



DuPont Packaging & Industrial Polymers
4417 Lancaster Pike
Wilmington, DE 19805
302-992-4204 Tel
302-351-8831 Fax

Contact: Ellen Foley
302-992-4204
m-ellen.foley@usa.dupont.com

DuPont Introduces Biomax[®] TPS Renewably Sourced[™] Sheet and Resins
*Biomax[®] TPS Joins Growing Family of Innovative, Sustainable Packaging Solutions, Based on
Plantic Technologies Starch-Based Technology*

Wilmington, Del., April 24, 2008 – DuPont Packaging & Industrial Polymers today announced the introduction of Biomax[®] TPS, a renewably sourced thermoplastic starch for packaging applications. The offering consists of sheet stock that contains 85-90 percent renewably sourced content for thermoformed trays and articles, and resins for injection-molded parts and containers. This new offering for DuPont is being launched at InterPack 2008, in Düsseldorf, Germany.

As part of a recent alliance agreement between Plantic and DuPont, DuPont will now market Plantic[®] starch-based sheets and resins in various regions. This introduction supports the company's strategy for creating high performance packaging polymers with a renewable content of at least 20 percent by weight as verified by ASTM carbon dating. These products are designed to either meet or exceed the performance of equivalent petroleum-derived products and add to the growing DuPont suite of sustainable materials for the packaging industry.

“Our solutions comprise new and innovative approaches to reducing, removing and recycling packaging, as well as the development and introduction of modifiers and renewably sourced resins,” explains Shanna Moore, DuPont Packaging & Industrial Polymers. “Biomax[®] TPS sheets can help reduce the environmental footprint, as it is a renewably sourced and biodegradable solution delivering proven performance in thermoformed trays for food and other non-food articles. It offers brand owners and retailers the opportunity to replace traditional petroleum-based plastics with renewably sourced plastics, therefore reducing the burden on the earth's natural resources.”

Traditional plastics used in packaging deliver high performance in most applications, but use depletable petroleum resources as their primary feedstock. Biomax[®] TPS sheets contribute to a sustainable solution that provides high-performance plastic packaging performance, made with



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renewably sourced materials. In applications that are a good fit to its properties, it performs as well as polystyrene (PS) and polyvinyl chloride (PVC) in thermoformed parts, such as packaging trays and rigid containers for food and confectionary products; and in molded parts such as cosmetics and personal care products, outdoor lawn and garden products packaging, and other formed articles intended for short life and easy disposal. It can replace polyethylene terephthalate (PET) and polypropylene (PP) due to the variety of applications and uses.

Biomax[®] TPS is made from a high-amylose starch feedstock that is not genetically-modified. In sheet form, it is certified to EN 13432 and ASTM 6400 standards for home, soil, water and industrial composting and is biodegradable when contacted by water. It works especially well in tray applications with low-moisture, low water-activity foods such as chocolates or cookies. It is food contact approved in the United States and EU compliant for food contact. The performance attributes include inherent grease and oil resistance, which lends the product to thermoforming applications for greasy or fatty foods. It also forms a strong flavor and odor barrier. Because it is naturally anti-static and anti-dust attractive, Biomax[®] TPS can also be useful as a tray package for sensitive electronic components.

In injection molded parts, it is certified to EN13432 and BPI for industrial composting. It is a renewably sourced material substitute for articles that are intended for short-life, single-use applications and where avoiding collection and disposal is desired. These applications include lawn and garden products and other outdoor use products. Biomax[®] TPS sheet is offered in 7 gauge thicknesses and 4 colors. It is marketed as Biomax[®] TPS 2001 in North America, South America, and Japan. Custom colors may also be available. The product is also sealable, printable and laser etchable to facilitate packaging procedures.

Five injection molding resin grades will be available, initially a general-purpose grade and a high-flow grade (for thin wall parts). Three other grades; a stiff, engineering grade, and two water-resistant grades will be launched soon afterwards. The alliance between DuPont and Plantic[®], an Australian company specializing in starch-based biopolymers, was announced in September 2007. Biomax[®] is a family brand name which represents the DuPont Packaging & Industrial Polymers family of renewably sourced resins and modifiers of new biobased plastics. Biomax[®] Strong modifier, a toughener for bio-based biodegradable PLA, was the first product introduced under the Biomax[®] brand name, introduced in early 2007. Its adoption enhances



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PLA's high performance attributes, with the potential for downgauging in packaging material volume and further production efficiencies.

DuPont Packaging and Industrial Polymers is a world-class manufacturer of high-performance resins and films for a variety of packaging and industrial applications. Its best known ethylene copolymer products include Surlyn® resins for packaging and industrial applications, Bynel® coextrudable adhesives, Selar® PA amorphous polyamide barrier resins, Nucrel® acid copolymers, Elvax® EVA copolymers, Elvaloy®, Elvaloy AC®, Entira™ and Fusabond® modifiers.

DuPont is a science-based products and services company. Founded in 1802, DuPont puts science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere. Operating in more than 70 countries, DuPont offers a wide range of innovative products and services for markets including agriculture and food; building and construction; communications; and transportation.

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Photo: DuPont



Biomax® TPS is a thermoplastic starch based on renewable resources, which is available both as injection molding resins – among typical applications are pots and golf tees – and as sheets, which can be thermoformed, for example, to produce water degradable trays.