



# Dispersed Systems

## *Emulsions, Liposomes & Suspension*

Fresenius Kabi has decades of experience in developing and manufacturing emulsions for parenteral nutrition and as carriers for drug products. Recently, we have extended our manufacturing capacity for emulsions by installing new state-of-the-art equipment with the ability to process high-potency APIs. Besides emulsions, we offer services for other dispersed systems such as liposomal products. Both, emulsions and liposomes are made with phospholipids extracted and purified at Fresenius Kabi's plant in Brunna, Sweden. As an aseptic competence center, Fresenius Kabi Austria, Plant Graz also provides you with new on-site technology for contract manufacturing suspensions in different packaging materials.

### Emulsion - New Capacities ● ● ● ●

- Vast experience in emulsion formulation and technology
- New preparation unit for processing of high-potency compounds in a weighing isolator
- Oxygen protection in the entire process including the weighing isolator
- Flexible batch sizes
- New high-end filling lines for glass vials and bottles
- Filling into ampoules, bags, and pre-filled syringes also available



### Liposomes - New Technology ● ● ● ●

- Technical experience from emulsions applied for liposomal formulations
- Handling and use of high-potency compounds in the weighing isolator
- Handling of high-potency APIs under oxygen protection
- High-pressure homogenizer
- New high-end filling lines for aseptic filling in glass vials
- Aseptic filling in pre-filled syringes



### Suspension - New Technology ● ● ● ●

- Handling of high-potency compounds in a weighing isolator, with VHP generator for sterile APIs
- Handling of high-potency APIs under oxygen protection
- Implementation of dedicated equipment
- Aseptic filling of suspensions in glass vials and in pre-filled syringes
- Recirculation to maintain suspension while filling

