

## **Recommendation to reduce plastic microbeads pollution in marine environment**

*Adopted on November 4<sup>th</sup>, 2016, at the 31st ICRI General Meeting (Paris, France)*

### Context

Primary micro plastics, such as “microbeads”, are widely used as abrasive agents and fillers in a wide range of cosmetic products and personal care products, such as facial scrubs and shower gels. These tiny and synthetic non-biodegradable solid plastic particles less than 5mm in size can be spherical or irregular in shape and produced in a multitude of colors. The types of plastic most commonly used as microbeads are: polyethylene (PE), polymethyl methacrylate (PMMA), nylon, polyethylene terephthalate (PET) and polypropylene (PP).

Microbeads were patented in the 1970’s, but have only been used as a disposable entity in consumer products recently. Currently there are many hundreds of brand lines worldwide that use plastic for body care cleansing and each year more and more products have plastic microbeads as their main exfoliation ingredient.

Plastic microbeads are contributing to the increasing flow of plastic into our oceans. These preventable microscopic pieces of plastic are contributing to the fragments of broken down larger pieces of plastic and fibres contaminating our seas, turning them into an unhealthy plastic soup. When used as directed, microbeads are washed down drains and into waste water systems where they are known to pass through these treatment facilities and are consequently flushed out to sea. The total numbers of microplastics in a typical cosmetic product can be considerable; for example, it has been estimated that 4600 – 94 500 microbeads may be released per application of a skin exfoliant<sup>1</sup>. Whilst cosmetic microplastics are far from the largest microplastic source, they are still significant and contribute up to 4.1%<sup>2</sup> —this is estimated to be between 10,900 and 38,300 tonnes<sup>3</sup> entering the global marine environment every year. So, plastic microbeads are a primary source of pollution, which could be avoided, as natural alternatives exist.

A major concern with microbeads is that because of their small size, they have a large surface area by volume, so as a consequence of their use, huge numbers of readymade, highly efficient toxic accumulators are being intentionally released into the environment. Microplastics in the marine environment are known to accumulate toxic contaminants - persistent organic pollutants (pesticides, flame retardants, PCBs).

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<sup>1</sup> Napper and al., 2015.

<sup>2,3</sup> *Study to support the development of measures to combat a range of marine litter sources*, Report for European Commission DG Environment, 29<sup>th</sup> January 2016, [http://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/MSFD\\_Measures\\_to\\_Combat\\_Marine\\_Litter.pdf](http://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/MSFD_Measures_to_Combat_Marine_Litter.pdf)

Moreover, negative impacts of these microbeads on marine species and habitats are now demonstrated. New scientific research is continuing to find more and more examples of plastic inside all kinds of sealife. But it's not just marine life, a recent study showed that 90 per cent of birds have plastic in their stomachs too. Microbeads end up in humans through toothpaste and through eating seafood that has ingested microplastics and the toxins that come with them.

A 2013 study<sup>4</sup> found that phytoplankton and zooplankton at the base of the food chain can ingest micro plastic particles. The plastic in the diet of marine life could “negatively impact” their health, the study concluded. In 2015, a study conducted by James Cook University<sup>5</sup>, in Australia, demonstrated that coral reefs of Great Bareer Reef do ingest microparticles of plastic.

Peer-reviewed research and reports, including by the United Nations Environment Program, have cast light on the effects of microbeads. In the United States, the Microbead Free Waters Act (2015) has banned the sale of personal care products containing plastic microbeads. Other countries, such as Australia and several European countries also encourage phase outs or bans of plastic microbeads, with France<sup>6</sup> and the United Kingdom<sup>7</sup> prohibiting the use of microbeads in cosmetics and similar measures being prepared for at the level of the whole European Union.

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### **The International Coral Reef Initiative (ICRI),**

*Recognizing* that the presence of microbeads is a serious issue of global concern, in particular for coral reefs and associated ecosystems, that needs a global response;

*Recalling* resolution 11 on marine plastic litter and microplastics and resolution 12 on sustainable coral reefs management by the second session of the United Nations Environment Assembly;

1. calls on governments to ban plastic microbeads;
2. further calls on ICRI members to advocate for such bans;
3. resolves to promote exchanges of expertise, best practices and lessons learned in response to the impacts of plastic microbeads on coral reefs.

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<sup>4</sup> Matthew Cole, Pennie Lindeque, Elaine Fileman, Claudia Halsband, Rhys Goodhead, Julian Moger, and Tamara S. Galloway, Microplastic Ingestion by Zooplankton, in Environmental Science & Technology, May 2013.

<sup>5</sup> N.M. Hall, K.L.E. Berry, M.O Hoogenboom, College of Marine and Environmental Science, James Cook University, Townsville, Australia

<sup>6</sup> Law on Biodiversity (8th August 2016): to restrict the marketing of microbeads in rinse-off cleaning and cosmetic products (at last 1 January 2018)

<sup>7</sup> *Plastic microbeads to be banned by 2017, UK government pledges*, <http://www.bbc.com/news/uk-37263087>