

Introduction Part : Technology Scouting - A new strategy to support innovation

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Scientific Part : Reaction Engineering Aspects of Oxidation Catalysis from Industrial Point of View

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Oxidation reactions are the most important class of chemical transformations to gain added value in chemical industry. Capacities for over 600 Mio. t of chemical products directly produced by an oxidation reaction presently exist world wide. However, oxidation reactions are usually not performed under optimum chemical or catalytic conditions, but are strongly influenced by the usual exothermicity of the respective oxidation reaction. In the past, a bunch of technical solutions has been developed to handle the exothermicity, i.e. multi-tubular reactors, short contact time reactors, fluid bed reactors, etc. and still research is ongoing to improve existing technologies or develop new strategies. Aim of the lecture will be to explain the different concepts to apply the catalysts in the best reactor environment. Pro's and con's are discussed. New developments of new reactor types or solutions (micro reactor concepts, foam catalysts) are touched as well.

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