



OUR TARGETS: YOUR SAFETY, COST, QUALITY, ECO IMPACT IMPROVMENTS

NiTech Solutions' **DN15** continuous oscillatory baffled crystalliser/reactor (COBC/R) is available for testing your chemistries and crystallisations at MEPI in Toulouse, France.

We offer short-term feasibility and optimisation studies under full confidentiality on commercial innovation reactions, crystallisation, isolation, formulation and in-line analysis.

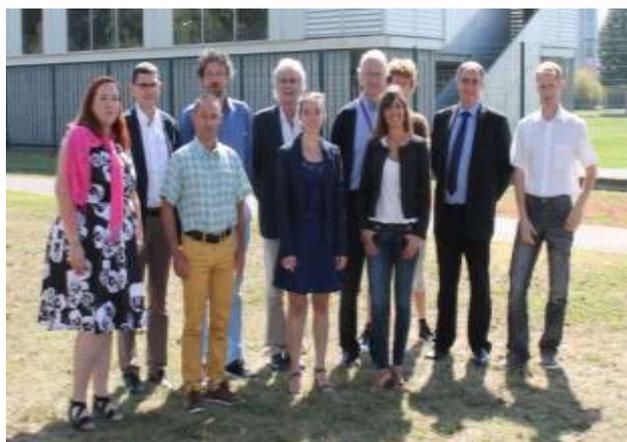


How can we help you?

Areas of Interest are:

- Improve yields/selectivity (eg enantiomers ratio);
- Control strong exothermic reactions;
- Good mixing necessary (including formulations, extractions);
- Handling unstable intermediates;
- Dealing with hazardous chemicals (Free your mind!);
- Work in easier temperature range (cryogenic reactions) or higher temperature to speed up; reaction (small residence time);
- Fast heating or cooling down;
- Reduction of reagent excess, diluted processes;
- Avoid solvent use (distillation);
- Regulated environment (FDA driven),

Ready to assist: the team at MEPI



Gain Better Economics

Average expected savings

Capex reduction up to 40%

Opex reduction up to 20%

Energy reduction up to 30%

Solvent reduction up to 100%

Footprint reduction up to 50%

Chemistries of interest:

- ❖ Organometallic (synthesis and reaction);
 - ❖ Nitrations (mono, di...; catalysts);
 - ❖ Amine deprotection;
 - ❖ Hydrazine synthesis;
 - ❖ Electrophilic and nucleophilic additions & substitutions;
 - ❖ Oxidations (H₂O₂, NaOCl ... HOF);
 - ❖ Low-temperature reactions;
 - ❖ Polymerisations;
 - ❖ Biocatalysed reactions;
 - ❖ Gas reactions (F₂, HCl, H₂ ...);
 - ❖ NaN₃ and S chemistry;
 - ❖ New flow catalysis;
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- ❖ Photochemistry;
 - ❖ Microwave-like heating etc;
 - ❖ Epichlorohydrin;
 - ❖ Ionic liquids;
 - ❖ Effluent treatment;
 - ❖ Isolations;
 - ❖ Formulations;
 - ❖ Emulsions;
 - ❖ Crystallisations.

Liquid
Liquid/Liquid
Liquid/Gas
Liquid/Liquid/Gas
Solid/Liquid
Solid/Liquid/Gas
Anhydrous medium
Viscous media
Solid generation



A LARGE RANGE OF INNOVATIVE TECHNOLOGIES

Synthesis: micro, meso, super meso HEX reactors, reactive extrusion, static mixers

COBR, spinning disc, Taylor Couette, Coflore

Separation: thin film evaporator, centrifugator, membrane, continuous crystallisation, sonocrystallisation

Alternative chemistry: sonochemistry, microwaves, supercritical fluids, **photochemistry, online spectroscopy (Raman, UV, IR)**

Materials: glass, **SiC**, Hastelloy, stainless steel, titanium, polymers

Media: mono-, bi-, triphasic, liquid, gas, solid, **high-viscosity products, (solid/solid)**

Engineering: knowledge in milli plants, setup, design and operation

CONTACT: Laurent PICHON

Email: l.pichon@mepi.fr **Tel:** +33 (0)6 73 99 95 31 www.mepi.fr

Plateforme ARIANEGROUP- Chemin de la Loge, CS 54411 - F-31405 Toulouse Cedex 4, France