 2024: *Unmasking metabolic disruptors: The NEMESIS project's quest for Novel Biomarkers, Evidence on Adverse Effects, and Efficient Methodologies*. Open Res Eur. 2024 Sep 5. <https://doi.org/10.12688/openreseurope.18439.1>

Heikkinen et al., 2025: *Metabolic disruption by mycotoxins: focus on metabolic endpoints steatosis, adipogenesis and glucose metabolism in vivo and in vitro*. Arch Toxicol. 2025 May;99(5):1749-1767. <https://doi.org/10.1007/s00204-025-03957-w>

Holmer et al., 2025: *Assessment of endocrine disruptors in the European Union: Current regulatory framework, use of new approach methodologies (NAMs) and recommendations for improvements*. Regul Toxicol Pharmacol. 2025 Nov;162:105883 <https://doi.org/10.1016/j.yrtph.2025.105883>

Gogola et al., 2025: *Association between phthalate exposure and metabolic dysfunction-associated steatotic liver disease (MASLD) - Systematic literature review*. Environ Res. 2025 May 15;273:121186. <https://doi.org/10.1016/j.envres.2025.121186>

Liu et al., 2017: *Prolonged Exposure to Bisphenol A from Single Dermal Contact Events*. <https://doi.org/10.1021/acs.est.7b03093>

Martinez et al., 2018: *Comparing dietary and non-dietary source contribution of BPA and DEHP to prenatal exposure: A Catalonia (Spain) case study*. Environ Res. 2018 Oct;166:25-34. <https://doi.org/10.1016/j.envres.2018.05.008>

McKinsey & Company, 2024: *The beauty boom and beyond: Can the industry maintain its growth?* Retrieved from: <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/the-beauty-boom-and-beyond-can-the-industry-maintain-its-growth>

Parent et al., 2025: *Endocrine-disrupting chemicals and female reproductive health: a growing concern*. Nat Rev Endocrinol. 2025 Oct;21(10):593-607. <https://doi.org/10.1038/s41574-025-01131-x>

Shin et al., 2023: *Pharmacokinetics of transdermal methyl-, ethyl-, and propylparaben in humans following single dermal administration*. Chemosphere. 2023 Jan;310:136689. <https://doi.org/10.1016/j.chemosphere.2022.136689>

Svingen et al., 2024: *Enhanced identification of endocrine disruptors through integration of science-based regulatory practices and innovative methodologies: The MERLON Project*. Open Res Eur. 2024 Apr 12;4:68. <https://doi.org/10.12688/openreseurope.17319.1>

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