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Market development of kaneka biopolymer PHBH

Kenichiro Nishiza

Kaneka Belgium N.V., Belgium

Mainly due to its bio-based and biodegradable character, PHA (Polyhydroxyalkanoate) materials are gaining clear interests in the field of polymer industries. In this presentation a specific co-polymer of 3-hydroxybutyrate-co-3-hydroxyhexanoate ("PHBH"), is described as produced by Kaneka Corporation. PHBH is a 100% plant-based and biodegradable polymer to offer flexibility in films, heat resistance in solid products. While maintaining the key characteristics of polyolefin materials, the polymer can be converted to its compounds in a variable range from soft to hard. Moreover, the printability and heat-sealability are of high quality and suitable for biodegradable packaging. PHBH holds OK compost and OK compost HOME certifications, which guarantee biodegradation in an industrial and a home composting system and PHBH biodegrades under anaerobic conditions. It also meets the ASTM D7081 which is the standard specification of marine biodegradation. Kaneka has been gathering data of marine biodegradability, and it will be presented at the conference. These various biodegradabilities draw attention as a low environmental load material. For example, PHBH is tested as garbage bags for anaerobic digestion facilities. The employed raw materials are biomasses such as plant oils, which are renewable resources. Through kaneka's fermentation technology, the polymers are accumulated in the bodies of microorganisms and further refined and extracted. PHBH based materials are generally converted by standard polymer processing techniques such as injection moulding, blow moulding, etc. In addition, we would like to introduce several marine biodegradable applications which can contribute to reducing marine pollution by plastics.

Biography

Kenichiro Nishiza has completed his Master's degree of Synthetic Chemistry and Biological Chemistry from Kyoto University Graduate School of Engineering, and has joined Kaneka Corporation in 2005. He has been working at the Cooperate R&D of Kaneka in the research field of Reactive Polymer Processing from 2005 to 2011. Now, he is the Technical Service Specialist Biopolymer of Kaneka Belgium, and has been developing new PHA applications in European market.

Kenichiro.Nishiza@kaneka.be

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