

explainity explains: Microplastics

Microplastics?!

Ok, plastic, we all know what that is – it's in packaging, shopping bags, To-Go cups, toys, car parts, synthetic clothing, electrical and home appliances and plastic bottles.

Plastic is an "artificially"-made material, which is why it's technically called a "synthetic compound". It's made mostly of crude oil, natural gas or coal. It's not naturally biodegradable, unlike, for example, compost. That means: plastic does not rot and often ends up as trash on the ground and in the ocean. There, the plastic parts disintegrate by heat, wind and waves bit by bit into even smaller parts – known as microplastics. By definition, these tiny synthetic compounds are between five millimeters and one micrometer long. Even smaller particles are technically called "nanoplastics".

These shredded plastic waste particles are known as "**secondary microplastics**". The wearing down of car tires, for example, is one of the biggest causes of microplastics.

But before this trash is ever produced, the products must first be made. For that, you need "**primary microplastics**". Those are small plastic pellets. In industry, they serve as the basic material for every plastic product you can imagine. And plastics are used in various cosmetic products and household products as granules or in liquid form.

The problem with microplastics: Like large plastic parts, they are not naturally biodegradable. And in cleaning processes in factories, but also when showering or washing clothes, they get into the sewer water. On land and in our waterbodies, the crushed particles are moved by wind and waves. Rain carries the plastic into the sewage system. The smaller the particles, the harder it is to filter them, for example in sewage treatment plants. Millions of tons of microplastics are distributed everywhere; and that's increasing.

The surface of microplastics is a magnet for toxins and pathogens. Animals, both in the water and on land, confuse the plastic particles with small animals and consume them as food. Through the food chain, the pollutant-rich plastic particles finally reach our plates and make their way into our bodies. Even in our drinking water and our foods, such as salt, honey or milk, you can find certain microplastics.

The consequences of consuming plastic for animals are diverse: internal injuries and inflammations, hormonal imbalances, illnesses and even death. The effects on humans have not been researched enough yet.

The topic of "microplastics" is often a hot debate. It's about rethinking and finding alternatives to plastic, and about recycling, so that the amount of plastic and the resulting microplastics found in nature no longer increases. Everyone can do their part! There are many possibilities. One thing is to stop using plastic altogether. Instead of To Go cups, you can use mugs or a thermos. Plastic bags can be replaced by bags brought from home. And the proper disposal of plastic waste is important, so it can be recycled and microplastics do not end up in nature.

www.explainity.com		www.youtube.com/explainitychannel
www.facebook.com/explainity	www.twitter.com/explainity	www.instagram.com/explainity
<small>Note: Almost every explainity education clip was produced and published for private, non-commercial use and can therefore be shared without further consent for private purposes free of charge. For commercial use or educational purposes like screenings for academic institutions (showing the video at school or in an academic setting) the video must be licensed. The transcripts (texts) are free to use for classes. For further information please visit our website: www.explainity.com/education-project/. Please note that the content of all video clips and transcripts must not be altered in any way, neither the illustrations nor the content itself. All contents were created to the best of our knowledge and belief at the time of production. explainity assumes no responsibility for content being up-to-date, complete and valid and is not liable for any errors. © explainity - all rights reserved.</small>		