Sustainable and Green Substitute for Polystyrol and Derivatives

The invention relates to a composition comprising natural polyphenol, a derivative of plant-derived component, and polysaccharide –obtained from wood waste- and optionally an organic oxygen compound, wherein the composition cures at a temperature below 50 °C. There is a growing need for environmentally friendly and sustainable materials to replace fossil-derived products in various application fields, such as building materials, protective coatings, adhesives, and related applications. Modern societies increasingly demand biodegradable, renewable, and clean alternatives to petroleum-based materials to support the transition to a sustainable circular economy. The technology relates to plant-derived components containing over 85% biogenic elements, is capable of curing in cold conditions, and is intended for various applications, including building materials, printing resins, coatings, and adhesives.

Innovation

- Composition of plant components which replace fossil-derived products
- Lower temperatures for curing needed

Application

- Insulating material in general
- House building
- Packaging material
- Polystyrol replacement
- Helmets and solid fuel lifejackets

Development Status

- Proof-of-Concept established under lab conditions

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Patent Status

EP26158991.5

Earliest Priority Date

17.02.2026

Reference Number

ZEE2023080200

Status:

Status: June-26

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