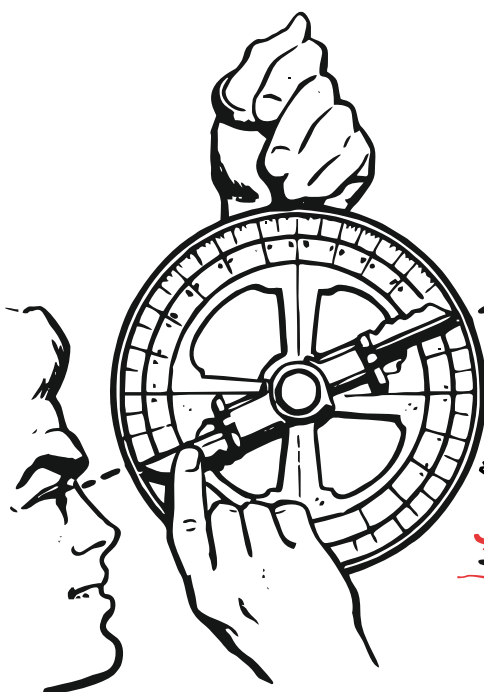




Łukasiewicz
Institute of Heavy
Organic Synthesis
BLACHOWNIA



HORIZON
europe

TOPIC ID:
HORIZON-JU-CBE-2025-RIA-01

Valorizing of untapped forest biomass

Formaldehyde-free lignin-based resins

Type of project: RIA

Call opening date: 4 April 2025

Call deadline: 17 September 2025

ABOUT US

Advanced Materials Research Group of Łukasiewicz Research Network – The Institute of Heavy Organic Synthesis "Blachownia" specializes in developing of:

- technologies for producing and modification of bio- and fossil-based basic epoxy resins, epoxy vitrimers and glycidyl ethers,
- technologies for producing and modifying formaldehyde-free lignin resins,
- developing technologies for manufacturing polyurethanes (isocyanate and non-isocyanate),
- new types of fiber-reinforced, multi-material and high-filled biocomposites (prepregs, SMC, BMC)
- modification and processing of materials based on thermoplastic biopolymers,
- bio-based materials (alginates, starch, cellulose, chitosan, etc.) for coating applications, including PFAS-free, antibacterial and water/oil resistant coatings,
- plastic materials recycling.

OUR IDEA


Traditional phenol-formaldehyde resins can release formaldehyde, a volatile organic compound (VOC), during both manufacturing and the service life of wood composites. Formaldehyde is a known carcinogen and can cause respiratory issues, skin irritation, and eye irritation.

Within the scope of the call, we propose the development of formaldehyde-free, lignin-based binder compositions for indoor wood composite materials made with wood residuals with improved health and safety profile compared to existing phenol-formaldehyde market products.



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