Call for evidence and information on the intentional uses of microplastic particles in products of any kind.

Background document

ECHA has recently announced that, at the request of the European Commission, it will investigate the need for a restriction on the placing on the market and/or use of 'intentionally added' microplastic particles in products or uses that 'intentionally release' microplastic particles to the environment; we consider both of these as 'intentional uses' of microplastic particles.

As part of this investigation we are undertaking a call for evidence and information. This call is intended to gather information on **all possible intentional uses of microplastic particles in products**. The information gathered will be used to determine whether these uses pose a risk on an EU-wide basis and assess the socio-economic impacts of any potential restriction.

This investigation is in response to request from the Commission received by ECHA on 09 November 2017[1] made as part of its recently adopted plastics strategy[2]. We notified our intention to undertake this investigation on 17 January 2018. The anticipated submission date of an Annex XV report describing our investigation and any proposed restriction is 11 January 2019[3].

The initial scope of our investigation is intentionally wide and is not limited to intentional uses in consumer and professional products. This is to ensure that we fully understand the diversity of uses and the sectors within which intentionally added microplastics are used. The scope of any proposed restriction will be based on the information we receive and our understanding of the risks and socio-economic impacts.

We will hold a webinar with interested stakeholders to answer questions on the call for evidence on 12 March 2018. Please see our website for further details.

Problem identification

Intentionally added microplastic particles are known to be used in a range of products placed on the EU market, such as in certain cosmetics and personal care products, detergents and cleaning products, paints, products used in the oil and gas industry and as media for abrasive blasting. There may be further uses of intentionally added microplastic particles that we are not yet aware of.

Microplastic particles in these products can function as an abrasive (e.g. exfoliating and polishing agents in cosmetics known as microbeads) but can also have other functions, such as to control viscosity, appearance and stability.

Intentionally added microplastic particles can be released to the environment during the use of these products (typically via wastewater), potentially contributing to environmental litter and leading to a concern that their use may pose a risk to the environment and/or human health. In addition, certain products intentionally release

[1] https://echa.europa.eu/documents/10162/13641/microplastics_cion_reqst_axvdossier_en.pdf/5c8be037-3f81-266a-d71b-1a67ec01cbf9
[2] http://ec.europa.eu/environment/circular-economy/pdf/plastics-strategy.pdf
[3] https://echa.europa.eu/registry-of-current-restriction-proposal-intentions/-/substance-rev/18301/term

microplastics into the environment during their use, for example certain nutrient prills used in agriculture, potentially resulting in similar concerns.

Prompted by these concerns, several EU Member States have proposed national bans on the intentional use of microplastics in certain consumer products, principally uses of 'microbeads' in 'rinse-off' cosmetic products where they are used as exfoliating and cleansing agents. Action to ban intentional use of microplastics in consumer products has also taken place in the US, Canada and New Zealand.

The Commission recently published a study that provides further information on intentional uses of microplastic particles in products and the risks to human health and the environment that they may pose:

- *Intentionally added microplastics in products* – Final report of the study conducted by Amec Foster Wheeler Environment & Infrastructure UK Limited in October 2017 on behalf of the European Commission[4].

Moreover, EFSA recently produced a statement that reviewed the available evidence on microplastics and nanoplastics in food:

- *Presence of microplastics and nanoplastics in food, with particular focus on seafood* – Statement of EFSA's Panel on Contaminants in the Food Chain (CONTAM)[5]

Scope of our investigation

The initial scope of our investigation is very wide. We will investigate the intentional use of microplastic particles in **all** relevant products, including both 'rinse-off and 'leave-on' cosmetics and personal care products (such as make-up and moisturisers) as well as in household / professional cleaning products and detergents. We will also investigate intentional uses in paints, agriculture and any further applications where microplastic particles could be intentionally used as and when we identify them. It is especially important for stakeholders to make us aware of any intentional uses of microplastic particles in products beyond those identified above.

The Commission's request does not limit our investigation to organic polymers, 'non-biodegradable' polymers or to establish a lower size limit for a microplastic particles (although we may eventually do so). Therefore, we will explore intentional use of 'nanoplastics' in products and any intentional uses of non-carbon-based polymer microplastics (e.g. polysiloxanes) that could potentially pose a risk to the environment or human health similar to organic polymer microplastic particles.

Many plastic articles do not intentionally contain or intentionally release microplastic particles but may 'unintentionally release' microplastic particles into the environment during their life-cycles through abrasion (e.g. tyre wear or washing of synthetic fibres) or weathering.

Although these sources of microplastic particles to the environment are also of concern (and may be significant), we have not been requested by the Commission to include these in the scope of our restriction investigation as they are being considered elsewhere[6]. However, the contribution of intentionally added microplastic particles to the

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[4] http://ec.europa.eu/environment/chemicals/reach/pdf/39168%20Intentionally%20added%20microplastics%20-%20Final%20report%2020171020.pdf

[5] http://onlinelibrary.wiley.com/doi/10.2903/j.efsa.2016.4501/abstract

[6] http://www.eumicroplastics.com/project-overview/

overall load of microplastics to the environment will be considered during our investigation.

Based on the scope of the request (and other definitions in national legislation), we have adopted a working definition of microplastic particles, as follows:

"*Any polymer-containing solid or semi-solid particle having a size of 5mm or less in at least one external dimension*[7]*.*"

There is no intention at present to have a limited list of specific polymers as part of the definition as this may simply allow different polymers to be used in products instead, without addressing the concern (resulting in so-called regrettable substitution).

We acknowledge that the working definition is likely to evolve during the course of our investigation to reflect the information received in this call for evidence or as we gain a greater understanding of the risks posed by intentionally added microplastic particles.

Evidence and information to be collected

The objective of this call is to gather information or comments on:

1. Our working definition. Our objective is to adopt an appropriate, unambiguous, definition of intentionally added microplastic particles that adequately reflects the potential risks to the environment and human health posed by these materials. We would welcome views on how intentionally added microplastics should be defined.
2. The specific uses of intentionally added microplastics in products, specifically the types of products they are intentionally added to and the following additional information:
    i. The identity of the polymers,
    ii. concentration in products,
    iii. particle size distribution & particle morphology,
    iv. any relevant surface chemistry or other physicochemical properties, e.g. hardness, water solubility and melting point.
    v. biotic and abiotic-degradability in relevant environmental compartments (aquatic and terrestrial),
    vi. quantity of microplastics used in products (per year),
    vii. potential for release to the environment during use (e.g. release factor) and measures in place to prevent these releases
3. The technical function provided by the microplastic particles in products.
4. Potential alternatives to the use of microplastic particles in products:
    i. identity of existing or emerging alternatives and any information on the existing market share of comparable products on the market that do not use microplastic particles,

[7] The solid form of a polymer in the environment (at ambient temperature and pressure of 101.3 kPa) may, for example, be defined via a melting point above 20 °C (includes waxes). Thermosetting plastics, however, will decompose rather than melt. Semi-solid refers to a material which is in a physical state between a solid and a liquid. A polymer can, for example, be defined to be a semi-solid when its melting point (at ambient temperature and pressure of 101.3 kPa) is above 20 °C and its glass transition temperature is below 20 °C.

ii. technical and economic feasibility of potential alternatives, including information on product performance, the price differences between microplastics and their alternatives, the number of products that could require reformulation, expected costs and timelines for reformulation and transitioning to a full-scale production using the alternatives, etc.

iii. hazard and risk of the alternatives,

iv. availability of alternatives in sufficient quantities on the market: current and future trends

v. other potential impacts stemming from the transition to alternatives, e.g., discontinuation of certain products, changes in product performance, etc.

5. Information on other socio-economic impacts on society in response to a possible restriction in terms of costs and benefits to any affected actors, e.g. producers, professionals, consumers, or any other relevant actors (such as the producers of alternatives). The information could also include key economic parameters such as turnover of the concerned sector(s), the number of people employed, current share of products containing microplastics, etc.

6. Available analytical methods for detecting and characterising microplastic particles in products.

Additional information that could also be potentially relevant is also welcome and should be submitted. We will undertake our own search for relevant scientific and other literature on the potential risks of microplastic particles to the environment or human health, but we would be interested in being informed of any ongoing research that might be published during 2018-2019 (e.g. ongoing research or submitted but not published literature).

Who should participate in the call for evidence?

This call for evidence is intended for interested parties such as companies (manufacturers, suppliers, distributors, importers etc.), trade associations, scientific bodies and any other stakeholders holding relevant information. Information can be submitted confidentially and will be treated as such by ECHA.

Any information provided will be used, amongst other issues, to determine if any derogations are required for any potential restriction that is proposed. However, derogations cannot be proposed without adequate information on risk and socio-economic information, including alternatives. If a derogation is not proposed in the initial restriction proposal then it will be incumbent on relevant stakeholders to provide a full justification based on a comprehensive information on risk, socio-economic elements and alternatives, during the opinion-making process. ECHA invites interested parties to respond to the call for evidence by 11 May 2018.

https://echa.europa.eu/calls-for-comments-and-evidence

For any clarifications please contact: restriction-microplastics@echa.europa.eu.