



## Parenteral Drug Delivery

### From Concept to Commercialization. We Deliver!

For more than 20 years, the CDMO division of Lubrizol Life Science Health has been a leading contract development and manufacturing organization (CDMO), providing customers with drug product development and manufacturing services with the ultimate goal of creating solutions that improve patient outcomes.

Staffed by industry experts, we offer drug product formulation and manufacturing expertise, a comprehensive suite of supporting services, and an array of standard and proprietary technologies. We specialize in the ability to deal with poorly water soluble and highly potent compounds under GxPs, in both sterile and non-sterile environments.

Located in Bethlehem, PA, the development and manufacturing facilities are side by side to offer customers a seamless flow from development through manufacturing. Today, our clients include over half of the leading pharmaceutical and biotech companies, governments, foundations, universities, and start-ups.

#### Services Include:

- Pre-formulation and formulation
- Analytical methods development and validation
- ICH-compliant stability testing
- Quality/regulatory CMC support
- GMP clinical trial and commercial drug product manufacturing

**Parenteral Drug Delivery** - The CDMO division of Lubrizol Life Science Health has developed formulations for all routes of parenteral administration, and most of our development programs involve parenteral dosage forms across a variety of formulation technologies. We are strong in the basics and experts in the complex. While we work on simple solutions and powders, we are best known for more challenging formulations such as bioabsorbable depot injections. Our formulation team is complemented by a seasoned quality department and a best-in-class analytical team. Whether you are developing a generic or formulating a new chemical entity, we will apply the right technology to achieve your goals and enable scale-up for GMP production.

## Capabilities Snapshot:

### APIs

- Small molecules
- Biologics
- Controlled substances (Sch. I - V)
- Highly potent APIs (HPAPIs)

### Product Types

- Sterile liquids and powders
- Suspensions and solutions
- Microparticle and gel depots
- Nanosuspensions and emulsions
- Polymeric implants

### Containers

- Vials
- Syringes
- Cartridges
- Bottles

### Analytical Services

- Method development and validation
- *In vitro* drug elution testing
- ICH-compliant stability programs

We are uniquely positioned to transfer in proprietary or academic technologies/ processes and bring them into GMP production.

### Services & Technologies

- Sterile liquid and powder filling
- Lyophilization
- Nanomilling
- Homogenization, microfluidization, tangential flow filtration
- Spray drying
- Hot melt extrusion
- Injection molding
- LyoCells®
- SATx™

### Facility adaptable for

- Dual chamber devices
- Aseptic powder filling

For more information, visit [lubrizolcdmo.com](http://lubrizolcdmo.com) or call us toll free at +1 610-861-4701.

