

April 28, 2010

Regarding the Development and Sales of a New High Melting Point Polyamide Resin Manufactured Using Biomass

Today, Toyobo Co., Ltd. concluded a business alliance agreement with Arkema of France for the production and sales of a new polyamide resin which has a high melting point and is manufactured using biomass materials. The two companies will now produce and sell this new polyamide resin worldwide.

The new polyamide resin has a high melting point, low water absorption properties, and is manufactured using biomass materials. Expected markets include electrical, electronics and automotive-related fields which require heat-resistance and dimensional stability.

1. Development Background

Conventional polyamide resins have been valued for their heat resistance, oil resistance, strength (mechanical characteristics) and other properties, and used in diverse fields. With global environmental problems, demand for polyamide resins manufactured using non-petroleum, biomass materials has been emerging in recent years. Polyamide resins made with biomass are already being sold on the market, and users are now seeking polyamide resins with a higher melting point.

2. Product Characteristics

(1) Use of Biomass

The new polyamide resin is manufactured utilizing biomass from the non-edible castor oil plant (*Ricinus communis*), a species in the Spurge family (*Euphorbiaceae*).

(2) High Melting Point

The new polyamide resin has a heat resistance of 250-315°C. Its melting point of 315°C is at the highest level among resins using biomass raw materials, and also at a high level compared to conventional petroleum-derived polyamide resins with high melting points. The new polyamide resin is expected to be adopted for a wide range of uses in

LEDs and other electrical and electronic parts and as a heat resistance material in automobile components.

(3) Low Water Absorption Properties

The water absorption coefficient of the new polyamide resin can be reduced to about one-third of that of conventional polyamide resins. For that reason, it can be applied to areas where polyamide resins could not previously be used because of changes in dimensions caused by water absorption.

3. Future Developments and Sales Plans

Toyobo has been involved in the manufacture and sales of polyamide resins with diverse properties, such as high heat resistance and high strength, while Arkema is the world leader of bio based polyamides and bio based monomers for polyamides. The two companies will work for the commercialization of the new polyamide resin which fuses Toyobo's polyamide resin manufacturing know-how with Arkema's strengths in monomer and polymer technologies.

Toyobo has positioned the new polyamide resin as a strategic new business for active expansion, and adopted an initial sales target of ¥5.0 billion.

Outline of Arkema.

- Company Name: Arkema
- Principal Address: 420 rue Estienne d'Orves, F-92705 Colombes Cedex, France
- Chairman & CEO : Thierry Le Hénaff
- Annual Sales (2009):4.4 billion euros
- No. of Employees: about 13,800
- Established: 2004
- Business Fields: Manufacturing and sales of vinyl products, industrial chemicals and performance products

For more information, contact:

Toyobo Public Relations Group

pr_g@toyobo.jp