Brussels, May 2023

Microplastics

The European Union is currently finalizing regulation on primary microplastics[[1]](#footnote-1) (those intentionally added) as part of REACH. For paints, this may lead to new reporting and labelling requirements. The European Commission is also working on measures to reduce secondary microplastics[[2]](#footnote-2) (those unintentionally added or generated via wear and tear), for which paints and coatings might also be in scope.

CEPE and its member companies support efforts to avoid environmental pollution. We believe the presence of microplastics in the environment is an issue that needs to be tackled and we welcome sound scientific research to identify the sources of microplastic pollution and how to minimize them. However, we are concerned about the scientific validity of some current reports, so CEPE is taking responsibility for the sector and has commissioned new research. A sound scientific basis is essential for policy and industry measures.

The need for paints and coatings

The coatings industry is a hugely important contributor to the sustainability goals of the European Green Deal. Coatings protect an enormous variety of products and surfaces, increasing service life, reducing maintenance and waste and contributing to a circular economy.

There are countless other benefits – reflective coatings on buildings can reduce energy consumption for cooling, and on roads can increase safety. High-performing antifouling paints are essential to reduce the fuel consumption of ships, decrease greenhouse gas (GHG) emissions, prevent translocation of invasive species and minimize underwater hull cleaning.

The contribution of paints to microplastic pollution requires further research

Regarding primary microplastics, only a part of the paint formulation that is intentionally added may fall under the definition of primary microplastic[[3]](#footnote-3), such as polymeric binders e.g. latex.

Coatings formulations are mixtures of several different ingredients (typically water, solvents, pigments, additives, and binders). Water is the main ingredient for most consumer paints. The polymeric binders help in holding the ingredients together. Once applied, the polymeric binders such as latex join together or coalesce, to form a continuous film; and the polymeric binders are no longer considered a microplastic.

Secondary microplastics can potentially form if a paint layer degrades due to being exposed to the weather. However, there is currently no firm evidence that this effect is a major contributor to microplastic waste.

Furthermore, the paint industry has taken measures to reduce solid emissions. These range from process optimizations such as overspray reduction and paint removal practices to developing paints that last much longer and guidance on brush and roller cleaning to reduce emissions by DIY users. Also, professional painters are taking measures to reduce the release of paint particles and dust during their work, such as capturing sanding residues.

What are we proposing?

* To adopt a universally accepted definition of microplastics5
* More research based on sound science to fully understand the source of secondary microplastics in the environment
* Supporting the education of professional paint users in paint recovery and waste management to minimize the amount of waste entering the environment
* Further information for consumers on the proper handling of paints (purchase, use, disposal) such as a European wide consumer awareness campaign.

State of the science

The American Coatings Association (ACA) published a literature review[[4]](#footnote-4) in 2022 aimed at establishing the state of the science and available data on microplastics generated by paints and coatings. The conclusion is that there is no clear data quantifying the contribution of paint to microplastics pollution in the marine or terrestrial environment.

Many of the reports employ a range of assumptions regarding paint degradation rates and removal practices to estimate the contribution of paint.

CEPE is concerned that some reports significantly overestimate the contribution of paints.

CEPE has initiated a research program to provide data

Given the lack of clear scientific data and inconsistencies in reports, CEPE had commissioned independent studies aimed at better understanding the release and degradation of secondary microplastics, particularly from building façade coatings and marine coatings. These studies will enhance the industry’s knowledge of coatings-related microplastics and provide a better basis for regulatory discussion.

1. Primary microplastics are… [↑](#footnote-ref-1)
2. Secondary microplastics are…. [↑](#footnote-ref-2)
3. [↑](#footnote-ref-3)
4. Gradient. “Literature Review of Coatings-Related Microplastics” 2022. American Coatings Association

5 [Frontiers | Understanding the potential release of microplastics from coatings used on commercial ships (frontiersin.org)](https://www.frontiersin.org/articles/10.3389/fmars.2022.1074654/full) [↑](#footnote-ref-4)