

## A Simple Method for Polyhydroxyalkanoate Recovery

### TECHNOLOGY DESCRIPTION

This technology is a method of using steam hydrolysis and PHA depolymerisation for chemical recycling and surface morphology modification.

### TECHNOLOGY FEATURES

This technology produces functional low molecular weight PHA which can be used for biomedical applications. This technology utilizes steam hydrolysis as polyhydroxyalkanoate (PHA) depolymerization method for chemical recycling and surface morphology modification. It is a two in one process, consisting of both hydrolysis for chemical recycling and surface modification of PHA. This process produces functional low molecular weight PHA for chemical recycling and also provides treatment for surface morphological modification to enhance biocompatibility.

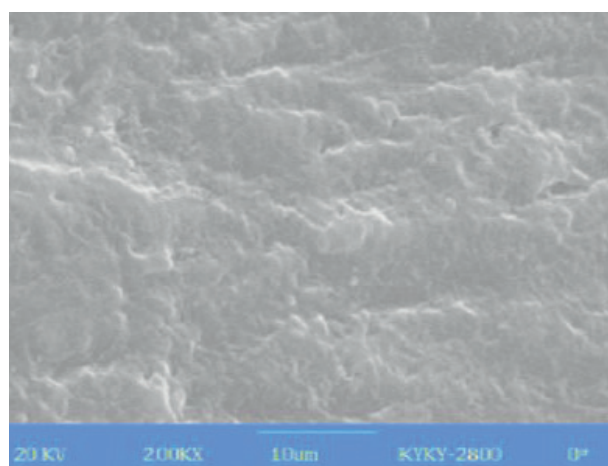
### ADVANTAGES

- Simple and easy method to recover polyhydroxyalkanoate
- Clean process – no impurities

### INDUSTRY OVERVIEW

#### Prospect: Biodegradable Plastic Manufacturers, Biomedical Industry

The global market for biodegradable plastics is expected to expand at a very optimistic CAGR of 9.9% within a forecast period from 2015 to 2023, in terms of revenue. This revenue is projected to reach US\$9.10 billion by the end of 2016 and US\$17.66 billion by the end of 2023. The biodegradable plastics market is segmented into five major applications, namely, packaging, fibers, agriculture, injection molding, and others. The demand for biodegradable plastics in injection molding application is expected to witness the fastest growth among all the applications. Europe is the leader in consumption of biodegradable plastics followed by North America. Rising consumer awareness towards biodegradable paper and plastics packaging products particularly in emerging economies including China, India, Malaysia and Thailand is anticipated to fuel the market growth from 2015 to 2022. By the end of 2023, starch-based biodegradable plastics as a product segment is expected to reach US\$6.36 billion, due to a growing use in the industries of medical, textiles, and packaging. Biodegradable packaging plays an important role in the packaging industry because of the ever increasing consumer awareness and importance of using eco-friendly, biodegradable packaging materials instead of conventional non-biodegradable ones. Biodegradable plastics are fast replacing the conventional non-biodegradable plastics used as raw materials for biodegradable plastic packaging products. Consumers are demanding for better features and convenience in packaging products. Besides new biodegradable packaging material development, increasing awareness of environmental issues, and the adoption of new regulatory requirements will be the key growth drivers for future biodegradable packaging business.



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