

Tools and Equipment for Process Development



Ein Unternehmen der
LANXESS
Gruppe

saltigo
customized competence

History | Saltigo | Service | Technologies | Development | Manufacturing | Quality | What's new | Additional Info

Process Development | Analytical Development

PD Equipment | Analytical Equipment

Tools for Optimization of Process Parameters

- Leverkusen

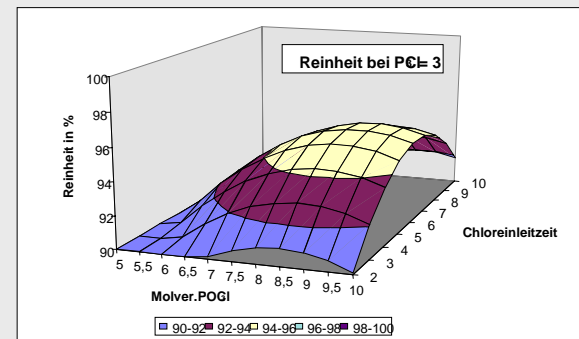
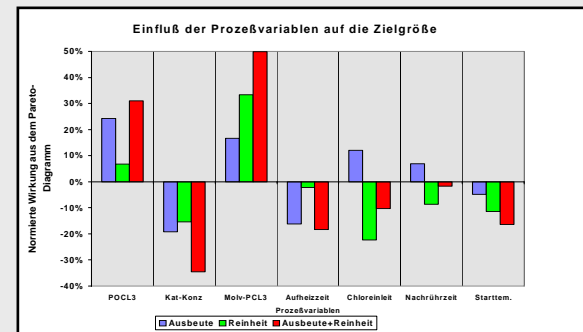
FlexyLab

- Independent control of temperature, dosage, stirring speed
- Computerized collection of reaction data



DoE

- Design of experiments with statistical methods



Tools for Optimization of Process Parameters

- Leverkusen

KASPAR for phosgenation

- Independent control of temperature, dosage, stirring speed
- Computerized collection of reaction data



Reaction calorimetry

- Kinetics and safety data evaluation with RC 1
- Differential scanning calorimetry – DSC



Process Engineering Laboratory - Leverkusen

Determination of data required for process development, scale-up and trouble shooting

Available equipment:

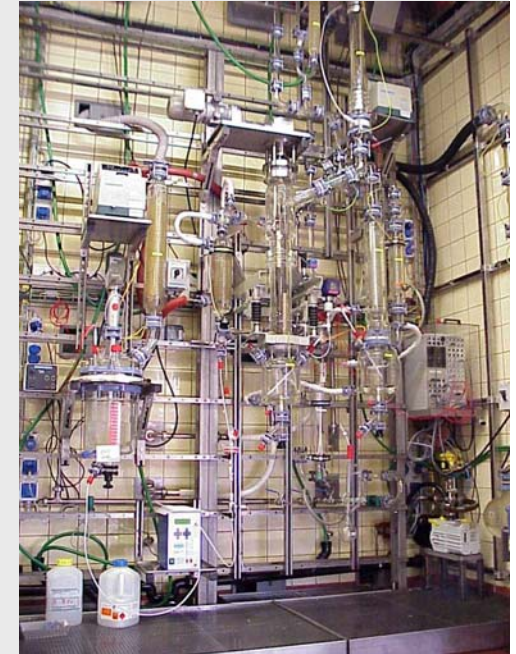
- Rheometer
- Conductometer
- Filter dryer
- Mixer test stand
- Various distillation equipment
- Short-path distillation
- Thin-film distillation
- Determination of densities
- Phase equilibria (liquid-liquid, liquid-gas)



Scale-up Laboratories - Leverkusen

Important steps prior the transfer to production equipment

- Confirmation of optimized process conditions
- Screening of process parameters
- Determination of scale-up effects
- Simulating large scale procedures e.g. stirring, filtration
- Gathering technical process information
- Small-scale manufacturing (up to ~150kg)



Scale-up Laboratories - Leverkusen

- **Kilo lab**
 - 10-25 l glass reactors
 - filter, drying unit, distillations
 - -15°C up to 200°C
- **Hydrogenations and pressure reactions**
 - 0,3 – 120 l autoclaves
 - -20°C up to 300°C, up to 300 bar
 - handling of HF, HCN, CO, phosgene
- **Scale-up and small-scale manufacturing**
 - 40-400 l vessels (hastelloy, stainless steel, glass lined)
 - filter, drying unit, distillations
 - -15°C up to 200°C, up to 16 bar
 - handling of HF, HCN, CO, phosgene
- **Mini plants**



Process Development Labs - Redmond

Fast and flexible process development for early clinical stage projects



Well equipped and modern laboratory

- 10 bench-height hoods + 1 walk-in kilo hood
- Ability to process up to 20 l in glassware
- HEL hazards evaluation reactor
- Multiple HPLCs
- HPLC/MS



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Case Studies | Plant 1 - 4 | Plant 5 - ZeTO | Plant 5 - API Unit | Plant 5 - SMB | **Redmond** | HSE |