Preparation and characterization of lacquer sap powder

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Lacquer sap from the lacquer tree has been widely used as a natural paint and coating material for thousands of years in Asian countries because lacquer sap has good durability, thermal stabilities and mechanical properties. In addition, these natural lacquers possess superior properties against oxygen and water, antibacterial and antioxidant properties. However, commercial application of liquid lacquer sap is limited due to allergenic properties and low curing rate. In this study, lacquer powder was fabricated by simple coating to overcome these limits and, therefore, can be applied to the industry with safety and ease. The chemical structure of lacquer powder was analyzed by Fourier transform infrared (FT-IR) spectroscopy. Lacquer powder was characterized by scanning electron microscopy (SEM) to examine the morphology and size. Also antibacterial properties against Gram negative bacteria such as E.coli, Gram-positive bacteria such as S.aureus was investigated.