

From citrus peel to polymers

Biobased epoxy resin composition derived from limonene for adhesive and coating applications

DISRUPTIVE TECHNOLOGY

Innovative materials for adhesive, coating and painting applications **made from CO₂ and limonene** obtained from citrus peel oil.



PROBLEM SOLVING

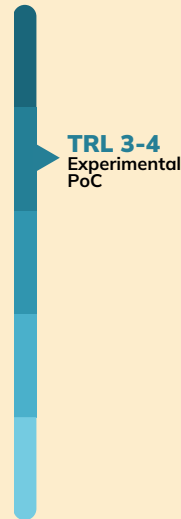
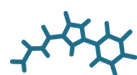
Polycarbonates and polyurethanes are some of the most important materials nowadays that can be found in many applications. Despite their outstanding properties, their production **involves toxic chemicals or fuel oil-based derivatives.**

The demand of a greener alternative, avoiding the use of phosgene or BPA is growing and society is looking for new technologies that fulfill all requirements of circular economy. This technology allow the access to CO₂ Bio-based materials, with excellent properties for coating or adhesive applications.



ADVANTAGES

- Use of circular materials: CO₂ and waste by-product of the agriculture or food industry.
- Green adhesives and coating applications.
- Alternative to the oil-based materials.
- Valorization of CO₂ emissions contributing to climate action policies through the fixation of the CO₂ molecule in the polymer material.



IP STATUS

PCT Patent Application
WO2023110981A1

BUSINESS MODEL

B2C or B2B

TARGET MARKET

Plastics, paints, coatings or adhesive manufacturers

KEYWORDS

Circular economy, CO₂, citrus, limonene, paints, materials, coatings, adhesive, polymers, biobased

AVAILABILITY

Free to negotiate for licensing

Needs

- Process scale up optimization.
- Development of continuous operation process.

Milestones

- Raw material supply.
- Flow manufacturing process.
- Scale up reaction.

Requirements

- Large CAPEX required.

Roadmap

- Development of commercial process to ensure industrial supply of raw material.
- Scale up validation with industrial partner.
- Material product validation with industrial partner.