

Liquid-liquid-biphasic hydrosilylation in a continuous loop reactor: from ionic liquid solvent selection to a miniplant design

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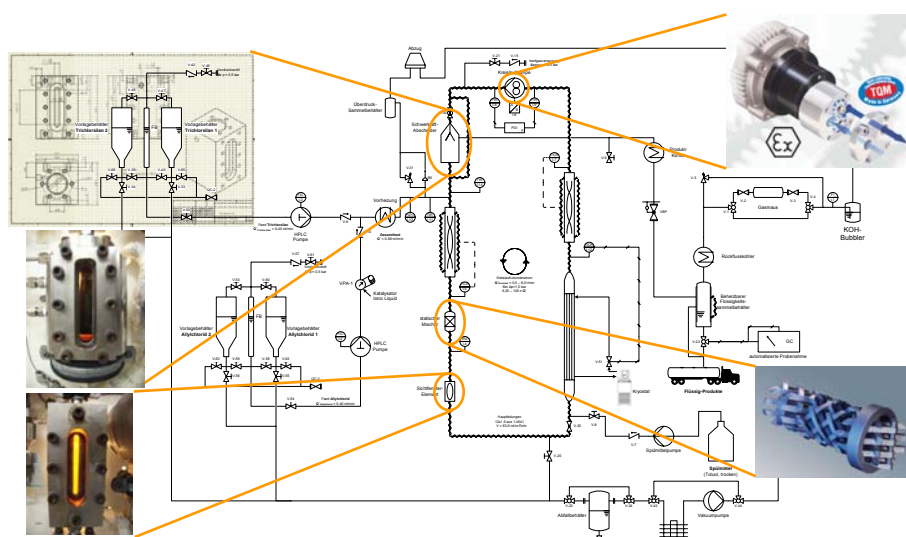
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Immobilisation of noble metal catalysts in liquid-liquids biphasic systems is an efficient way to enhance the feasibility and sustainability of classical homogeneously catalyzed reactions.

Like the Ruhrchemie-Rhone-Poulenc process was a major breakthrough for industrial hydroformylation using water as catalyst phase, ionic liquids could make a major improvement of the heterogenation of noble metal salts in hydrosilylation reactions. But ionic liquids should not only be considered as the solvent of the noble metal salts. Different solvation of the products (as well as reactants) in the ionic liquid and co-catalytic effects have been found to affect in a positive manner the outcome of the reaction (reactivity, selectivity, stability).^[1]

Our poster will present a process development for the hydrosilylation of allylchloride and trichlorosilane, from the selection of the ionic liquid catalyst phase to long-term studies in a 400 ml continuous-feed loop reactor.



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