CEPE FAQ

CEPE
The voice of paint, printing ink and

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Microplastics
Frequently Asked Questions

1. What are microplastics?

Currently, there is no globally agreed definition of microplastics. In different jurisdictions and EU regulation, different definitions apply. In the recently adopted REACH Restriction on Synthetic Polymer Microparticles (SPMs), commonly known as the REACH Microplastics Restriction, SPMs are considered solid polymers contained in particles and constitute at least 1% by weight of those particles or build a continuous surface coating on particles. At least 1% by weight of these particles are equal or smaller than 5 mm or the length of the particles is equal to or less than 15 mm and their length to diameter ratio is greater than 3.

Microplastics can be unintentionally formed through wear and tear of larger pieces of plastic, like tyres or synthetic textiles. These are known as *secondary* microplastics. These can also be deliberately manufactured and added to products for specific purposes, such as exfoliating beads in facial or body scrubs. These are known as *primary* microplastics.

2. What is the issue?

Microplastics are ubiquitous and can be found in soil, air, water and living organisms. They are not readily biodegradable and accumulate throughout the food chain, absorb and transport other organic and inorganic pollutants and are easily ingested or inhaled by organisms due to their small size. They can further degrade to nanoplastics (less than 100 nanometers).

According to the European Chemicals Agency (ECHA), around 42,000 tons of microplastics end up in the environment each year when products containing them are used. However, more research is still needed on the impacts of microplastics and nanoplastics (MNPs) on human health. The European Commission supports this view, and our network is ready to support any efforts to engage in this work.

3. Are paints and coatings a source of microplastics?

Several studies on marine plastic pollution point to coatings as a possible source of microplastics. Yet the quantity of microplastics that could potentially come from coatings is uncertain. CEPE is keen to understand the role of paints on marine microplastics and has commissioned new research. A sound scientific basis is essential for future policy and industry measures, and CEPE will make this available to the European Institutions to help inform their work.

4. What is the view of CEPE about the possibility of paint and coatings being a contributor to the issue of microplastics?

CEPE is aware of the discussion. Firstly, it is key to explain that the coatings industry is an 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, all while contributing to a circular economy.

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

While several studies have looked at marine plastic pollution, the sources and quantity of such microplastics that could potentially be the result of the degradation of coatings is uncertain. It is important to base conclusions on reliable data and, at this moment, there is the need for more research about the origin of microplastics. This is why CEPE welcomes a greater understanding of the impact of marine microplastics by also taking the responsibility for the sector and has commissioned new research on the topic. With our believe that a sound scientific basis is essential for policy and industry measures, we are engaged in ensuring that this information is available for the benefit of European society.

For further inquiries regarding antifouling, refer to the World Coatings Council position.

5. Does the topic receive sufficient attention from industrial actors, researchers, or politicians?

While the issue of microplastics ranks high on the EU political agenda, with both a restriction on the placing on the market of Synthetic Polymer Microparticles under the REACH Regulation and the Regulation on preventing plastic pellet losses, there is a clear need for more research due to limitations of existing studies and knowledge on the topic.

6. Can biodegradable paint be a solution?

CEPE is hesitant to acknowledge these kinds of paints as a sustainable solution as the core aim of paint is for it to withstand the forces of nature, to protect and to add colour to our homes, buildings, cars, trains, ships, bridges, planes etc. A durable paint provides a critical function by extending the service life of the product on which it is applied and hence contribute to a circular economy not just in Europe, but globally. Biodegradability may shorten the durability of the paint film and limit the service life extension.

7. Is there such a thing as polymer-free paint?

There is increasing interest in polymer-free paint. Yet, CEPE is hesitant to acknowledge these paints as a sustainable solution for all applications as it is the polymer in the paint that forms the film which provides protection for our world. There are a few paint types based on non-polymeric film-forming materials, but these products can only provide a low level of protection and short lifetimes in specific applications (e.g. mineral surfaces).

8. Why are microplastics a topic for the coatings sector?

Reports, challenged by CEPE, have reported a significant contribution of the paints and coatings industry to the emission of microplastics to the environment.

Paints, printing inks and artist colours require many different ingredients to offer the properties demanded by users. Some of the ingredients fall under the scope of the European Commission's definition of microplastics under the REACH restriction. These intentionally added primary microplastics can continue to be used but communicating and reporting obligations apply for our manufacturers.

Wear and tear of painted and coated surfaces can generate secondary microparticles that may end up in the environment. At this stage there is no good scientific data to estimate the formation and fate of secondary microplastics from degradation. Further research is needed to better understand the contribution of the coating sector to microplastics pollution.

For further information, please check out our paper: "is there plastic in paint?"

Evidence

9. What does the science say?

The contribution of paint to microplastic pollution and its potential impact on the environment and human health has been the subject of numerous studies and reports in recent years.

However, there is no actual data or science-based, peer-reviewed study that can conclusively quantify the contribution of paint to microplastic pollution in the marine or terrestrial environment. Further research is needed.

10. What does the literature say?

The existing literature does not yet provide reliable figures and numbers, and the misinterpretation or misuse of unreliable data is a cause for concern.

Measures

11. What measures are proposed by EU regulators?

In 2023, the European Commission adopted a REACH restriction on Synthetic Polymer Microparticles intentionally added to products. The restriction includes synthetic polymer microparticles below 5 mm in diameter and fibre-like particles below 15 mm in length. It bans the intentional use of microplastics in cosmetics, cleaning products, pesticides, and football and other sports fields, amongst other things.

In addition, the European Commission is working on a measure to reduce forms of microplastics that are unintentionally released into the environment. The measure will focus on labelling, standardisation, certification, and regulatory measures for the sources of these plastics.

12. What measures are taken by industry?

Given the lack of clear scientific data and inconsistencies in reports, CEPE is conducting a study to better understand the release and degradation of paint films and the potential release of microplastics from facade coatings on building exteriors.

The study will enhance the industry's knowledge of coatings-related microplastics, provide data on the degradation rates of facade coatings, and will also provide a basis for regulatory discussion.

Furthermore, CEPE has been working on several awareness-raising campaigns targeting consumers and the disposal of paint brushes/rollers after use.

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