VOC-free and tannin-based non isocyanate polyurethane adhesives

Development of bio-based, water-based, emission-free (VOC) and isocyanate-free polyurethane adhesives (NIPUs) for load-bearing components

Technology

Wood adhesives are of enormous industrial importance, as more than two thirds of wood products are bonded together in whole or in part with a variety of adhesives. Formaldehyde is a key component in most resins used in the manufacture of engineered wood products, accounting for more than 50% of the volume of all adhesives in use today. Growing public awareness and consumer demand for non-hazardous products, as well as government regulations, are driving the development of natural, formaldehyde-free formulations. In addition, the demand for environmentally friendly products based on renewable raw materials is increasing. The invention involves the development of VOC (Volatile Organic Components) free and tannin-based non-isocyanate polyurethane adhesives by utilizing waste from the wood industry primarily used for thermal purposes to promote the long-term development of a sustainable economy.

Innovation

- Emission-free (VOC) and isocyanate-free alternative to conventional polyurethane adhesives
  - Environmentally friendly and safe
  - Reduction of carbon dioxide emissions
- Efficient use of wood waste resources

Application

- Adhesives for the wood industry

Development Status

- Laboratory scale

Responsible Scientist

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