## **Polymers and Microplastics: What Are They and Why Should We Care?**

In the world around us, we constantly encounter materials that provide us with comfort and functionality. However, few people realize that many of these materials share a common denominator – polymers. While polymers bring many benefits to our lives, improper handling can lead to negative consequences, such as the formation of microplastics. So, what exactly are polymers, what are they used for, and why is it important to address their environmental impact?

Polymers are substances made up of a large number of repeating units called monomers. You can imagine them as a chain in which each "link" represents one building block. They are divided into natural polymers (found in plants and crustacean shells) and synthetic ones (plastics). Thanks to their flexibility, light weight, and durability, synthetic polymers are used in nearly every sector – from packaging and clothing to medicine.

When we talk about plastic waste, most consumers picture a PET bottle or a plastic bag. Over time, plastics break down into smaller fragments, eventually forming what we call microplastics - tiny solid plastic particles smaller than 5 mm that do not biodegrade. These particles end up in water, air, and soil, and eventually in the bodies of animals and plants.



## Source: Freepic

Solving the microplastics issue requires scientific research, innovation, and also changes in consumer behavior – for example, reducing single-use packaging or avoiding microplastics in cosmetics. As a scientific discovery, polymers have brought many advantages to humanity, but they also present us with new challenges. Microplastics are one of the most pressing environmental problems today, and addressing them calls for cooperation among scientists, businesses, and individuals alike. One of our research projects focuses on developing innovative compounds and processes to improve plastic biodegradability.