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Toyobo to manufacture DuPont Biomaterials' biodegradable polymer using aluminum catalyst developed by Toyobo

Toyobo Co., Ltd. has been contracted to manufacture DuPont™ APEXA® biodegradable polymers developed by DuPont Industrial Biosciences, by using aluminum-based TOYOBO GS Catalyst®. Toyobo plans to start production of the products at its Iwakuni Production Center in Yamaguchi Prefecture in 2018.

1. Background

DuPont™ APEXA® biodegradable polymers were developed by DuPont to address problems with textile and packaging waste. DuPont has been working with Toyobo given its excellent polymerization and catalyst technologies as well as its production facility for producing DuPont™ APEXA®.

2. DuPont™ APEXA® biodegradable polymers made with TOYOBO GS Catalyst®

The product made from DuPont™ APEXA® biodegradable polymer can be degraded down to water and converted to carbon dioxide by microbes in appropriate industrial composting conditions. Compared with conventional degradable plastics such as polylactic acids and polybutylene succinate, DuPont™ APEXA® excels in durability and heat-resistance. It has good processability and practicability close to those of polyethylene terephthalate (PET) plastics. It helps reduce the emission of carbon dioxide compared to ordinary plastics which need to be incinerated.

TOYOBO GS Catalyst® is an aluminum catalyst Toyobo independently developed to copolymerize polyesters. It does not contain heavy metals, such as antimony, which is commonly used to manufacture ordinary PET plastics. This allows polymers made with TOYOBO GS Catalyst® to be not only easy to recycle but also eco-friendly because the compost will not be polluted by heavy metals after the material degrades.

3. Future strategies

DuPont™ APEXA® is growing in use across the global apparel market with brands looking to couple natural fibers with a biodegradable PET that adds performance characteristics while still maintaining an eco-friendly profile. Toyobo will contribute to expanding the use of eco-friendly polymers by promoting the use of APEXA® globally in collaboration with DuPont.



TOYOBO Iwakuni Production Center

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