

Plastic microbeads in facial scrubs causing damage to environment

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The Sunday Morning Herald April 6, 2014 *By Neil McMahon*

In a lather: Minute plastic beads from toiletries are making their way into the marine environment.



Vanity - and our vulnerability to the power of advertising - are changing consumer habits from breakfast to bedtime, and contributing to an almighty environmental mess. The culprit: microbeads.

These are minute bits of plastic that have been inserted into everyday products from facial creams to toothpaste, proclaimed in advertising as a healthy advance but which are turbo-charging an already dire problem - the global pollution of oceans, lakes and rivers by cast-off plastic.

What makes microbeads especially threatening is that they enter the environment - washed down our bathroom drains - already broken down into all-but invisible microplastics, defined as 0.1 to 0.5 millimetres in size.

Tiny and buoyant, and not filtered by sewerage systems, they are swiftly ingestible by marine life, making them more immediately dangerous than a discarded drink bottle. They are likely to have entered the food chain - so while you wouldn't eat your facial scrub from the jar, you might be consuming it if you eat fish.

And for what benefit to ourselves - to our skin?

Almost none. According to Associate Professor Greg Goodman, a fellow of the Australasian College of Dermatologists, our modern obsession with scrubbing our skin is, for most people, doing more harm than good.

"People are exfoliating everything," he says. "But we're not floorboards. We don't need to be polishing and buffing and scrubbing. Most science dermatologists don't like exfoliation because the barrier functions of the skin get exfoliated and that's a negative thing for your skin. Exfoliating takes out the top layer that keeps your skin in good nick."

The use of microbeads in cosmetics is recent - Dr Goodman says most patents date only to the middle of the last decade - but there is already a backlash against the harm they are doing. The 5 Gyres Institute in the US found such significant microbead pollution in the Great Lakes region last year that it launched a campaign to have them banned.

In Australia, there has been little study of the harm caused by microbeads. But Dr Scott Wilson, a coastal management expert from the Central Queensland University Gladstone, says harm is being done to marine life and potentially to humans.

"It's an area we're just touching on now, trying to find out what the potential harm is," he says. "We know they're being ingested - there's a whole gamut of species that we now know have these microplastics in their guts, and some are being incorporated within the tissues as well ... so there's this trophic transfer of the plastics through the food chain. If you take it to its fullest [conclusion], if we're consuming fish or other sea life there's potentially a transfer. We need to find out what risks there are to humans as well as to the organisms."

Dr Erik van Sebille, of the Climate Change Research Centre at the University of NSW, says the impact of microbeads will be felt in heavily populated urban centres.

"We know from a food source point of view that the smaller the plastic, the more harm it does. My suspicion with something like microbeads is the harm is done right where our sewerage systems hit the ocean."

Major cosmetics manufacturers say they will phase out the use of microbeads over the next three to five years. The Body Shop is leading the way, with a spokeswoman telling Fairfax Media its products would be microbead-free by the end of this year. For consumers, Dr Goodman says there is a quicker solution: use something natural - an oatmeal soap would do the job - or don't exfoliate at all.

"We mix up the squeaky feel of skin as being something healthy and it's really not - it's actually impending dry, terrible skin," he says. "They're not understanding what healthy skin is."