

BIO-BASED PRODUCTION OF CROTONIC ACID

TECHNOLOGY DESCRIPTION

This technology is a method for producing bio-based crotonic acid by heating bacterial poly(3-hydroxybutyrate), PBH inclusions under controlled condition as compared to the current method of producing crotonic acid which using petrochemical route.

TECHNOLOGY FEATURES

This technology is efficient and practical with simpler processing steps with higher yield (87%) as compared to the petrochemical route (30%). This technology utilizes PBH, a biopolymer produced from fermentation of bacteria utilizing sugar. The sugars came from renewable feedstock such as oil palm frond juice cellulosic sugar, thus producing high purity of crotonic acid (99%).

ADVANTAGES

- High purity – 99% crotonic acid
- High recovery yield – 87%
- Simple process
- Green technology and renewable process – ensure continuous supply of crotonic acid

INDUSTRY OVERVIEW

Prospects: Organic fatty acid producers

The crotonic acid market derived from natural sources is witnessing increasing demand. The global market for crotonic acid is forecast to reach US\$2.2 billion by 2018, driven primarily by the growing demand from personal care and cosmetics sectors. Increasing use in industrial applications, backed by its environment-friendliness, and rise in popularity of specialty esters and natural esters, constitute the other factors propelling the market.



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