Verband der Mineralfarbenindustrie e. V.

masterbatch VERBAND

Status Document / Position Paper

on the ECHA restriction proposal „Intentionally Added Microplastics"

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"Masterbatch" and "Microplastic"

Studies on the fate of poorly biodegradable – persistent – substances in the environment are increasingly being published and distributed by various media. Especially the accumulation of so-called microplastics in the oceans and in the food chain up to humans is given much attention. Many discussions are highly emotional and lack in objectivity. In order to clearly differentiate between the plastic granule "masterbatch" and the discussed "microplastics" in the meaning of waste in the environment, some important information on the given situation and current measures as well as their impacts, especially on the member companies of Masterbatch Verband, is compiled here.

Microplastics - in the meaning of plastic waste in the environment - is a topic that has been discussed for some time. The main share comes from the use of plastic or rubber articles, e.g. rubber abrasion of vehicle tyres.

Politicians, namely the European Commission, recognised the environmental pollution caused by microplastics. The focus was on specifically used plastic particles, such as those found in cleaning agents and cosmetic products. The infill material for artificial turf surfaces in sports fields and playgrounds is also being discussed. These plastic particles are frequently detected in the environment after use and application. For example, they can reach the oceans via rivers.

The European Commission asked the European Chemicals Agency (ECHA) to develop a restriction proposal for intentionally added plastic particles. This was published in January 2019 under the title "Proposal for a Restriction" "Substances Names: Intentionally Added Microplastics".

The restriction proposal goes far beyond regulating only intentionally added microplastics:

With a particle size definition of 1 nanometre to 5 millimetres, 7 orders of magnitude (i.e. 7 decimal places) in the particle size are covered (0.000001 mm to 5 mm). The proposal is a blend of the milli, micro and nano world and thus addresses all polymers and practically all polymer-containing or polymer-coated mixtures. This is an unscientific approach and not in line with the planned microplastics strategy. With the chosen definition, everything becomes microplastic and the real problem is no longer in the focus.

Planned definition of "microplastic":

'Microplastic' means a material consisting of solid polymer-containing particles, to which additives or other substances may have been added, and where ≥ 1% w/w of particles have (i) all dimensions 1*nm ≤ x ≤ 5mm, or (ii), for fibres, a length of 3nm ≤ x ≤ 15mm and length to diameter ratio of >3.

'Particle' is a minute piece of matter with defined physical boundaries; a defined physical boundary is an interface.

'Polymer-containing particle' means either (i) a particle of any composition with a continuous polymer surface coating of any thickness or (ii) a particle of any composition with a polymer content of ≥ 1% w/w.

* in the SEAC draft opinion of June 2020 = 100 nm

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The current restriction proposal is a legal provision that does not reflect the REACH Regulation (EC 1907/2006) and does not conform with it. Departing from the basic principles of the REACH Regulation, there is no substance identity but merely a "grouping" of all polymers. A restriction and a reporting obligation are planned without stating a clearly identified hazard. Instead, there is a reference to the "extreme persistence" of the particles. However, REACH Article 33 only provides for a reporting/information obligation for SVHCs (substances of very high concern). But it is worth noting that microplastics are not SVHCs.

Masterbatches – are typical intermediates for industrial processes, they are the intermediate products for the manufacture of standard and engineering plastics. Masterbatch manufacturers operate between polymer raw material manufacturers and plastics processors who process specially produced masterbatches and other plastic granules by extrusion or injection moulding to obtain plastic articles.

Industrial plants for the production and processing of polymers in the form of granules, flakes, chips or powder are subject to control and supervision by public authorities. They are further developed in continuous improvement efforts and must comply with legal requirements in every respect. The variety of regulations and the documentation obligations are constantly increasing, contrary to announcements of politicians who claim to reduce bureaucracy. The efficiency and competitiveness of the economy suffer as a result.

The ECHA restriction proposal wants a further general reporting obligation for masterbatches and produced granules. The manufacturers and processors of plastics will be burdened once more with additional complex information gathering and extensive reporting of confidential data.
As regards a potential non-intended or accident-caused release of microplastics in the environment, the purpose and benefit of this measure is not discernible. It is not target-oriented and should be deleted from the restriction proposal.

Planned reporting obligation:
[…] every downstream user using microplastic(s) or every importer or downstream user who places microplastic(s) on the market, is to send the following items of information to ECHA by 31 January of each calendar year:
e) identify of the polymer(s) placed on the market in the previous year
f) description of the end use of the microplastic
g) the volume of microplastic(s) used in the previous year
h) the volume of the microplastics released in the environment, either estimated or measured in the previous year.

ECHA publishes by 31 March each year a report summarising the information received.

The measures proposed in the restriction dossier are based on the wrong starting points and thus miss their goal. The restriction proposal mainly covers primary microplastics. The demonstrably larger release of microplastics into the environment, (97%) is secondary microplastics. However, this is ignored in the restriction proposal so that it does not stop the main release paths.

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Primary microplastics[1] are solid particles that are industrially produced in microscopic particle size and intentionally added to products.

Secondary microplastics result from abrasion, wear, weathering, decomposition and fragmentation of larger plastic products, e.g. from littering, vehicle tyres, textiles of man-made fibres and synthetic polymers.

The fragmentation of macroplastics into secondary microplastics due to weathering or wear processes is the largest source of plastic microparticles in terms of volume. According to a study by the Fraunhofer Institute UMSICHT[2], the by far largest source of secondary microplastics is abrasion from vehicle tires. Further examples of sources of secondary microplastics in the environment are listed below:

- Waste disposal or treatment (e.g. plastics recycling),
- Abrasion of bitumen in asphalt,
- Drifting from artificial turf pitches,
- Demolition work on building sites,
- Abrasion of shoe soles,
- Fibre abrasion during the washing of textiles of man-made fibres and from synthetic polymers.

As compared with secondary plastics, primary microplastics have a minor role as a release source in terms of quantity. Quite often, this is not realised in the current discussion, so that high-quality polymer products and raw materials for industrial use are put on a par with wear losses and improperly disposed waste.

Therefore, we do not regard masterbatches as microplastics in the meaning and focus of the present restriction proposal, and we advocate an adequate discussion on a sustainable use of polymer and plastic products.

Assessment by RAC and SEAC, June 2020: The restriction proposal was examined by the RAC (Risk Assessment Committee) and the SEAC (Committee for Socio-economic Analysis). The definition of microplastics remains formulated to cover all polymers and practically all polymer-containing and polymer-coated mixtures, without exemption.

Due to the granule size (<5 mm), masterbatches become microplastics by definition; they would be categorised as "plastics" according to table 3 of the SEAC draft opinion. There is no restriction, because in industrial processing the granules are permanently bound in a solid matrix. According to the current proposal, masterbatch manufacturers would be required to provide "instructions for use and disposal". Furthermore, annual reports would have to be prepared, stating use, identity and release of microplastics from products. There is no reporting obligation for masterbatch customers, as they are professional users.

[1] „Intentionally added microplastics in products“, Report for European Commission DG Environment, Amec Foster Wheeler Environment & Infrastructure UK Limited, October 2017: http://ec.europa.eu/environment/chemicals/reach/pdf/39168%20Intentionally%20added%20microplastics%20-%20Final%20report%2020171020.pdf (March 2020)

[2] „Kunststoffe in der Umwelt“: Mikro- und Makroplastik, Fraunhofer UMSICHT, Juni 2018: http://publica.fraunhofer.de/eprints/urn_nbn_de_0011-n-4971178.pdf (December 2019)

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The association Masterbatch Verband was founded in 1998. It represents the interests of German manufacturers of colour and additive masterbatches and has 21 members. Masterbatch Verband celebrated its 20th anniversary in 2018.

The members of Masterbatch Verband

A. Schulman GmbH; Ampacet Deutschland GmbH; BASF Color Solutions Germany GmbH; BATCHWERK GmbH; Chemische Fabrik Budenheim KG; Color Plastic Chemie Albert Schleberger GmbH; Color Service GmbH & Co. KG; Coltec GmbH & Co. KG; Deifel GmbH & Co. KG; G.E. Habich´s Söhne GmbH & Co. KG; Gabriel-Chemie Deutschland GmbH; GRAFE Advanced Polymers GmbH; Granula Deutschland GmbH; Lehmann & Voss & Co. KG; LIFOCOLOR FARBEN GmbH & Co. KG; MASTER TEC GmbH; Microfol Compounding GmbH & Co. KG; Nemitz Kunststoff-Additive GmbH; Orion Engineered Carbons GmbH; Performance Masterbatches Germany GmbH, ROWA Masterbatch GmbH

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