

Particle Engineering

Research, Development and Commercial Scale Supply

Pre-clinical Solubility & Bioavailability Enhancement

- Screening method: Quenching and Film Casting
- Processing Solid Dispersions:
Spray Drying, Melt Extrusion, Spray Congealing and
Electro Spinning
- Analytical Solid State Testing: mDSC, XRPD, FTIR
- Stability Testing at different Temperatures and
Relative Humidities
- In Vitro Dissolution Testing
- Final Dosage as powder, tablet or capsule, by using
different formulation technologies
 - High Shear Wet Granulation
 - Fluid Bed-Dryer-Coater-Granulator
 - Vacuum Dryer
 - Extruder
 - Spheroniser
 - Tablet Press
 - Tablet/Capsule Coater
 - Capsule Filling



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Micronization

- Grams to Tons
- Over 200 commercial products handled annually
- Experience with over 1,000 different products
- Containment systems up to 0.2 µg/m³
- Jet-MCA® (Mechano Chemical Activation)
- Capacity greater than 1,000 MT/year

Formulation Spray Drying Solutions

- Grams to Tons
- Ideal for Temperature Sensitive Products
- Aqueous and Solvent systems
- Containment systems up to 1 µg/m³
- Solid Dispersions
- Amorphous Powders
- Powders for Inhalation
- Lipo-Technology

Bulk Spray Drying Solutions

- Solid dispersion technology
- Improvement of API properties
- Oily API to Powder
- Orally disintegrating tablet system - F-MELT® system
- Capacity greater than 2,000 MT/year

Nano-emulsions

Examples of past successes:

- Fish Oil
- Conjugated Linoleic Acid
- Boswellia Serrata

Nanoparticles

- with Supercritical Fluid Precipitations
- with Nanonizer®
- with HGCP® technology

Other Services

- Roll Compaction
- Briquetting
- Blending
- Mechanical classification
- Mechanical pulverization

