

# **RSC Speciality Chemicals Symposium 2009: Catalysts for Change**

## **Encapsulated Catalysts: Easier, Cleaner, Faster Process Chemistry**

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Transition metal-based catalysis is a key synthetic tool, contributing to an increasing proportion of processes in fine chemical and pharmaceutical manufacturing. Access to complex architectures in fewer steps can be provided by homogeneous catalysts under mild and selective conditions, whilst heterogeneous metal catalysts are routinely employed for reduction and oxidation transformations. The application of such catalysts at scale is not without drawbacks, however, which can include handling issues, 'one time catalyst use', lost metal value and troublesome contamination of product and plant.

The EnCat™ range of polymer encapsulated precious metal catalysts can address these significant issues. In particular, the resultant low level of metal leaching facilitates compliance with regulatory requirements in drug manufacture and avoids often expensive and complex purification operations. Incorporation into a polymer bead also allows for safe, easy to handle and re-useable hydrogenation catalysts which can be used in both batch and flow processes.

The presentation will provide an overview of the EnCat™ technology, with applications of Pd, Pt, Os and Ni EnCat™ catalysts highlighting opportunities for process improvement.