



Low cost Method for Extraction of Anacardic acid From cashew Nut shell

Technology Description

„New extraction process for anacardic acid from cashew shell was developed without thermal application in salt form and can be stored as anacardate. „ The compound anacardic acid has the property of anticancerous, antibacterial etc. „ By this invented method, this highly potent component can be available in more amounts. „ The existing method for the extraction of anacardic acid was very costly and time consuming. But the newly developed method could overcome that problem. „ By using cashew shell as a raw material, the process will help in utilization of cashew industry by product (cashew shell) and thereby making it into a very good foreign

Background

An estimated 8.5 lakh tone of cashew shell are being generated annually in India. Only a very small quantity is being used for extraction of cashew shell liquid. Cashew nut shell liquid (CNSL) is one of the sources of naturally occurring phenols; obtained from the shell of a cashew nut.

About 30-35% CNSL is present in the shell, which amounts to approximately 67% of the nut. The phenolic components in CNSL that contains approximately phenolic compounds like 90% anacardic acid and 10% cardol. Heat extracted CNSL, leads to decarboxylation of the anacardic acid to form cardanol. This leads to reduction of anacardic acid concentration. The newly developed method is quicker method than the other existing extraction methods; with higher anacardic Benefits / Utility

The newly invented method is quick (around 2 and 1/2 hr) as well as economic than the existing methods. „ More over the product can be stored as anacardate salt for long storage. „ The yield obtained was also good and identified as pure compound. „ The waste raw material from cashew industry can lead to a foreign exchange earner compound by this simple quick & low cost method. „ The compound anacardic acid has the property of anticancerous, antibacterial etc

Country Context

India

Scalability

Large Scale

Business and Commercial Potential

Business and Market Potential: An estimated 8.5 lakh tone of cashew shell are being generated annually in India. Only a very small quantity

used for extraction of cashew shell liquid. This is mainly because on Cashew processing involves thermal application of Cashew Shell; causes decarboxylation of anacardic acid resulting in decreased yield of anacardic acid. The technology; if implemented with concurrent Non thermal Cashew cutting method; this technology could turn out to be extremely economically viable. The compound anacardic acid has the anticancerous properties; that has huge potential in international pharmaceutical drug market. Hence the business and

Potential investors to this technical innovation

Cashew Industries or Companies that process Raw Cashew for Cashew kernels will be the major beneficiaries of this technology. Any chemical company who on their behalf; like to take up the production of the chemicals required for the technology; as well as market the technology



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Financials

VALUE OF THE TECHNOLOGY: Project cost: Tech commercialization fee to be charged from one licensee= 2 Lakhs on technology transfer
Financial Required: Fix assets (Land and Building) = Land 5 cents and building in it in 1000 square feet with a total expense of approx : 5 lakhs for land and 10 lakhs for the building , Machinery and chemicals = Rs 7.5 Lakhs, Others= Rs 3.5 lakhs

Target Market / Customer

Potential Clients: Pharmaceutical companies involved in production of

Limiting factors for large scale commercialization

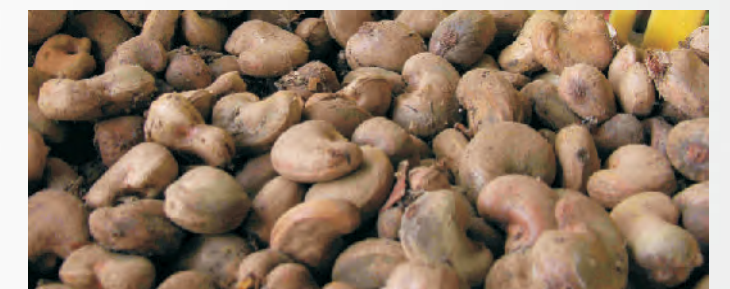
None. (The slight brownish colour expressed by the salt form of

Social impact of the technology

This technology ensures recycling and reuse of the wasted Cashew shell; and thereby resulting in adding value to the cashew industry as such by

Any other relevant information

Techno Economic Aspects „ Market value of anacardic acid is 1000 dollars for 1g of the product. „ Synthesis of 136g of Anacardic acid from 1 Kg cashew shell = Rs 5452/- „ Cost at which 136 gm of Anacardic acid (from 1 Kg of cashew shell) can be sold =Approx Rs 2.5 Lakhs (As per market price). „ The TFR studies are currently progressing



Name Of institute:
CEPC Laboratory and Technical Division,
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Stage of development:
Ready for Commercialization
Patent status: Filed

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