

S5-01

**Development of Recyclable Water-borne Coating System
and Its Application into Green & Sustainable Market**

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The functions of paint are to improve durability by protecting materials and to design pleasant life style by decorating surface. Coating is to apply paint on substrate surface by which organic solvent is evaporated and scattered paint is treated as industrial waste that are constitute big environmental impact. "Recyclable Water-borne Coating system" is zero emission type environmental friendly epoch-making coating system with which scattered paint can be recycle/reuse again.

S5-02

Development of the aqueous-coated photothermographic material

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As digitization is prevailing in the medical field, doctors strongly desire high quality photographic films for their diagnosis, which are applied for digital image. Mention environment, the photothermographic system has an

advantage of no waste solution, and a disadvantage of using enormous amount of organic solvent in the production. We succeeded in the drastic reduction of organic solvent with the aqueous-coated photothermographic film using the aqueous latex.

S5-03

**Development of Environmentally Friendly Heterogeneous Metal Catalysts
Using Inorganic Crystallines as Macroligands**

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The organic reactions mediated by solid surface come closest to an ideal simplified version of chemical processes. This presentation is focused on our recent topics in development of heterogeneous metal catalysts using inorganic crystallines as macroligands based on their unique properties, aiming at 'green' organic syntheses. The target reactions include selective oxidations and carbon-carbon bond forming reactions.

S5-04

Thermal Green Chemistry.

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Although environmental issues have assumed a high priority for the chemical industry since the 1980s, the manufacture of fine chemicals and pharmaceuticals still generates considerably more waste than product. New, efficient methods tend to be product-specific and so do not significantly reduce the extent of the overall problem. Hence, our research has concentrated on

generic, enabling technologies and methodologies for green organic synthesis¹. Thermolytic strategies have figured prominently and have resulted in new technology platforms with regard to equipment, reaction media and processes.

S5-05

Leaps of Innovation

Sustainability applied to chemicals manufacturing in the UK

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The redeployment of BP Chemicals' manufacturing capacity around Europe at fewer and more efficient sites in the 1990s sounded like trouble for some product areas. Uncertain futures loomed for vinyl acetate (VAM) and ethyl acetate production as their facilities at Baglan Bay in the UK and the Italian sites of Porto Maghera and Priollo were targeted for closure.

The solvents business unit had to make a choice: It could try to justify staying put, it could move production to one of the advantaged production sites, or it could choose to exit the Vinyl acetate and ethyl acetate businesses.