ZEROF

Safe & sustainable PFAS alternatives

The ZeroF project aims to **develop safe and sustainable coating alternatives** that remove harming per- and polyfluoroalkyl substances (PFAS) from the **packaging and upholstery industries.** The project, co-funded by the European Union and the Swiss State Secretariat for Education, Research and Innovation, is driven by the urgent need to address the **alarming persistence of PFAS in the environment and their negative impact on human health.**

Tackling “forever chemicals”

ZeroF will develop coating alternatives with limited water absorption and high oil resistance for packaging, as well as high water and oil repellency for textiles.

Bringing experts together

Coordinated by VTT, Finland’s leading research centre, 12 research and industry partners from 9 countries will innovate during a 36-month project period as of 2023.

Developing a regulatory roadmap

A Safe-and-Sustainable-by-Design framework will guide material design, optimise coating formulations, assess safety and performance and evaluate economic and environmental impact.

12 partners, 9 countries, 0 PFAS

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency. Neither the European Union nor the granting authority can be held responsible for them. Funded by the Swiss State Secretariat for Education, Research and Innovation (SERI). Views and opinions expressed are however those of the author(s) only and do not necessarily reflect the official views of the SERI.

Eliminating PFAS: The ZeroF Solution

ZeroF aims to prevent further pollution from PFAS by developing new coating technologies for the packaging and textile industries. The aim is to replace PFAS with renewable feedstocks and non-toxic compounds. The materials developed are expected to meet the required performance while eliminating the need for fluorochemicals.

In this process, a safe and sustainable design framework will be developed to guide material design. In addition, ZeroF solutions are expected to cost no more than 20% more than current alternatives and reduce environmental impact by more than 25%. To monitor this progress, several analyses will be carried out, including life cycle analysis, life cycle costs and an environmental footprint assessment.

Objectives

1

Coating formulations for upholstery applications

Develop new safe & sustainable organic-inorganic hybrid coating formulations for textile applications.

2

Coating formulations for packaging applications

Develop new safe & sustainable coatings that act as a water & oil barrier in packaging applications.

3

Optimisation of processing conditions

Develop new coating methods & optimise the processing conditions for new coatings.

4

Safe and sustainable prototypes

Develop safe & sustainable prototypes that meet required oil & water barrier criteria for upholstery textiles & food packaging.

5

Guiding principles, criteria and tools

Develop and demonstrate guiding principles, criteria & tools for Safe-and-Sustainable -by-Design coatings.

6

Market uptake & stakeholder acceptance

Enhance market uptake & stakeholder acceptance of new coatings.

ZEROF

Scan the QR code and stay up to date on the latest project news, progress and achievements.

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency. Neither the European Union nor the granting authority can be held responsible for them. Funded by the Swiss State Secretariat for Education, Research and Innovation (SERI). Views and opinions expressed are however those of the author(s) only and do not necessarily reflect the official views of the SERI.