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Mitsui Chemicals to Turn High-performance Photocatalysts Into a Viable Business

Mitsui Chemicals, Inc. (MCI) today announced that it has started to develop markets for high-performance photocatalysts. MCI, a leader in catalysis science, especially in the field of olefins polymerization catalysts, has been providing the markets with catalysts for manufacturing various types of polymers.

<Summary of the New Business>

1. Product: High-performance photocatalysts
2. Technology: Proprietary inorganic nanotechnology
3. Schedule: Sales to be launched in fiscal 2007
4. Projected sales: ¥2.5 billion (fiscal 2012)

Photocatalysts are generally known for their photocatalytic decomposition and super-hydrophilic properties, which can be used for decomposition of dirtiness, deodorization, anti-bacteria and sterilization action, removal of harmful substances, defogging and dirtiness prevention of glass and other materials. Although photocatalysts are now beginning to be used in a wide range of fields, including air purifiers, exterior walls and construction materials for buildings, anti-bacterial and deodorizing fabrics and paper, and soil-resistant coating for automobiles, the requirement of its photocatalytic decomposition feature still insufficient for interior materials.

MCI's high-performance photocatalysts boast a unique structure developed using the company's inorganic nanotechnology acquired in catalyst science research. This structure yields an extremely strong photocatalytic decomposition property far exceeding that of existing photocatalysts. As a result, these photocatalysts react even to weak light such as fluorescent lighting and can decompose harmful substances and odor. Because they are extremely adsorbent, these photocatalysts can also adsorb and remove harmful substances and odor in unlighted environments. In addition, their high heat resistance promises future applications in tiles and ceramics. Finally, since these new photocatalysts can inhibit the decomposition of organic materials, they are also expected to be used in organic materials

such as films, sheets, and woven and non-woven fabrics.

MCI intends to exploit the properties of these new high-performance photocatalysts to promote their active use, particularly in the field of materials for interior spaces with limited lighting.

MCI plans to accelerate the development of new products and application to expand and develop the Performance Materials Sector.

For reference

<Product Features and Anticipated Applications>

Features	Anticipated Applications
Outstanding photocatalytic decomposition under fluorescent lighting	Interior materials (e.g. walls, ceilings, flooring, curtains, and carpets) for use in hotels, nursing homes, train stations, automobiles, buses, trains, airplanes, etc.
High adsorption (Capable of adsorbing and removing toxic substances in unlighted environments; photocatalytic decomposition rises with lighting levels).	Interior materials (e.g. walls, ceilings, flooring, curtains, and carpets) for use in hotels, nursing homes, train stations, automobiles, buses, trains, airplanes, etc.
Excellent heat resistance (Maintains a high level of photocatalytic decomposition even under high temperatures)	Tiles, ceramics, etc. Existing photocatalysts could not be applied to these materials unless cooled after being baked.
Inhibits decomposition of organic materials	Films, sheets, woven and non-woven fabric, and other plastic products. Existing photocatalysts broke down organic materials, necessitating the use of a protective layer between the photocatalyst and the material.