



## Spotlight Biopharma Processing



# Biesterfeld Spezialchemie

We are your specialist in high quality products and technical support for the healthcare industry.

We understand the complexity of pharmaceutical, nutraceutical and medical device product development. Our product portfolio contains high performance materials with innovative features that comply with current regulations. This includes active pharmaceutical ingredients (API), excipients, extracts as well as light curing adhesives and silicone-based materials such as skin adhesives and tubings.

You will find our products in pharmaceutical production as a component of finished dosage forms, as part of their packaging as well as in medical devices.

Modern biopharmaceutical processing encompasses a broad variety of methods and strategies to implement successful R&D approaches and subsequently reliable manufacturing processes.

This methodical toolbox for scientists and engineers is under continuous development in order to create new solutions and capabilities. This includes upstream processing, such as fermentation, or downstream processing, like clarifying, purifying and concentrating the final product, all the way up to fill & finish.

While this toolbox is essential to the biopharmaceutical industry, raw materials and consumables like process aids or single-use systems are just as important. These physical tools employed in biopharmaceutical processing are subject to a very strict and ever evolving quality and regulatory framework, ensuring the highest patient safety possible. Therefore, single-use systems and process aids must meet and exceed the Q&R industry standards.

Together with our trusted partners who are industry leaders for their respective field of expertise, Biesterfeld Spezialchemie provides a broad portfolio including state of the art products, which support our customers all the way, from R&D to the fully packaged drug.



## Lab & Innovation Centre

In our Lab and Innovation Centre in Hamburg we have the possibility to support the development of tailored solutions together with our customers. We can serve different example formulations which can be a good starting point for your project. Through the addition of additives from our wide ranging portfolio also existing formulations can be enhanced.

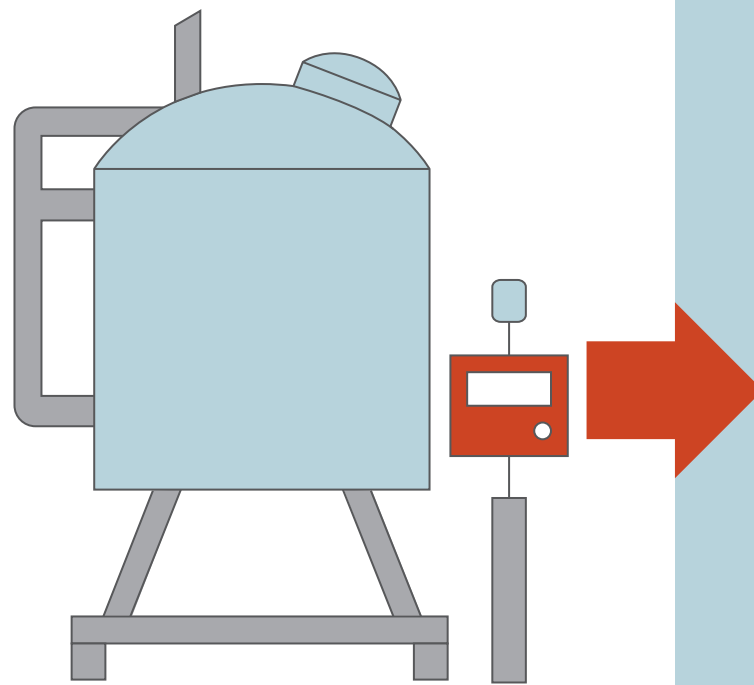
If you have an idea for a project get in touch:

[Healthcare@biesterfeld.com](mailto:Healthcare@biesterfeld.com)

## Our Partners for Pharma Processing:



## Fermentation



### Antifoam Emulsions

- Liveo™ Medical Antifoam C Emulsion
- Liveo™ Q7-9120, 30% Dimethicone Emulsion



### Defoaming Surfactants

- Adeka NOL LG-109
- Adeka NOL LG-126



### Glucose Monohydrate Injectable Grade

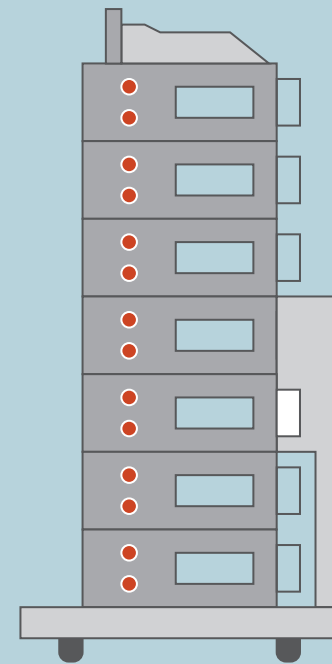
- Meridex
- Meridex PF



### Foils for bag manufacturing

- Mylar PET polyester film

## Clarification



### Tubings for fluid transfer

- Liveo™ Pharma 50, 65, 80 Tubings
- Liveo™ Pharma 65 reinforced Tubings
- Liveo™ TPE Tubings



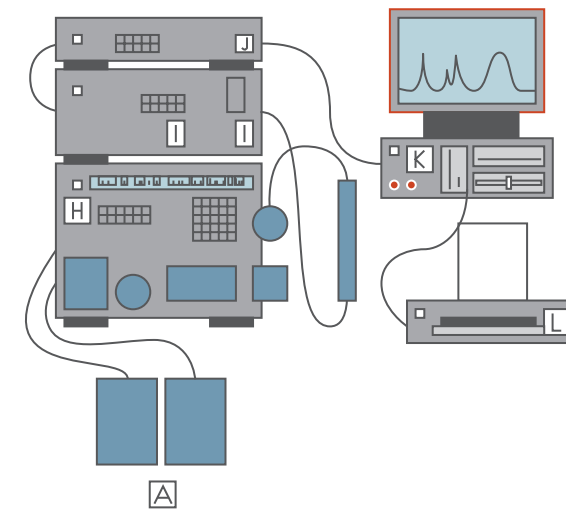
### Foils for bag manufacturing

- Mylar PET polyester film



- stationary phase for peptide and biomolecule separations
- Available in bulk and as prepacked columns
- Ideally suited for e.g. GLP-1 antagonist purification

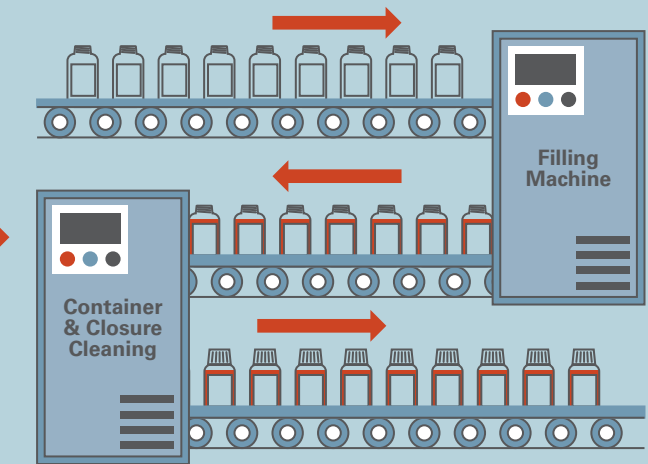
## Purification



### Tubings for fluid transfer

- Liveo™ Pharma 50, 65, 80 Tubings
- Liveo™ Pharma 65 reinforced Tubings
- Liveo™ TPE Tubings

## Fill & Finish



### Tubings for fill & finish applications

- Liveo™ APT Tubings
- Liveo™ TPE Tubings

### Antifoams for fill & finish applications

- Liveo™ Medical Antifoam C
- Liveo™ Q7-2587 Sim. Emulsion

### Cooperation with machine producers



DuPont Liveo™

Silicone Tubing

Product	Description	Grade
<b>Pharma Tubing</b>  50 Shore A 65 Shore A 80 Shore A	Platinum-cured silicone tubing For high purity pharmaceutical fluid transfer and filling applications	EP 3.1.9. “Silicone elastomer for closures and tubing” USP Class VI, FDA and ISO criteria cGMP
<b>Pharma Reinforced Tubing</b> 65 Shore A	Platinum-cured silicone tubing Fiber-reinforced tubing for high-pressure and vacuum applications	
<b>Pharma Advanced Pump Tubing</b>	Specifically formulated platinum-cu-red silicone tubing for peristaltic pump applications  Providing up to six times the pump life of standard platinum-cured silicone tubing	

- Pharmaceutical grade silicone tubing
- For high purity pharmaceutical & biotechnological fluid transfer and filling application
- Increased kink and pressure resistance with higher durometers
- Extruded from Liveo™ brand BioMedical Grade Elastomer

TPE Tubing

Product	Description	Grade
<b>Pharma TPE Tubing</b>  65 Shore A	Sterilizable, weldable TPE tubing for Single-use assemblies and Peristaltic pump applications  Contains no peroxide by products, Chlorophenyls or PCBs	USP Class VI Plastics Test FDA and ISO criteria cGMP Class 7 clean room

- Pharmaceutical grade TPE tubing
- For transferring of ultra-pure liquids, air or steam in pharmaceutical an biotechnological manufacturing process
- High tensile strength and Burst resistance pre and post welding
- Made from Medical Grade elastomer that complies to USP Class VI Plastics Tests Requirements

Simethicone Emulsion

Product	Description	Grade
<b>Liveo™ Q7-2587 30% Simethicone Emulsion USP</b>	Emulsion containing 30% Simethicone	USP
<b>Liveo™ Medical Antifoam C Emulsion</b>	Emulsion containing 30% Simethicone	USP

- ICH Q7 GMP
- Foam control for pharmaceutical application and formulation

Adeka

Defoaming Surfactants

Product	Description	Grade
<b>ADEKA NOL LG-109</b>	EO/PO based defoamer	For use in pharmaceutical processing
<b>ADEKA NOL LG-126</b>	EO/PO based defoamer	For use in pharmaceutical processing

- Bio-based polyether type antifoaming agent
- Process aid in the production of pharmaceuticals and cosmetics
- Fermentation processes (e.g. of astaxanthin, EPA/DHA, amino acids and yeast)

Tereos

Dextrose/Glucose

Product	Description	Grade
<b>Meritose Pharma</b>	Dried D-glucose/dextrose powder Dextrose monohydrate Range of specific particle sizes	Glucose Monohydrate EP Dextrose USP/NF
<b>Mylose Pharma</b>	Glucose syrup Dextrose equivalent and sugar spectrum	Glucose Liquid EP Liquid Glucose USP/NF
<b>Glucomalt Pharma</b>	Glucose syrup Dextrose equivalent and sugar spectrum	Glucose Liquid EP Liquid Glucose USP/NF
<b>Glucodry G Pharma</b>	Glucose syrup spray-dried Dextrose equivalent and sugar spectrum	Glucose liquid spray-dried EP

- Quality system based on IPEC-PQG GMP for pharmaceutical excipients
- Solid dosage forms, direct compression, wet and dry granulation, capsules and powders
- Liquid dosage forms, syrups, solutions, suspensions
- Medicated confectionery, hard boiled candies, gums, chewing gums

# Contact

For more information feel free to reach to the Healthcare experts at Biesterfeld at [healthcare@biesterfeld.com](mailto:healthcare@biesterfeld.com)

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## Imprint

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