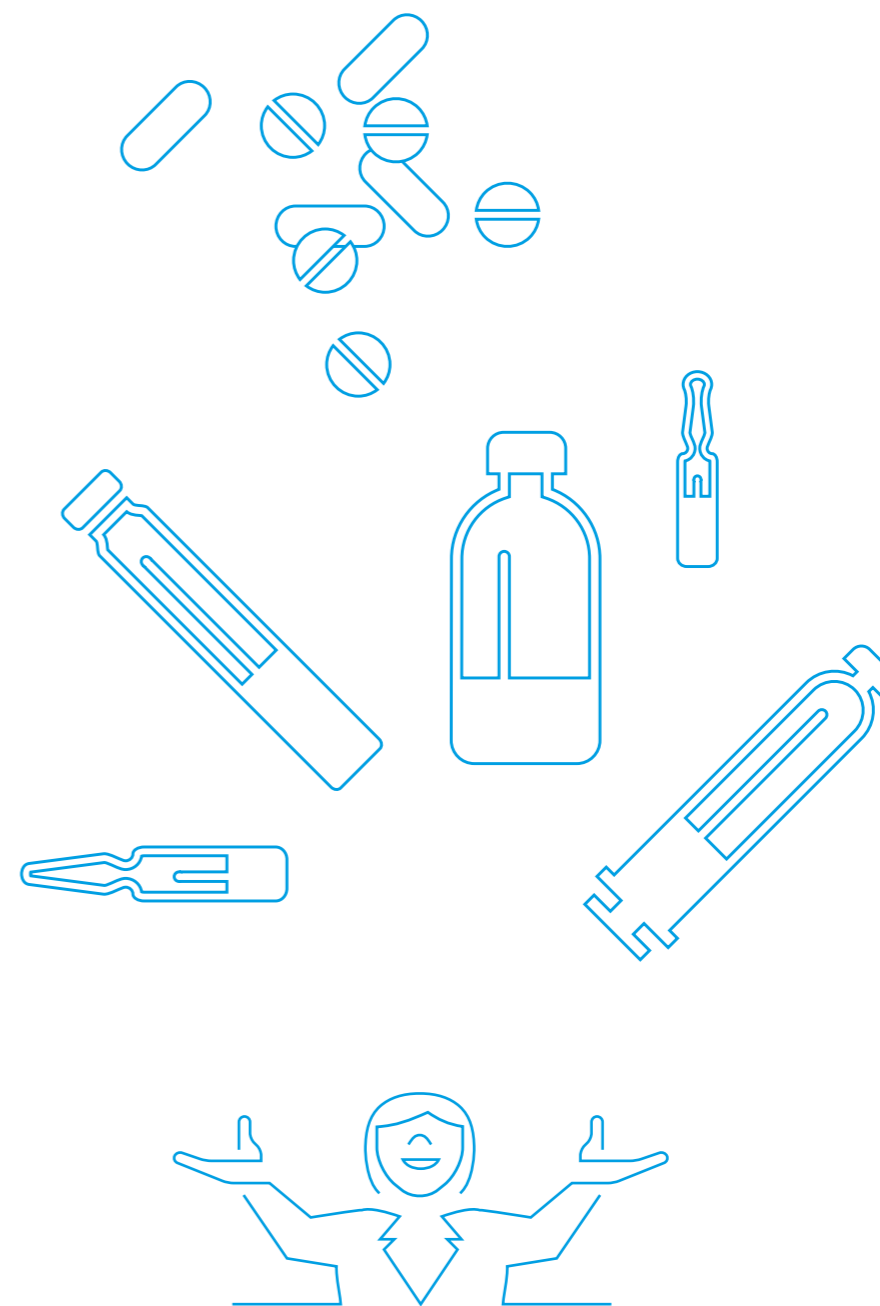


Packaging

Dosage Forms & Services





Packaging at CordenPharma: CordenPharma is an internationally approved expert in contract manufacturing and packaging of many different dosage forms. Various primary and secondary packaging technologies are available across CordenPharma's network of facilities through-

out Europe and the US. Customer satisfaction is our primary objective, from early-stage feasibility to commercial supply in multiple markets worldwide, including the expertise and specific quality requirements needed for packaging in the Japanese market.

Non-Sterile Dosage Forms

The CordenPharma facilities in Germany, Portugal and Switzerland offer specialized capabilities in primary packaging solutions for oral solid, non-sterile liquid, and semi-solid dosage forms ranging from standard packs to specialized packaging, e.g. multi-product blisters and packaging at low humidity.



Oral Solid Dosage (OSD) Forms

Our state-of-the-art equipment and specialized packaging technologies for oral solid dosage forms (tablets, capsules, powders, and granules) include:

- Highly potent facility for tablets & capsules
- Primary & secondary packaging
- Automated blister packaging lines (PVC, PVDC, Alu/Alu, Aclar)
- De-blistering equipment
- Automated bottle packaging lines
- Automated sachet filling lines
- Moisture sensitive products (< 20% RH)
- Unit dose packs (with or without cross perforation, variable data printing)
- Online labeling, documentation & tracing of vignettes
- Inkjet printing
- Tamper evident blister packing
- All types of secondary packaging materials feasible
- Serialization & aggregation



Non-Sterile Specialty Dosage Forms

Our equipment and specialized packaging technologies for non-sterile liquid and semi-solid dosage forms (oral liquids, suspensions, drops, sprays and rectal solutions/suppositories) include:

- Primary & secondary packaging
- Automated bottle filling lines (glass with screw top, dropper, or spray closures)
- Automated suppository filling line
- Automated enema filling line
- Aluminum tube filling line
- Online labeling, documentation & tracing of vignettes
- Inkjet printing
- Tamper evident packing
- All types of secondary packaging materials feasible
- Serialization & aggregation



Technology / Capability	Plankstadt (DE)	Fribourg (CH)	Lisbon (PT)	Ettingen (CH)
Packaging				
→ Bottles - OSD		●	●	
→ Blisters	●	●	●	●
→ Sachets			●	
→ Bottles - Liquids (incl. drops, sprays)		●	●	●
→ Rectal (enemas, suppositories)				●



Logistics & Distribution

CordenPharma provides modern, highly-flexible warehouses and distribution centers for all your pharma-logistics needs. In addition to ensuring that all domestic shipping activities run smoothly, we arrange exports – including all customs formalities – within the United States, Europe and worldwide (over 70 countries served).

CordenPharma is experienced at managing all transports (including hazardous materials) by road, air and sea, including temperature-controlled tracking and cold temperature supply chain.

Sterile Injectables

CordenPharma Caponago (IT) offers a broad spectrum of packaging services for sterile injectable drug products. We provide both terminal sterilization and aseptic filling technologies for Pre-Filled Syringes (PFS), vials, ampoules, cartridges, and lyophilized vials, with a wide range of filling volumes including the capability for combination products.



- Sampling area for low OEL compounds (Plankstadt, DE)
- Multiple high bay warehouses at each site
- Temperature and humidity controlled (< 25°C / 35-60% RH)
- Cold storage capacity
- Material control via barcode
- Warehouse management using SAP-System
- Handling & execution of all export and distribution activities
- Dangerous goods handling
- Extensive experience in supplying both large and small markets
- Handling of all necessary custom declarations

Aseptic Fill & Finish	Ampoules	Vials	PFS	Cartridges
Sterile Liquids (Solution)		●	●	●
Sterile Liquids (Lyophilized)		●		

Terminal Sterilization	Ampoules	Vials	PFS	Cartridges
Solution	●	●		●
Emulsion	●	●		●
Suspension	●	●		●



Flexibility & Quality

The high capability and flexible capacity adjustment of the packaging lines at CordenPharma's packaging sites guarantee maximum efficiency, quality, and speed in processing, from initial design to the delivery of the finished folding box. Our broad experience, professional expertise, and modern high-performance technology also ensure maximum safety. As such we provide:



- Implementation of new customer requirements with short lead-times, well ahead of regulatory requests (e.g. pack serialization)
- Pack serialization / unique carton identification including data transfer to customer database in place
- 2D Matrix Code or aggregation per country requirements to ensure security
- Flexibility to accommodate small products by off-line or roll-to-roll printing with Minimum Order Quantity < 500 packs
- Flexibility to install specific packaging equipment upon customers' requests

Packaging Capacity

Our extensive packaging capacity at CordenPharma consists of:

- More than 600 variants
- Current annual capacity at each site based on a 3-shift / 7 day operation (see table below)

Site	Packaging line	Units (millions)
CordenPharma Ettingen, CH	→ Suppositories	60
	→ Enema bottles	10
	→ Glass bottles	1
	→ Ear drops	8.5
CordenPharma Plankstadt, DE	→ Blisters	240
	→ Blisters	256
CordenPharma Lisbon, PT	→ Bottles	183
	→ Sachets	126
	→ Ointments	1.5
	→ Drops	5.6
CordenPharma Fribourg, CH	→ Blisters	45.5
	→ Bottles	3
	→ Syrup	3.5
CordenPharma Caponago, IT	→ Drops	8
	→ Ampoules	22
	→ PFS	20
	→ Vials	100





Our Manufacturing Sites

Manufacturing Sites	Products	Services
<ul style="list-style-type: none"> CordenPharma Caponago, IT 	Injectable Drug Products	<ul style="list-style-type: none"> → Injectable Drug Products → Fill & Finish → LNP Formulation → Aseptic & Terminal Sterilization
<ul style="list-style-type: none"> CordenPharma Plankstadt, DE 	Oral Solid Dosage Drug Products	<ul style="list-style-type: none"> → Highly Potent Oral Solid Dosage Forms → Blister Packaging → Early Phase Formulation Development Platform for Low Solubility APIs
<ul style="list-style-type: none"> CordenPharma Fribourg, CH 	Oral Solid Dosage Drug Products	<ul style="list-style-type: none"> → Oral Solid Dosage Forms → Bottle & Blister Packaging
<ul style="list-style-type: none"> CordenPharma Lisbon, PT 	Oral Solid Dosage Drug Products	<ul style="list-style-type: none"> → Oral Solid Dosage Forms → Bottle & Blister Packaging → High-Speed Automated Sachet Filling Lines
<ul style="list-style-type: none"> CordenPharma Etingen, CH 	Specialty Dosage Drug Products	<ul style="list-style-type: none"> → Specialty Dosage Forms → Filling Lines Non-Sterile Liquids, Drops, Enemas and Suppositories

CordenPharma

International

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Peptides



Lipids &
Carbohydrates



Highly Potent
& Oncology



Injectables



Small Molecules



Oligonucleotides