

RESEARCH ON CATALYSIS AT THE ORGANIC CHEMICAL TECHNOLOGY DEPARTMENT

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Research work on catalysis started in the second half of the forties, at the Department of Organic Chemical Technology of TUB. supervised by Prof. Z. Csürös, using metal catalysts for liquid phase hydrogenations. It was the first organized group in Hungary working in the field of catalysis.

The activity became more intense in the sixties and both fundamental and applied research work has been carried out for the Hungarian Fine Chemical Industry.

A survey about the activity and methods used are shown in Table 1 and they are illustrated by some selected papers presented below.

Table 1

Research Fields and Methods for Metal Catalysts at the Org. Chem. Technology Dept. of
Polytechnical Univ. Budapest

1. <i>SURFACE STRUCTURE</i>	3. <i>METAL-HYDROGEN</i>
1.1 Excess surface free energy (ΔF)	3.1 Bond strength/quantity (potentiodynamic studies)
1.2 Surface composition/phases (potentiodynamic studies)	3.2 TPTD
1.3 Scanning electron microscopy	3.3 Magnetic measurements
1.4 SIMS	3.4 Thermoelectric power
2. <i>BULK STRUCTURE</i>	4. <i>CONTROLLING HYDROGENATION PROCESSES</i>
2.1 Magnetic studies	4.1 In liquid phase
2.2 DTG	4.2 In gas phase
2.3 X-ray	
2.4 Small angle X-ray	
2.5 Electron probe	
X-ray microanalyser	
5. <i>APPLIED RESEARCH</i>	
Developing new catalysts (high activity and selectivity) and processes for catalytic hydrogenations	

As one of the most important results it should be mentioned that all the catalysts for the Hungarian Fine Chemical Industry are produced by using our licences.

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