

# Manufacturing Nanostructured and Microstructured Chitosan Prepared By Milling Shrimp Shell

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**Abstract:** Nano-products are of great interest in the field of pharmaceutical, corrosion, medicine and engineering. This research aimed to produce nano-chitosan. Shrimp shells have been prepared by using a high-energy planetary ball with an optimal rotational speed. The raw material was subjected to standard chemical processing for chitin extraction, followed by deacetylation to obtain nanocrystallite chitosan, which is characterized by Scanning Electron Microscope (SEM), Fourier Transform Infrared Spectrometry (FT-IR) and X-ray diffraction (XRD).

**Keywords :** Shrimp shell, Planetary milling, chitosan, SEM, FT-IR, XRD