



Toyobo signs sales contract with TERPHANE to market ECOSYAR® in Americas

Toyobo Co., Ltd. has agreed to entrust Terphane, LLC (U.S.) and Terphane Ltda. (Brazil), which are collectively referred as "TERPHANE", to sell Toyobo's ECOSYAR®, a transparent vapor-deposited high gas barrier film, in the Americas. TERPHANE manufactures and sells various specialty polyethylene terephthalate (PET) films in the Americas.

As demand for food increases with the growth of the world's population, high-performance packaging films are attracting attention to help reduce food loss, with their high gas barrier performance that can extend shelf-life. In particular, there is high demand for transparent high gas barrier films that allow people to see the contents and can be checked by a metal detector after packaging for securing food safety. The global market of such films is expanding at the rate of about 10 percent annually.

Toyobo's ECOSYAR® has a gas and moisture barrier over 100 times higher than ordinary packaging films. The product can contribute to maintaining food freshness and extending shelf-life.

In August 2017, Toyobo set up a joint company with PT Trias Sentosa, Tbk in Indonesia, which will strengthen the production capacity of ECOSYAR[®]. The joint company plans to start production of the product in November 2019. Through the tie-up with TERPHANE, which has a broad sales network in North, Central and South America, mainly the United States and Brazil, Toyobo will expand sales of ECOSYAR[®] and other high-performance packaging films globally.

<Outline of TERPHANE>

Company names: Terphane, LLC (U.S.) and Terphane Ltda. (Brazil)

Locations:

- U.S. headquarters: 2754 W. Park Dr., Bloomfield, NY 14469, USA

- Brazilian headquarters: Av. Engenheiro Luís Carlos Berrini, 1645 - Conj. 91 -

Brooklin Novo, São Paulo, SP 04571-011, Brazil

President: Jose Bosco Silveira

Business operations: Production and sales of PET packaging films.

■ Transparent, vapor-deposited high gas barrier film, "ECOSYAR®",

The product is made by depositing silica and alumina on a nylon or polyester film, making it a high-performance barrier film. Its gas barrier performance is about 100 times higher than ordinary packaging films.

It has the following advantages:

- 1) High gas and moisture barrier properties that may not be affected much by relative humidity. The product can be used for a wide range of food and nonfood products.
- 2) Flexible, yet maintains high barrier performance under and after stress
- 3) Colorless, transparent and chloride free. The thinner packaging reduces waste.



Transparent, vapor-deposited high gas barrier film "ECOSYAR®"

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