



#### **Process Research and Development**

- Route scouting/design and evaluation
- Phase appropriate process development and optimization
- Process safety and engineering
- Specialty technologies: biocatalysis and flow chemistry

## **Material Science**

- Polymorph and salt screening
- Solid state characterization and pre-formulation services
- Crystallization process development

# nonGMP/cGMP Manufacturing (API, RSM and Intermediate)

- Capacity: 430 reactors globally ranging 20 to 12,500 L, -80 to 150°C range
- Hydrogenation, cryogenic, carbon monoxide, use of headspace oxygen
- High potency capability for cGMP manufacture
- Milling

# **Quality Control, Quality Assurance and Regulatory Affairs**

- Method development and validation
- Impurity profiling and forced degradation studies, mutagenic impurity quantitation
- Non-GMP and cGMP release and ICH stability studies to support filing
- Global regulatory submission

Pharmaron is a premier R&D and commercial service provider for the pharmaceutical, biotech and life science industries that offers a broad spectrum of research, development and manufacturing service capabilities throughout the entire drug discovery, preclinical, clinical development and commercialization.



Manufacturing

& Control





Laboratory Services Clinical Development Biologics & CGT

**Regulatory Approved** FDA, EMA, MHRA, PMDA, NMPA

**Facilities** US • UK • China

GMP Manufacturing





# Pharmaron's End-to-end CMC Platform

# **Manufacturing Facilities**



API Process Development, Analytical Development & Process Safety

**Material Science** 

**API Manufacturing** 

Preformulation & Preclinical



Product Formulation & Analytical Development



**Drug Product Manufacturing** 



Regulatory Support & Consultation

### China

# **United States**

OCH<sub>2</sub>

#### Beijing

- API cGMP kilo labs
- High potency cGMP lab
- Reactor size: Up to 300 L
- Product Development & GMP Manufacture (Oral Solids)
- Batch size: Up to 80 kg

## Shaoxing

- Clinical and Commercial API Manufacturing
- Reactor size: Up to 12,500L

## Tianjin

- API cGMP manufacturing plant
- Reactor size: Up to 8,000 L

### Ningbo

- API cGMP pilot plant
- Reactor size: Up to 500 L
- Product Development & GMP Manufacture (Oral Solids)
- Batch size: Up to 140 kg

- Clinical and Commercial API
- Manufacturing
- Reactor size: Up to 7,600 L

# **United Kingdom**

# Hoddesdon

- API cGMP pilot plant
- Reactor size: Up to 1,000 L
- Product Development & GMP Manufacture (Oral Solids)
- Batch size: Up to 15 kg

# Cramlington

- API Commercial Manufacturing
- Reactor size: Up to 10,000 L

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