



8.4.2020

NOTICE TO MEMBERS

Subject: Petition No 2553/2014 by Ludwig Bühlmeier (German) on microplastics and nanoparticles

1. Summary of petition

The petitioner calls for an EU-wide ban on microplastics and nanoparticles. Microplastics can be found in the environment and in water and are even absorbed by plants. The petitioner says they are carcinogenic. Nanoparticles are so small that they penetrate cells effortlessly and can damage them, causing cancer. Because the precautionary principle applies in the EU, the petitioner urges a ban on these small particles as soon as possible.

2. Admissibility

Declared admissible on 20 July 2015. Information requested from Commission under Rule 216(6).

3. Commission reply, received on 29 June 2016

While the common object of the petition are particles in the environment, the two cases should be approached separately: nanoparticles are particles of any material of sufficiently small size to be in 'nanoscale', meaning in the interval between 1-100 nanometer (nanometer = a thousand of a millionth of a metre). Nanoparticles are ubiquitous in the environment. Many are natural, others incidental as results of processes such as combustion. There are also manufactured nanomaterials, some deliberately designed at nanoscale to obtain new properties. Some of these materials may represent a danger to the environment and human health, potentially even be carcinogenic, others not. In that respect, they are similar to other chemicals, and the same risk management measures, from hazard classification to authorisation and restriction can be applied as appropriate. The Commission's Second Regulatory Review of nanomaterials¹ outlined that the general regulatory framework on

¹ [COM\(2012\) 572 final](#)

chemicals¹ together with the sectorial legislation, some of which includes specific provisions on nanomaterials², are appropriate to assess and manage the risks from nanomaterials, provided that a case-by-case assessment is performed. Existing risk assessment methodologies are appropriate, though some testing methods are still being adapted. Challenges remain in establishing validated methods and instrumentation for detection, characterization, and analysis, completing information on hazards of nanomaterials and developing methods to assess exposure to nanomaterials. The need for modification of REACH to include more specific requirements for nanomaterials was also identified. An Impact Assessment of the proposed changes is being finalized and the modification of technical Annexes to include specific considerations for nanomaterials is planned in early 2017.

The Commission has launched a web portal³ to improve communication regarding nanomaterials that will be in the near future superseded by the EU Nano Observatory, managed by the European Chemicals Agency. Information on nanomaterials in the environment is still scarce and sometimes misleading, also due to some early scientific results that are now under further scrutiny, as flaws in the initial experimental designs have been identified. The Organisation for Economic Cooperation and Development (OECD) is leading the international effort in the compilation and assessment of nanomaterial safety information⁴.

In conclusion, as the risk to health and the environment from nanomaterials is considered to be manageable through existing legislation and case-specific application, the Commission has no plans for a generic ban of nanomaterials. Nanotechnology has a considerable potential to develop tools that protect human health and the environment and address other societal challenges, and the Commission supports its responsible development and use⁵.

Microplastics may sometimes contain also particles in nanoscale, but commonly microplastics is understood as meaning any plastic particles under 5 mm. These particles may be either directly manufactured and used for example in detergents and cosmetics⁶, or plastic fragments resulting from the breakdown of larger plastic debris through abrasion and UV radiation and being the by far most important source of microplastics in the marine environment. Both end up predominantly in the marine environment, affecting the ecosystem and entering the food chain, representing a global challenge. "*Study to support the development of measures to combat a range of marine litter sources*"⁷ commissioned by the European Commission has

¹ Main EU regulation on chemicals is [Regulation No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals \(REACH\)](#), OJ L 396, 30.12.2006, p.1;

² Notably [Regulation on Biocidal products \(EU\) No 528/2012](#), OJ L 167, 27.6.2012, p.1; [Cosmetics Regulation](#), OJ L 342, 22.12.2009, p.59; [Regulation on Novel Foods](#), OJ L 327, 11.12.2015, p.1;] [Regulation on the provision of food information to consumers](#), OJ L 304, 22.11.2011, p.18

³ https://ihcp.jrc.ec.europa.eu/our_databases/web-platform-on-nanomaterials

⁴ [OECD Working Party on The Safety of Manufactured Nanomaterials](#)

⁵ http://ec.europa.eu/growth/industry/key-enabling-technologies/european-strategy/index_en.htm

⁶ See for example UNEP FactSheet

<http://unep.org/gpa/documents/publications/PlasticinCosmetics2015Factsheet.pdf>

⁷ <http://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/MSFD%20Measures%20to%20Combat%20Marine%20Litter.pdf>

recently been finalized and the Commission is currently examining, on the basis of this study and other relevant information, if and what actions are necessary to reduce microplastics from various sources in the aquatic (freshwater and marine) environment.

Regarding the use of microplastics in cosmetics, the European industry is already taking voluntary steps to eliminate microplastics in the wash-off cosmetic and personal care products¹. The European Commission is also aware of the international developments such as the recent "Microbeads-Free Water Act of 2015"² in the United States of America.

The European Commission is presently preparing a strategy on plastic in the circular economy as announced in its Communication "Closing the loop – An EU Action Plan for the Circular Economy"³, part of the Circular Economy Package⁴. In that context all questions having to do with the sustainability of plastic and plastic products will be examined. The overall aim of a plastic strategy will be to create a plastic economy which is circular and in which no end-of-life plastic ends up in the natural environment, to break down into microplastics.

The Commission proposal on the circular economy adopted in December 2015 has already taken important steps in banning the landfill of any separately collected plastic and in setting a recycling target for plastic packaging of 55% by 2025. It needs to be taken into account, however, that plastic in the marine environment is a problem of global concern that can only be effectively tackled at global level. The Commission is, however, also exploring whether a ban of primary microplastics in cosmetics as well as other products including also operations such as sandblasting etc. could be helpful and if so, how to achieve it most effectively.

4. Commission reply (REV), received on 4 April 2020

In its last communication to petition 2553/2014, the Commission replied that it was examining the evidence as to whether additional measures to existing ones are needed to reduce microplastics from various sources.

In the meantime, the Commission has taken some legislative and non-legislative action tackling microplastics: most were announced already at the meeting of the Committee on Petitions of 4 September 2019, but an overview and information on the latest state of implementation are provided below:

In January 2018, the Commission adopted the first ever European Strategy for Plastics in a Circular Economy⁵. This strategy will transform the way plastic products are designed, used, produced and recycled in the EU. Better design of plastic products, higher plastic waste recycling

¹ Recommendation by Cosmetics Europe, main association of cosmetics manufacturers, can be found [here](#).

² <https://www.congress.gov/bill/114th-congress/house-bill/1321>

³ [COM\(2015\) 614 final](#)

⁴ http://ec.europa.eu/environment/circular-economy/index_en.htm

⁵ COM(2018) 28 final.

rates, and more and better quality recyclates will help to boost the market for recycled plastics. The strategy is part of Europe's transition towards a circular economy and will also contribute to reaching the Sustainable Development Goals, the global climate commitments and the EU's industrial policy objectives. This strategy will help protect our environment, reduce marine litter, greenhouse gas emissions and our dependence on imported fossil fuels. It will support more sustainable and safer consumption and production patterns for plastics. In the context of waste water and microplastics therein, the Plastics Strategy states the importance of understanding the appropriate measures to target pollution at source and includes among the actions assessing the effectiveness of waste water treatment for capture and removal of microplastics.

In the context of the European Green Deal¹, the Commission announced it will follow up on the 2018 plastics strategy focusing, among other things, on measures to tackle intentionally added microplastics.

Following the Plastics Strategy, the Directive on the reduction of the impact of certain plastic products on the environment² introduced restrictions and other measures to limit the consumption and the littering of the most found single use plastics in the EU coast, i.e. fishing gear and oxo degradable plastics. The Directive will contribute to the reduction of the emissions of microplastics by the degradation of these items in the marine environment. This Directive has to be transposed by Member States by July 2021.

Concerning in particular the issue of microfibres from textiles, the measures envisaged include development of methods to measure releases, information and labelling requirements, as well as regulatory thresholds. The Commission carried out a preliminary study³ to assess reduction options, including washing machine filters and improved waste water treatment. A study will be launched during 2020 to perform a further in-depth investigation regarding the cost-benefits analyses of the different options. The Commission is working with the industry and the European Committee for Standardization to establish test methods to measure microplastics release from washing of synthetic textiles.

This aligns with the European Green Deal, which calls for a transformational change, in particular in resource-intensive industries such as textiles. The Commission also adopted a new Circular Economy Action Plan⁴ which will provide a work plan with specific measures, including for the textiles sector. The specific policy initiatives to be taken are still under preparation.

Regarding waste water treatment, the Evaluation of the Urban Waste Water Treatment

¹ https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf

² Directive (EU) 2019/904 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment (Text with EEA relevance), OJ L 155, 12.6.2019, p. 1–19.

³ http://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/microplastics_final_report_v5_full.pdf

⁴ COM(2020) 98 final.

Directive (UWWTD)¹ found that indeed high amounts of microplastics particles enter waste water and that the treatment required under the Directive can remove up to 80-99% of these particles, transferring most of them to the sludge. The Commission is now considering what the appropriate follow-up actions are to the findings of the Evaluation. In case there is a decision to revise the Directive, it will be subject to an impact assessment that will consider the social, economic and environmental costs and benefits of taking action, as well as whether the proposed action is in line with the subsidiarity principle. Such an impact assessment will also investigate the costs and benefits of further technologies to remove microplastics and other contaminants of emerging concern in waste water treatment plants.

As regards further specific actions to act on the problem of microplastics, the Commission launched the process to restrict microplastics intentionally used in products under the EU Regulation concerning Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)². The European Chemicals Agency (ECHA) submitted its restriction proposal at the end of January 2019, concluding that the restriction could result in a reduction in emissions of microplastics of about 400 thousand tonnes over 20 years. The proposal for restriction is currently under assessment in the ECHA Scientific Committees and the Commission will receive their opinion in the summer 2020. The Commission will then make a proposal for the inclusion of microplastics intentionally added in products in the list of restricted substances (Annex XVII of REACH).

Furthermore, the new Drinking Water Directive³ empowers the Commission to adopt a methodology to measure microplastics in drinking water, with a view to including them on the watch list. Member States shall put in place monitoring requirements with regard to the potential presence of the substances or compounds which are included in the watch list, at relevant points of the supply chain for water intended for human consumption.

A very recently published World Health Organization (WHO) study⁴ on microplastics in drinking water concluded that data on the occurrence of microplastics in drinking water are limited at present. This is among other things due to the lack of fully reliable studies. The WHO concludes, based on the limited evidence available, that microplastics pose a low concern for human health. The limited evidence that is available suggests, according to WHO, that key sources for microplastics in fresh water are runoff and wastewater effluent. This aligns with the results of the UWWTD Evaluation. The WHO calls for further targeted, well-designed and quality-controlled investigative studies to better understand the occurrence of

¹ https://ec.europa.eu/environment/water/water-urbanwaste/evaluation/index_en.htm

² Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, OJ L 396, 30.12.2006, p. 1–850.

³ Text of the new Directive provisionally agreed on 18 December 2019; proposal COM(2017) 753 final,

https://ec.europa.eu/environment/water/water-drink/review_en.html

⁴ https://www.who.int/water_sanitation_health/water-quality/guidelines/microplastics-in-dw-information-sheet/en/

microplastics in the water cycle.

Many EU-funded research and other projects are investigating the presence and impacts of microplastics in the aquatic environment. Examples include the Horizon 2020 projects¹ as well as projects investigating impacts on marine life².

The Plastics Strategy is also being implemented by Member States, with some of them, like France, the Netherlands, and Portugal, adopting plastic pacts.

Finally, plastics is a priority sector in at least 16 national roadmaps/strategies for a circular economy³ and a priority waste stream within the waste prevention plans of 16 Member States⁴.

Conclusion

As outlined above, in the last year, the Commission has taken a substantial number of positive and specific legislative and non-legislative actions to act on the problem of microplastics in the environment as such, as well as in the context of wastewater treatment. Further action is planned as also outlined above.

¹https://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/Focus_on_marine_litter_FP7_and_H2020.pdf

² <https://indicit-europa.eu/>

³ Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Latvia, Luxembourg, the Netherlands, Portugal, Slovakia and Spain.

⁴ Belgium (Brussels and Flanders, not Wallonia), Bulgaria, Denmark, Estonia, Germany, Greece, Iceland, Latvia, Lithuania, Luxembourg, Malta, Portugal, Slovakia, Slovenia, Spain and Sweden.