

## API/cGMP Manufacturing

Development, Upscaling and Production of API in FDA-inspected cGMP equipment. ISO 9001 / 14001 Certification. SwissMedic Approval. Five Clean Rooms class 100'000.

## Organometallic and Cryogenic Chemistry

Grignards, Organolithium chemistry, Boronic acids, Organozinc chemistry, other Low-temperature reactions down to  $-90^{\circ}\text{C}$  in up to 2500 L Reactors.

## Rapid Process Development, Flawless Upscaling, and Economy of Scale-Production

Cooperation with Solvias for catalytic process development (> 700 chiral ligands). Swiss Precision in Upscaling. Availability of up to 10,000 L Reactors. Waste Water Treatment Plant, Offgas Treatment by Catalytic Oxidation and Biofilter Systems. Cryogenic and High-Pressure Equipment.

## Transition-Metal Catalysis

Homogeneous and heterogeneous Transition-Metal Catalysis. Special methods for Reduction of Platinum metal contents below 10 ppm levels. Suzuki-, Heck-, Kumada-, C,N- and other Couplings.

## Functional Polymers

Polycondensations, Polymer Modifications, Radical and Controlled Radical Polymerisations (Atom-Transfer Radical Polymerisations, ATRP) for High-Performance Polymers.

## High-Pressure Hydrogenations and Carbonylations

Hydrogenations and Carbonylations at up to 64 bar. Very high pH flexibility due to Inconel hydrogenation equipment up to 4000 L. Asymmetric hydrogenations.

## Solids Handling

Isolation, Handling and Drying Equipment for Solids in Hastelloy and Stainless Steel: Inverting filter Centrifuges, stirred Pressure filters, Filter press, Vacuum paddle dryers, Nutche filter dryers, Fluidized bed dryer, Spin flash dryer, Spray dryer, Vacuum tray dryers, Air jet mill.

## Heterocyclic, Hazardous and Malodorous Chemistry

Hydrazine Hydrate, Cyanides, Dialkylsulfates, Nitrations, Alkylolithiums, Hydrogen Peroxide, Alkyl- and Arylthiols, Nitromethane, Bromine, ...

## Enzymatic Chemistry and Enantiomerically Pure Products

Cooperation with evocatal. Available Enzyme Families: Alcohol Dehydrogenases, Transaminases, Lipases/Esterases, Hydroxynitrile Lyases, C,C Coupling Enzymes, ...