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## Abstract

### **Sulapac- material innovations that leave no microplastics behind**

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Recycling fossil-based plastics– while needed – simply isn't enough to solve the global plastics crisis. Most plastics that are recycled are reprocessed into lower-value applications, such as polyester carpet fiber; only two percent are recycled into products of the same or similar quality. To contribute to solving the plastic challenge Sulapac innovates and markets new type of biodegradable, non- toxic materials which can replace traditional plastics. Sulapac materials are microplastic-free and safe and circular by design. They are composites of wood and natural binders and processable with conventional technologies that are intended for plastics processing, such as injection molding and extrusion.

This presentation gives examples of Sulapac materials and their current and potential applications, such as packaging, hangers, fishing gears and the Sulapac straw. Furthermore, some aspects of the regulative development and the measurement of sustainability and circularity of materials are discussed. Many biomaterials that fulfill the roles of conventional plastics are novel, which is one reason why the set of tools for sustainability assessment is not mature. We have established a concept of new division of polymeric materials into two categories: microplastic-free and microplastic-releasing materials. This classification would provide means to, throughout the different regulative sectors and in consumer communications, transparently and consistently recognize sustainable material innovations, which are safe, circular and microplastic-free.

#### **Sulapac at a glance:**

Sulapac® leaves no trace behind. It is a lot like traditional plastic, but 100% biodegradable and 100% microplastic-free. Sulapac is used by brands that are genuinely committed to sustainability by choosing a material that is friendly for users and the environment. Circular and safe by design throughout the value chain, Sulapac is made from non-toxic raw materials. Plastic product manufacturers can use Sulapac with their existing machinery. The company was founded in 2016 by Suvi Haimi and Laura Kyllönen and is based in Helsinki, Finland.

[www.sulapac.com](http://www.sulapac.com)