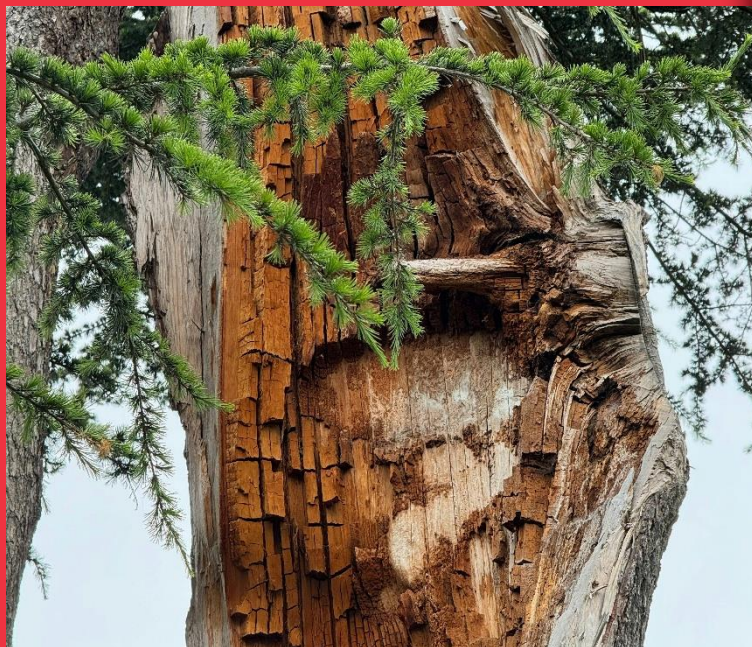




Chromated Copper Arsenic (CCA) Alternatives for Building Woods Termite Protection

SP Singapore Polytechnic

TRL 5

Built Environment

AMTC

Technology Licensing Opportunity

Technology Overview

The wood preservation industry faces a critical safety dilemma as conventional Chromated Copper Arsenic (CCA) treatments, while effective against termites and bugs, pose significant health and environmental risks due to their high concentrations of chromium, copper, and arsenic. These hazardous compounds create serious concerns for workers, consumers, and the environment, yet remain widely used because effective safer alternatives are not readily available. Additionally, current wood protection processes are labour-intensive and complex, requiring specialized immersion treatments that are impractical for many wood traders and limit widespread adoption of protective measures, leaving wood vulnerable to termite damage.

Our formulation technology eliminates these safety and application barriers by developing CCA substitutes with significantly reduced toxicity whilst maintaining full protective efficacy against termite infestation. The innovative preservatives draw from various safer compound families to provide greener, user-friendly alternatives that protect outdoor wood without compromising performance. Most significantly, we've simplified the application process by blending CCA substitutes into commercial varnishes, enabling easy application by wood traders without specialized equipment or complex immersion procedures. This transforms wood preservation from a hazardous, labour-intensive process into a safe, convenient treatment that maintains superior termite protection whilst eliminating health and environmental risks.

Potential Applications

- This invention can be used applied on outdoor and indoor woods protection through brushing/rolling to conveniently and efficiently apply a protective coating.
- This is applicable to the commodity market, such as wood traders, wood repair contractors, wooden furniture manufacturers

Commercialization / R&D Opportunities

- ✓ Ready for commercialization
- ✓ Looking collaborators for further development / to develop new applications
- ✓ Available for licensing
- ✓ Accepting business plans from interested parties

Intellectual Property -

- *Know-how / Formulation*

Technology Features & Specifications

- The developed formula ensures effective protection against termites and bugs while prioritizing safety and environmental sustainability.
- Our team has selected suitable alternatives from diverse preservative families and assessed their compatibility for application on Chengal outdoor wood.
- Our formulation offers termite resistance while reducing the health and environmental risks associated with traditional CCA treatments that is efficient, safe, and eco-friendly.

Unique Value Proposition

- With the increasing demand for greener technologies to mitigate climate change and emphasis on Corporate Social Responsibility (CSR), there is a need to develop technologies to reduce environmental impact and improve the workplace safety of workers
- The growth of this market across the world can be attributed to a significant surge in residential, commercial, and industrial construction activities as wood is used in many applications such as furniture, doors, cabinets, roofs, staircases, and beams.
- The global wood preservatives market size was valued at USD 1.50 billion in 2023 and is projected to grow at a compound annual growth rate (CAGR) of 5.0% from 2024 to 2030.

Disclaimer

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