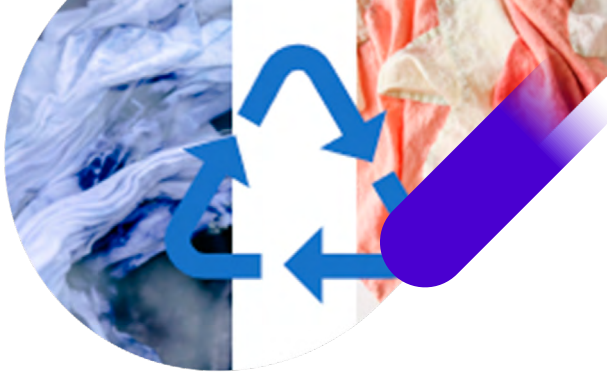
Application of waste as natural reducing agents for the eco-elimination of inks from cellulosic and synthetic fibers recovered

ADRASA
Hands-on textile finishing



Montornès del Vallès

Website

Sectors of applicability

Design-based industries – Fashion and Textile

Technology trends

Industrial resilience – Continuous processes / Green transformation – Recycling and valorisation

Green challenges

Industrial transition to the circular economy / Climate change mitigation and adaptation

SDGs impact

Objective / Challenge

To develop a novel formulation based on industrial and agricultural waste to be used as a renewable bleaching agent for cellulosic and synthetic fibres.

Environmental impacts and benefits addressed

- Enable the reuse of discarded fabrics and garments.
- Promote the upcycling of agricultural by-products and waste.
- Reduce the need for chemical reagents in the textile industry.
- Prevent the water contamination by toxic chemical substances.

Solution's description

- The solution enables the extraction of natural reducing agents from agricultural by-products and waste.
- The technology employs isolated reducing agents capable of modifying the chemical structure of pigments, thereby removing colour from fibres.
- The developed technology is meant to replace more polluting existing processes for certain applications.

Main constraint / Difficulty

Extraction of natural reducing agents without degradation.

KPIs

- Volume of polluting bleaching agents used in the textile industry.
- Volume of agricultural waste/by-products upcycled.
- Amount of hazardous waste generated in bleaching applications.
- Cost of bleaching reagents.
- Waste management costs.

Partners

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