

Cashew Nut Shell Liquid for Microelectronics

Name

Cardanol and/or CNSL-Based Novolak Copolymers

Status

Available for development and commercialization

Chemical Structure

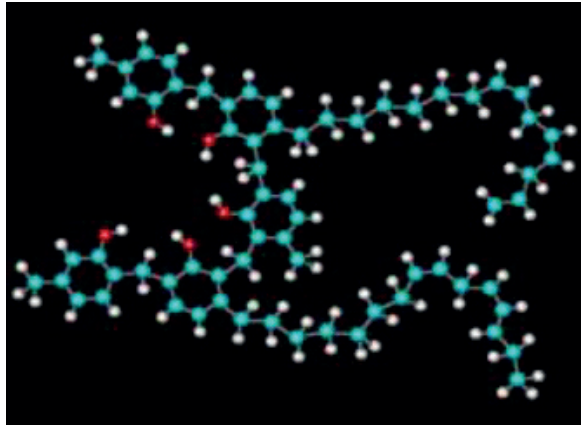
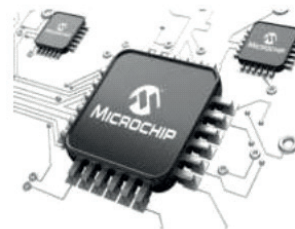


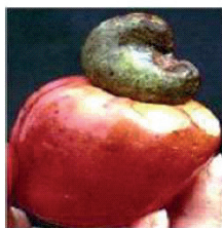
Figure: 3D view of thw Cardanol-m-Cresol Novolac copolymer



Cashew Nut Shell Liquid



Microchip



Cashew Fruit



Cashew Nut

Sectors of Application

- Microelectronics and microchip production

Summary

Developing new photoresists for microlithography (for making microchips) using Cashew Nut Shell Liquid (CNSL) for Microelectronics is available for commercialization. An Indian patent has been granted on this work in 2010. The patent has been assigned to DRDO, Government of India. Photoresists are the workhorses of the microelectronic industry and can be used to make most common electronic gadgets.

Additional Information

- Eswaran, S. V., Basu, P. K. and Roy, D., Cashew Nut Shell Liquid–Based Tailor-Made Novolac Resins: Polymer Morphology Quantitation by 1-D and 2-D NMR Techniques and Performance Evaluation, *Journal of Applied Polymer Science*, 2003, 89, 1959 –1965.
- Sharma, M., Raghunathan, P. and Eswaran, S. V. (2008) Cashew Nut Shell Liquid based t-BOC Protected Alternating “high ortho copolymer as a possible e-beam resist: characterization using multidimensional NMR Spectroscopy *J. Appl. Polym. Sci.* 108, 804–810
- Eswaran, S. V., Basu, P. K. and Roy, D., “High Ortho: Novolac Copolymers and Composition Thereof: Indian patent (2010) IN 238971