

Sparxell

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The next generation of colours and effects

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The Challenge

Glitters can take many sizes and shapes (from the sequins used in fashion to the fine powder used in the paint of 1 in 4 cars sold in Europe or found in cosmetics) yet they all contain problematic microplastics, metals, or mineral oxides. Science warns us that these products accumulate and enter our water supply.

Europe is banning titania from food due to cancer-causing properties. NGOs shone a crude light on child labour practices enabling mica mining. Not only are these products no longer acceptable for these reasons, but they are also sourced from hard-to-abate sectors that feed climate change.

The Solution

Sparxell has created safer and easier-to-source alternative pigments with vibrant colour and benefits that appeal to health and eco-conscious consumers and companies alike. Bio-inspired (think of the profoundly beautiful structural colour of a butterfly), our biodegradable pigments use the self-assembly

properties of cellulose nanocrystals to create helix-like structures that reflect light. As a result, Sparxell's products deliver an intensity of colour and shine more brilliant than most products.

Sparxell's products are made from biodegradable and renewable cellulose, which can even be extracted from agricultural by-products, removing all health, ethical and environmental concerns inherent in other products

Publications and Patents

Publications:

- Droguet, B.E., Liang, HL., Frka-Petescic, B. et al. **Large-scale fabrication of structurally coloured cellulose nanocrystal films and effect pigments.** Nat. Mater. 21, 352–358 (2022)

Patents:

- Patent Pending, Method for preparing structurally coloured films & pigments, [WO2023025863A1](#)
- Patent Pending, Ref: GB2302729.5

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