

*We Set the Standard in
Small Molecule Development*



Small Molecules & Intermediates

Girindus' chemical process R & D, scale-up and production facilities are focused on the manufacture of advanced intermediates and APIs. Our experienced process development teams can scale up processes to meet all requirements, from lab to commercial scale. Our state-of-the-art cGMP manufacturing site in Cincinnati, Ohio, was FDA inspected. We received no 483s and no objectionable findings.

Our state-of-the-art plant focuses on flexibility and speed and is suited for the preparation of grams up to 20 kg of APIs. We operate both small-scale synthesis and kg laboratories, an integrated pilot plant facility with computer monitored reactors, and extensive equipment for downstream processing, including preparative HPLC.

Special Technologies

Girindus practices a wide range of complex, challenging chemistries at industrial scale.

Low-temperature chemistry

Our cryogenic unit enables chemistry at temperatures as low as -80°C . This allows us to execute transformations with a high selectivity as well as a variety of organometallic reactions including butyl lithium, lithium diisopropylamide, lithium hexamethyldisilazane, lithium aluminum hydride and other complex hydrides.

Hazardous chemistry

Girindus can handle hazardous and highly reactive reagents/reactions. We have established strict professional safety disciplines and facility configurations to perform such chemistry at large scale.

Capabilities & Services



Development Facilities

- Five modern organic synthesis labs for R & D and early chemical development work
- Five cGMP kg scale labs
- cGMP pilot plant, up to 200 L reactors
- High-pressure hydrogenation, up to 150 bar
- Temperature range from -80° C to +150° C
- Licensed radiochemistry facility

cGMP Pilot Plant

Reactors

- -80° C to +150° C and 0.03 to 10 bar
- 1 x 200 L glass-lined reactor
- 2 x 120 L glass-lined reactor
- 2 x 120 L Hastelloy reactors
- 2 x 80 L glass-lined reactors
- 1 x 40 L Hastelloy reactor

Solids Handling

- Nutsche filters and centrifuges
- Classified drying and packaging areas

Product Purification

- Prep medium-pressure chromatography
- Wiped-film distillation capability

Chemical Reactions

- Aldol condensation
- Alkylation
- Amination/Amidation
- Asymmetric synthesis
- Borane chemistry
- Chloromethyl-insertion
- Coupling reactions (Suzuki, Buchwald, Heck)
- Cyanation
- Decarboxylation
- Diels-Alder
- Enzyme catalysis
- Friedel-Crafts acylation/alkylation
- Grignard
- High-temperature [+150° C]
- Halogenation
- Heterocyclic chemistry
- Hydride reduction
- Hydrogenation
- Low-temperature chemistry [-80° C]
- Nitration
- Optical resolution
- Organometallic chemistry
- Oxidation
- Oximation
- Pyrolysis
- Rearrangements
- Reduction
- Reductive amination