Q&A: PVC and the REACH Restrictions Roadmap



1. What is the REACH Restrictions Roadmap?

The European Commission's Restrictions Roadmap was introduced in 2022 as part of the EU Chemicals Strategy for Sustainability. It provides a rolling overview of substances and groups of substances being considered for possible restriction under REACH.[1]

Importantly, inclusion in the Roadmap does not in itself constitute a restriction or a ban. A legally binding restriction requires a separate regulatory process, including the preparation and assessment of a restriction proposal.

2. What was the background to the inclusion of PVC and its additives?

In the original 2022 Roadmap, "PVC and its additives" was included among the planned restrictions for which further work was foreseen.[2]

The Roadmap explicitly described the PVC entry as additional follow-up to the European Parliament's resolution on the 2019 Lead in PVC restriction proposal. The underlying debate concerned the management of legacy lead stabilisers in recycled PVC. The Roadmap then extended the scope beyond this issue, stating that a "broad assessment of the risks posed by PVC and its additives" was envisaged.[3]

Against this background, the European Commission commissioned Ramboll Deutschland to carry out the study *The use of PVC in the context of a non-toxic environment*, published in January 2022.[4] The study examined PVC production, additives, waste management, alternatives and possible phase-out scenarios. VinylPlus® raised substantial concerns about the study, including its treatment of alternatives, limited life cycle comparison, outdated information on additives and the fact that "phase-out scenarios" had already been included in the original terms of reference.

The European Commission subsequently considered that more information was needed to determine whether risks associated with PVC and its additives were adequately controlled by existing measures and whether further EU-wide risk-management action was warranted. In May 2022, it therefore asked the European Chemicals Agency (ECHA) to carry out a more detailed investigation.[5]

3. What was the mandate given to ECHA by the European Commission?

ECHA was asked to investigate the potential risks to human health and the environment from PVC additives and PVC itself, including the socio-economic impact of a possible restriction and the need for EU-wide regulatory action beyond measures already in place.[6]

The mandate covered the full life cycle of PVC, including production, use, recycling and waste management. It also asked ECHA to assess key uncertainties and data gaps, the availability and performance of alternative substances and materials, constraints linked to legacy additives, and the potential impacts of a restriction on the PVC value chain.

ECHA subsequently carried out several calls for evidence involving industry, associations, NGOs, and Member States before publishing its final investigation report in November 2023.[7] VinylPlus took an active role in the process, contributing around 1,800 pages of technical documentation from across the European PVC value chain.

4. What were the main conclusions of the ECHA investigation?

ECHA concluded that:

- Risks related to the production of PVC resin itself are adequately controlled under current operating conditions and regulatory measures.[8] ECHA also documented that several additives of concern had already been substituted by the PVC industry ahead of regulatory requirements.[9]
- 63 plasticisers, heat stabilisers and flame retardants were prioritised for further assessment based on their hazard and release potential.[10]
- Further action should be considered to reduce emissions of flame retardants. ECHA noted, however, that their use in PVC products is relatively limited compared with other commodity plastics and that the associated risks are not specific to PVC.[11]
- EU-level action is needed to minimise releases of PVC microparticles, particularly from recycling sites and landfills. ECHA also acknowledged limited measured data on actual releases and described the underlying microparticle risk as generic to plastics.[12] Since ECHA's investigation, VinylPlus and Plastics Recyclers Europe have published new measured data from rigid and flexible PVC recycling facilities. The 2026 studies, which are being prepared for a scientific publication, found worker exposure and particulate emissions substantially

lower than the conservative assumptions used in ECHA's assessment.[13]

ECHA did not conclude that:

- PVC as a polymer should be subject to a general restriction.
- Replacing PVC with alternative materials would result in lower overall health or environmental impacts. ECHA identified limited comparable life-cycle evidence and incomplete information on the performance and impacts of alternatives.[14]
- Alternative materials could replace PVC across all applications without trade-offs. ECHA found that alternatives are application-specific and may affect performance, cost and other parameters. In medical devices, for example, no single material can replace PVC across all uses, and material changes may require redesign, new manufacturing equipment, testing and regulatory revalidation.[15] Similar trade-offs were identified for applications such as cables, pharmaceutical packaging and flooring.[16]

5. How is VinylPlus addressing the data gaps identified by ECHA?

VinylPlus is working to address the data gaps identified by ECHA by generating new measured evidence. In 2026, VinylPlus and Plastics Recyclers Europe published studies based on measurements at rigid and flexible PVC recycling facilities, providing new data on worker exposure and environmental emissions.

The studies found worker exposure and particulate emissions substantially lower than the conservative assumptions used in ECHA's assessment, helping to address the limited site-specific measured data available at the time. The technical reports have been published, and the findings are also being prepared for scientific publication.[17]

6. What is the status of PVC in the Restrictions Roadmap?

In the updated Restrictions Roadmap published on 31 August 2026, following discussion at CARACAL-58 on 2 July, the former broad entry "PVC and its additives" has been changed.[18]

The new entry is entitled: "Follow up from the investigation report on PVC and its additives." Rather than identifying the PVC polymer itself as the subject of a planned restriction, the entry now identifies two targeted areas of ongoing work:

- C4–C6 ortho-phthalates: France has submitted a proposal for harmonised classification. Depending on the outcome, the European Commission may ask ECHA to prepare a restriction proposal. ECHA's 2023 investigation found no identified use of C4–C6 ortho-phthalates in the PVC applications assessed, apart from DEHP in medical applications, already subject to REACH Authorisation.[19]
- Organotin substances: the European Commission asked ECHA in May 2025 to undertake a two-year scoping study to support the set-up of an Occupational Exposure Limit (OEL) under the CMR Directive.

The official state of play is therefore "ongoing work on organotins and [low molecular weight] ortho-phthalates."

VinylPlus estimates that, based on current European PVC market volumes, the applications in which DEHP or organotin stabilisers are still used represent approximately 2-5% of the overall PVC volume converted into products in Europe.

7. Is the PVC polymer itself still targeted for restriction under the Roadmap?

No, in the 2026 Roadmap, the PVC polymer itself no longer appears to be considered for restriction under REACH.

This is a significant change from the original 2022 Roadmap, which listed "PVC and its additives" as a broad entry to be considered for possible restriction.

The 2026 Roadmap instead reflects a more targeted approach based on the outcome of ECHA's investigation: work is continuing on specific groups of additives where regulatory questions remain, while no general restriction on PVC itself was recommended.

This does not prevent the European Commission or a Member State from proposing regulatory action in the future if new evidence were to justify it. However, in line with the conclusions of the ECHA Investigation Report, the current Restrictions Roadmap no longer signals the need for a broad REACH restriction on the PVC polymer itself.

VinylPlus will continue to follow the regulatory process closely and contribute data and technical evidence to support targeted, proportionate and evidence-based risk management.

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