MACSEN LABS

APIs • Specialty & Fine Chemicals • Dyes

Custom Synthesis and Contract Research

State-of-the-art R&D Facility equipped with the latest equipment for Organic & Inorganic Synthesis and Analysis

Comprehensive Custom Synthesis Solutions

- Expertise in synthesizing **organic and inorganic compounds** from lab to plant scale as per customer requirements
- Team of talented scientists capable in **developing novel routes of synthesis** along with IP strategy
- Proficiency in screening **patent databases** for non-infringing synthesis route
- Focus on **cost-effective and eco-friendly** process development
- Access to retro synthesis softwares, **Reaxys and SciFinder** for fast and efficient screening of synthesis routes
- Development and validation of accurate, **precise and robust analytical methods** for analysis of synthesized compounds
- In house analytical instruments like **HPLCs, LC-MS, LS-MS/MS, GC-MS/MS, ICP-OES, ICP-MS, FTIR, UV Spectro**
- Full molecule characterization by **NMR, XRD, DSC, CHNSO**

Our Infrastructure

Infrastructure in R&D or Gram Scale Lab

- Bench top and Walk-in fume hoods
- All types of reaction assemblies and apparatus in glass
- S.S 316L 2-litre autoclave for high-pressure reactions and hydrogenation
- Rotary evaporators, Vacuum dryers, ovens, benchtop centrifuge, high vacuum diaphragm pumps, magnetic stirrer, overhead stirrer
- All utilities like vacuum, nitrogen, chilled water
- For impurity/ product isolation: column chromatography (combi flash) & preparative HPLC







Infrastructure in Kilo Lab

- Complete reaction assemblies in glass from 50.0 litre till 300.0 litre vessel capacity
- Equipment like fractional distillation, vacuum distillation, pressure reactor (for hydrogenation), crystallizer, solvent recovery plant & phase separator
- All utilities like vacuum, nitrogen, chiller, steam, thermic fluid
- Product isolation equipment like centrifuge & vacuum nutsche
- Vacuum dryer & tray dryer

Infrastructure at Plant scale

- Reaction vessels in S.S 316L & GLRs up to 500 to 5000 litre
- All utilities like vacuum, nitrogen, air, steam, chiller, thermic fluid
- Product isolation equipment like centrifuge, nutsche filter, ANFD
- Vacuum dryer, tray dryer, fluid bed dryer, scrubber, sparkler filter
- Chemicals store, finished goods store, controlled area for finished goods, fractional distillation unit, vacuum distillation unit, RO water plant, AHU system, vacuum system

Pilot – Kilo Scale







Ton Scale







Ton Scale







Reaction Capabilities

- Cyclisation Reaction
- Reduction Reaction
- Oxidation Reaction
- Condensation Reaction
- Halogenation Reaction like chlorination, bromination
- Protection De-protection Reaction
- Nitration Reaction

- Triaryl formation Reaction
- Coupling Reaction
- Chiral Synthesis
- Fractional Distillation: Using Vacuum and without Vacuum
- Development of Purification Methods
- Precious metal recovery

What makes us stand apart ?



Quick Product Development



Cost Optimization



Efficient Purchase Mechanism



Optimized way of functioning



Fast Response



High-class services at much lower costs than other organizations



Non-disclosure & Confidentiality agreements

Units under Macsen Group

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MACSEN LABORATORIES

MACSEN DRUGS

MACSEN FINE CHEM

MACSEN CHEM LLC

MACSEN ENERGY

Thank You!

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