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Catalysis Today 24 (1995) 1

CATALYSIS TODAY

Foreword

The challenge for chemical industries is to be more and more competitive. To achieve this aim they have to discover new products or to make already known products with up to date technologies. This is why even the most sophisticated processes have to be continuously improved. In order for this to occur it is essential to bring together the interdisciplinary, theoretical and practical knowledge coming from chemistry, catalysis and chemical engineering specialists. Economic aspects should also not be neglected.

Some of us experienced such a challenge in the Unité Mixte CNRS-Rhône-Poulenc on the hydrogenation of adiponitrile. This reaction is carried out in a triphasic reactor, the gaseous, liquid and solid phases being respectively hydrogen, the Raney nickel catalyst particles and the liquid substrate and products. We thought it would be very fruitful if people who have devoted their research to similar issues could share their experience on "Catalysis in Multiphase Reactors". An ideal situation would have been if different aspects (chemistry, catalysis and chemical engineering) were presented on each reaction. However, every lecture or poster presented here has been prepared with the idea in mind that it could be a link in the chain.

The papers have been classified according to five topics:

(1) Kinetic modelling.
(2) Multiphase catalytic processes for the environment.
(3) Coupling of heat and mass transfer with kinetics in gas/liquid/solid processes.
(4) Catalysis with soluble complexes.
(5) Non-conventional technologies: control of the catalyst potential, photocatalysis, monolithic reactors.

These topics attracted the attention of 120 attendees. The majority of them came from European countries with a few others coming from the Far East and the United States. There was a good balance between academics and industrialists.

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