

## **Microplastic fibre FAQs with Imogen Napper, Plymouth University**

### **Why do tiny plastic fibres shed from synthetic clothing?**

Clothes shed fibres as they can often become loose from the main fabric mesh. Movement, such as whirling around in a washing machine, can cause the fibres to detach off. Think of a tumble dryer when we need to remove all that fluff!

### **What's the difference between microbeads and microplastic fibres?**

All of the plastic terminology can get quite confusing! Basically, anything that has 'micro' at the start should typically be considered as a microplastic; these are plastic pieces less than 5mm in length. Microbeads are microplastics that would be found in exfoliating body washes and facial scrubs. Microplastic fibres are small strands of plastic that could come off clothing in the washing cycle.

### **Do microplastic fibres pose a threat to marine life and humans?**

The impact of microplastic pollution is not fully understood but research has suggested that it has the potential to poison the food chain, build up in animals' digestive tracts and reduce the ability of some organisms to absorb energy from foods in the normal way. A single wash could release up to 700,000 fibres and it is making our oceans into a big plastic soup! We need to act now to find solutions.

### **Where do the solutions need to come from?**

This issue is so wide spread; action needs to be taken all the way from the beginning of the supply chain, through to consumer action.

I think there is some really promising discussion between industry and consumers at the moment. I appreciate that fixing this problem is not going to be an overnight success. However, it is incredible how much debate has been created in a relatively short period of time. Clearly labelling that items are clothes are made out of plastic could definitely make people more aware of how abundant plastic is in our day to day life. Solutions will come from industry, research and consumers working together.

### **Do you think products such as the Guppy Friend laundry bag and the Cora Ball can be part of the solution?**

I think there are many interesting and innovative ideas being developed to tackle the plastic pollution issue. In terms of clothes washing, our research group is very excited to have been awarded a National Geographic grant to test a variety of these different inventions. We will be testing and providing answers on how effective they are at capturing fibres, but also how user-friendly they are.

### **What simple changes can I make in my day to day life to help release less microplastic fibres?**

We live in a fast fashion industry where clothes can be very cheap. This means that sometimes we do not value clothes as much; if they get broken or we get bored of them they can often be replaced quickly and inexpensively. Simple changes can involve fixing clothes or modifying them to give them a new lease of life, meaning that we buy less clothes and subsequently less plastic. Share these skills with your friends and family. Most importantly,

spread the word about plastic pollution in general and create discussion that could be a seed to change.

### **Should I stop buying synthetic clothing?**

Plastic is a fantastic material as it is so versatile – when I used to consider plastic I thought of harder items like water bottles, not clothes! Surprisingly, it is predicted that 70% of the clothes on sale are made of plastic. Therefore, it would be difficult and often expensive to completely avoid it. However, we can make more informed choices in what we are buying and how durable/long lasting the product is. Is it fully synthetic, or is it blended with a natural fibre type as well? We need to work with industry to further identify how fibres are shed from clothes and how this can be minimised. We also need to further research how we can capture any released fibres in the washing cycle.

### **Do you think consumers have the power to make a difference on this issue?**

Absolutely! The public became aware that microplastics were being added to our facial scrubs to act as exfoliants; these plastics were called microbeads and were completely unnecessary as natural alternatives were available. Microbeads would be washed off our bodies/faces and go straight down the drain where a proportion could potentially enter the marine environment. The public (consumers of the products) started to boycott products with microbeads in. This resulted in companies voluntarily removing them and government stepping in enforcing this removal. This is just one example, and one piece to very large solution jigsaw. I strongly believe a collection of voices can be a very powerful and successful tool.