



March 30, 2005

Mitsui Chemicals to Launch Thermoplastic Polyimide/Carbon Nanotube Nanocomposite

Already widely engaged in the manufacture and sale of thermoplastic polyimide, a super-engineering plastic which extremely excels in heat-resistance, abrasion resistance, cleanliness and moldability, Japan's Mitsui Chemicals, Inc. (MCI) has decided to launch a new grade of dust-reducing, high-antistatic nanocomposite consisting of thermoplastic polyimide and carbon nanotube by cooperative development with Hyperion Catalysis International, Inc., U.S.A. under the trade name AURUM™ CNT Grade, the company announced today.

MCI is the only manufacturer of thermoplastic polyimide in the world. Thermoplastic polyimide is used for applications such as automotive parts, aviation engine parts and the processing jigs for semiconductor manufacturing by leveraging its characteristics. The new AURUM™ CNT Grade will be commercially available in April this year with the projected annual sales of at least ¥300 million by Fiscal 2007.

The background of the launch of the AURUM™ CNT Grade, which is a newly added product line in the company's Functional Polymers business this time, is MCI's strategic focus on further expansion and growth in the Performance Materials sector. In the Performance Materials sector, Functional Polymers business has been pushing ahead with developing novel products and applications in order to play a leading role in shifting the company's portfolio further toward high-revenue, high-profitability businesses.

Among the applications for automotive parts, the processing jigs for semiconductor manufacturing as well as electrical/electronic parts, the super-engineering plastics with the addition of carbon black or carbon fiber are used as conductive materials (antistatic materials) for the applications which require high-antistatic characteristics against static electricity. The newly developed AURUM™ CNT Grade with carbon nanotube has dust-reducing characteristics in comparison with the conventional antistatic materials. Therefore, the new Grade is viewed with an expectation of applications such as the processing jigs for semiconductor manufacturing, where higher cleanliness is required.

Also, the new AURUM™ CNT Grade has the following characteristics:

- (1) Its electric conductivity can be controlled, which is not possible for the conventional antistatic materials.
- (2) Superior dispersibility of conductive additives in the polymer matrix, flowability and dimensional stability, which originate from the reduced amount of conductive additives.

Thus, among the application field of electrical/electronic parts, such as the parts for hard-disk drives and the jigs for hard-disk manufacturing, the new AURUM™ CNT Grade shows the promising deployment for a wide variety of new applications in addition to the current applications used for the existing antistatic materials.

MCI thereby intends to further accelerate new products and applications development in the field of Functional Polymers in order to foster the business as the mainstay of revenue toward expanding and growing the Performance Materials sector.

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