



16th February 2017

Ministry for the Environment

Re: Managing microbeads in personal care products

Introduction

1. Our Seas Our Future (“OSOF”) is a not-for-profit organisation that aims to protect New Zealand’s coastal and marine ecosystems through advocacy, education, and environmental stewardship, ensuring that they are managed sustainably and protected for future generations.
2. OSOF administers environmental education programmes including Adopt-a-Coast, OSOF Coastal Guardians, OSOF Sustainable Me, and social media awareness campaigns including ‘Plastic Free New Zealand’, ‘Sustainable Seafood Now’, and ‘More Marine Reserves’. OSOF currently has a combined social media following of over 17,000 individuals and groups.
3. OSOF welcomes the opportunity to comment on the proposed ban on the sale and manufacture of plastic microbeads in personal care products in New Zealand.

Products in scope

1. Do you agree with the Government's proposal to prohibit the manufacture and sale of personal care products containing microbeads (eg, body scrubs, facial cleaners, toothpastes) to reduce their impacts on New Zealand's environment and human health? Why/why not?

3. Yes, we agree with the Government's proposal to prohibit the manufacture and sale of personal care products containing microbeads to reduce their impacts on New Zealand's environment and human health. Studies throughout the world have highlighted the presence of plastic microbeads in marine and aquatic systems (Eriksen *et al.*, 2013; Driedger *et al.*, 2015), their negative impacts on the organisms that live in these environments and the broader ecosystem effects (Boerger *et al.*, 2010), and therefore are putting at risk human health. Plastic waste has previously been thought of as visible to the human eye and several negative social, economic and environmental impacts have been demonstrated by its presence in natural environments (Jeftic *et al.*, 2009; World Economic Forum, 2016). Microplastics, however, are less visible thus their presence and impact has been less obvious. This is a growing area of research that is already yielding concerning results. For example, recent studies undertaken at the Laurentian Great Lakes (Eriksen *et al.*, 2013; Driedger *et al.*, 2015). Currently the potential risks to environmental, economic and human health are new areas of research and are many unknowns regarding the broader impacts of microbead pollution. We recommend that New Zealand follows the "precautionary principle", banning and controlling the use of microbeads. We see banning the manufacture and sale of microplastics in personal care products as an important first step.

4. Microbeads can damage marine life by external exposure (by being ingested through the gills) and by internal exposure, by marine life

mistaking microbeads for food particles or ingesting food previously exposed to microbeads (Watts et al., 2014; GESAMP, 2015). The 2015 report, prepared by the Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), indicated that a large variety of marine taxa ingest microplastics, including planktonic and non planktonic invertebrates, juvenile and adult fish, seabirds and marine mammals and even coral species. Some animals that have been exposed to microbeads are species used for human consumption. As microbeads can be passed from prey to predator (Farrell and Nelson, 2013), it is likely that humans who consume fish as part of their diet are also exposed to the effects microplastic pollution.

5. More specific impacts of microplastics of marine organisms are starvation, impaired reproductive success, damage to internal tissue and toxic contamination (Teuten et al, 2009; Cole et al, 2013). Toxic contamination can come directly from the microbead itself due to its chemical constituents, however, microplastics also absorb toxic pollutants from the surrounding seawater, such as heavy metals and other persistent organic pollutants (POPS). Thus any organism ingesting these particles is also ingesting an extreme toxic load. These toxins can bioaccumulate in predatory species, much like mercury in tuna.
6. Other countries including the USA, Canada, Taiwan and some European countries, have taken the initiative to change their legislation and regulations. New Zealand has a real opportunity to take action to control the manufacture and sale of microbeads. By taking a proactive stance to prohibit the sale and manufacture of products containing microbeads, the New Zealand Government will be helping to ensure a more sustainable future for marine life, the environment, and ultimately human health and wellbeing.
7. Major companies such as Johnson and Johnson, Unilever, Procter & Gamble, and The Body Shop have already committed to phasing out

products containing microbeads. However, this situation is far from optimal since several other large companies have not committed to the cause. The proposed ban will serve as an incentive to producers inside and outside of New Zealand to phase out microbeads and search for economically and environmentally viable alternatives. Most importantly however, it will help increase public awareness in relation to microbeads including what they are, what damage they can cause and impacts can be, and what products contain them. Often consumers do not take the time to thoroughly investigate their purchase choices. Ultimately, a ban of microbeads will be more effective and efficient at addressing both supply and demand for personal care products containing microbeads.

2. What are your views on the Government narrowing or widening the definition of the scope of personal care products containing microbeads to be prohibited from manufacture and sale in New Zealand?

8. OSOF agrees the definition of the scope for personal care products should be widened, regardless of the size, function or use, as suggested in the discussion document. Globally, there is increasing concern around other microbead-containing household products however some of these are considered of products of essential use. It is possible that an exclusion similar to that used in the state of California for prescription drugs, for example, could work here too (Strifling, 2016). This would be an effective way of avoiding any negative impacts on users who rely on essential or critical medical products. However, it is important to widen the scope to manage microbeads in other products in order to avoid any undesirable outcomes that could compromise the intention of the ban. An

example from the state of Wisconsin where “synthetic plastic microbeads” were defined as “any intentionally added non-biodegradable, solid particle...” concerns arose that this wording improperly incentivised the undesirable solution of substituting microbeads for “biodegradable” plastics that would not degrade under ordinary circumstances (Strifling, 2016). Therefore, widening the definition will help ensure the intent and integrity of any ban is maintained.

3. Do you currently manufacture, sell or use any personal care products containing microbeads? Please specify.

9. No, we don't. We are a not-for-profit marine conservation NGO and because of the nature of the group we do not manufacture or sell any personal care products. We actively promote and encourage our supporters to invest in sustainable, eco-sourced products wherever possible..

4. Do you currently manufacture, sell or use any personal care products containing microbeads for medically prescribed uses or purposes? Please specify.

10. No.

5. Do you currently import any personal care products containing microbeads into New Zealand, either for sale or personal use? Please specify.

11. No.

6. Are you aware of any personal care products containing microbeads for any purpose that could be considered an essential or critical use?

12. No. Our desktop literature assessment suggested that all essential and critical use products can use viable alternatives in place of microbeads.

Available alternatives

7. Do you currently manufacture, sell or use any alternatives to personal care products containing microbeads (or components therein), which are designed and used for the same purpose(s)? Please specify.

13. No.

8. Do you consider the alternatives to personal care products containing microbeads (or components therein) to be reasonably practicable, readily available, and similarly priced for existing personal, business or other uses? Why/why not?

14. Yes, there are several alternative options readily available. These options are available and widely used, and many were present before the use of microbeads became so widespread. Microbeads were first used as a cheaper substitute to natural exfoliating substances in the mid 1990s (Graney, 2016).

15. There are several readily available and inexpensive alternatives such as but not limited to: apricot kernels, sugar, salt, coffee grinds, ground oats, cornmeal, baking soda, walnut shells and

bamboo. Other examples are products that contain lactic acid, enzymes present in pineapple and papaya, jojoba beads or even reusable options that will not be washed down the drains, such as the konjac sponge, made from fibres of the root of konjac plants. The latter is gentle, effective in exfoliating dead cells and inexpensive. Thus, alternatives are practicable, readily available and are competitively priced. Dermatologists even argue that the mentioned options provide better results to microbeads (Adams, 2014). Microbeads tend to be consistently rounder than natural products and are therefore regarded as a better and more gentle exfoliant..

9. Is there any reason why the alternatives would not be reasonably practicable, readily available, or similarly priced for personal, business or other uses? If so, would you consider operating against the policy intent and importing personal care products containing microbeads from overseas?

16. No. There is no reason why it would not be practicable, since alternatives are freely and readily available on the domestic market (ie sugar, coffee granules etc).

10. What would be the impact on you or your business if personal care products containing microbeads were prohibited for manufacture and sale in New Zealand and the alternatives were not reasonably practicable, readily available, or similarly priced?

17. The effect would be largely positive, given that we actively support a move away from microbeads in all products, and we already encourage our supporters to actively seek out these alternatives.

Administration and enforcement

11. Do you support the Government's approach to administration and enforcement of the proposed regulations under the Waste Minimisation Act? Why/why not?

18. The Government's approach to administration and enforcement of the proposed regulations seem reasonable. "Plastic Diet" recently exposed New Zealand companies who claimed to be phasing out microbeads yet still had large volumes of microbead-containing products for sale. A ban on microbeads is the only way to effectively guarantee these harmful products are permanently removed from our shelves.

19. As most of the plastic microbeads found in wastewater come from consumer use (Grayson, 2015), the proposed regulations need to ensure that authorities are sufficiently resourced to regulate plastic microbeads that enter wastewater from consumer use. In New Zealand, a strong regulatory system will help limit any production and sales of personal care products containing microbeads, by retailers. As alternatives to plastic are readily available, this seems like a fair approach.

12. Are there any other considerations for administration and enforcement of the proposed regulations that have not been outlined in the Administration and enforcement section of this consultation document?

20. The primary objective of the proposed regulation is to provide certainty that the impacts of microbeads on New Zealand's

environment and human health are managed, and costs minimised. However, narrow definitions can allow other damaging industrial and household products to persist.

21. Microplastics are also found in synthetic textiles, and a proportion of microplastics used in industrial applications enter the environment. Secondary microplastics are formed when plastic items fragment and disintegrate. Enforcing legislation to decrease amount of plastic debris in the environment can lead to better waste prevention. Population growth in coastal zones means that the amount of plastic debris entering the ocean from land-based sources is likely to increase unless significant changes are made to waste management practices on land. Since New Zealand's wastewater treatment systems are unable to capture all microbeads, they could be improved in order to trap smaller particles, along with regulation to ban the manufacture and sale of microbeads.

22. Another point to take into consideration is that many products labelled 'biodegradable' are misleading. Some of these products are designed to break into smaller fragments, but the fragments retain their original polymer properties. A few plastics labelled 'biodegradable' break down more easily, but they tend to have limited uses and are more expensive than many other plastics. UV radiation (e.g. on beaches) enhances the rate at which plastic particles fragment. However, once the particles are covered by sand, water or biofilms, this rate greatly decreases. Thus, most plastics in common use will not biodegrade in the marine environment and will therefore persist.

Timeframe

13. What are your views on the Government's proposed timeframe for entry-into-force of the regulations under the Waste Minimisation Act to prohibit the manufacture and sale of personal care products containing microbeads?

23. The timeframe proposed by the Government aligns with international efforts to phase out microbeads. A legislative ban must be introduced as soon as possible.

14. Are there any issues about the proposed timeframe for entry-into-force of the regulations that the Government should consider?

24. A time-bound phase out plan should be implemented that ensures retailers are informed, given a short period of time to adjust and then held to account.

15. Are there any ways the Government could help industry or consumers transition away from personal care products containing microbeads ahead of the regulations' entry-into-force?

25. Yes, there is ample opportunity for working with consumers to actively educate them on more environmentally friendly choices. A targeted-behaviour change strategy could be drawn up and implemented by a range of stakeholders (i.e. Government, business and industry collaborating with NGOs, teachers, student groups, research institutes).

26. We appreciate this opportunity to comment.

Yours sincerely,

Simone Weisheimer (on behalf of Our Seas Our Future).



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