Your Benefits:
- Highly concentrated solutions can help reduce your footprint and warehousing when diluted at the point of use
- Proven chemical compatibility with Flexsafe® film
- One single vendor to qualify for the sourcing of buffers & dangerous goods
Overcoming Large Volume Handling of Dangerous and Hazardous Solutions

In the manufacturing of biopharmaceuticals, purification steps are critical to the process; therefore the equipment and consumables used must meet a high standard of quality. To ensure a robust supply chain, we have capabilities to produce all the formulations required for the wide variety of applications in downstream processing:

- Media & Buffer pH adjustment
- Chromatography column cleaning and storage
- Purification | Diafiltration | Polishing
- Virus Clearance & Inactivation
- Equipment sanitization
- Membrane flushing & regeneration

Media & Buffers Specialists will help you select a suitable formulation to minimize the burden of preparing large volumes of liquids including dangerous goods and optimize the associated transport logistics.

Buffers in Biologics Manufacturing

All our liquid formulations are manufactured in ISO certified facilities following cGMP guidelines and are packaged in our robust Flexsafe® bags. The complete range of scalable Flexsafe® bags enables you to implement single-use bioprocessing throughout all steps of drug manufacturing, from process development to production – all using just one film.

- WFI Quality water
- Acids, Bases & Alcohols (HCl, NaOH, EtOH)
- Organic Solvents
- Phosphate- and Amine-based (PBS, Tris)

Dangerous Goods Manufacturing Capabilities

<table>
<thead>
<tr>
<th>Formulation</th>
<th>CAS Number</th>
<th>Max Concentration</th>
<th>Data available for compatibility with Flexsafe® bags**</th>
<th>Raw Material Grade*</th>
<th>Max Batch Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>19M</td>
<td>50%</td>
<td></td>
<td>EP and USP</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>17M</td>
<td>99%</td>
<td></td>
<td>EP and USP</td>
</tr>
<tr>
<td>Tween 80</td>
<td>Polysorbate 80</td>
<td>9005-65-6</td>
<td>100%</td>
<td></td>
<td>EP and USP</td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>64-19-7</td>
<td>17M</td>
<td>99%</td>
<td></td>
<td>EP and USP</td>
</tr>
<tr>
<td>Citric Acid</td>
<td>77-92-9</td>
<td>4M</td>
<td>50%</td>
<td></td>
<td>EP and USP</td>
</tr>
<tr>
<td>Hydrochloric Acid</td>
<td>7647-01-0</td>
<td>12M</td>
<td>37%</td>
<td></td>
<td>EP and USP</td>
</tr>
<tr>
<td>Urea</td>
<td>57-13-6</td>
<td>8M</td>
<td></td>
<td></td>
<td>EP and USP</td>
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</tbody>
</table>

* Specifications including QC testing subject to customers’ requirements and approval
** Customized compatibility and stability studies can be offered
UN-Certified Secondary Packaging for Dangerous Goods Transportation

<table>
<thead>
<tr>
<th>Volumes</th>
<th>Secondary Packaging</th>
<th>Labeling</th>
<th>Shipping Validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexsafe® 2D bags</td>
<td>10L</td>
<td>20L</td>
<td>UN-Certified cardboard boxes</td>
</tr>
<tr>
<td>Flexsafe® 3D bags</td>
<td>50L</td>
<td>100L</td>
<td>200L</td>
</tr>
</tbody>
</table>

* EU Regulation and Global Harmonized System impose specific requirements for Classification, Labeling and Packaging of dangerous goods
** ADR: International Carriage of Dangerous Goods by Road

Ordering Information

Below are our standard, off-the-shelf product references

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Primary Packaging</th>
<th>Volume</th>
<th>Dangerous Good</th>
<th>CLP</th>
<th>Order Number</th>
<th>EMEA &amp; Asia</th>
<th>Order Number</th>
<th>Americas</th>
</tr>
</thead>
<tbody>
<tr>
<td>NaOH 1M</td>
<td>Flexsafe®</td>
<td>20L</td>
<td>Yes</td>
<td></td>
<td>CFB3FA7006</td>
<td>CFB3FA7006</td>
<td>CFB3FA3006</td>
<td>CFB3FA3106</td>
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<tr>
<td>WFI-Quality Water</td>
<td>Flexsafe®</td>
<td>20L</td>
<td>No</td>
<td></td>
<td>CFB3FA3006</td>
<td>CFB3FA3006</td>
<td>CFB3FA3009</td>
<td>CFB3FA3109</td>
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<tr>
<td>WFI-Quality Water</td>
<td>Flexsafe®</td>
<td>200L</td>
<td>No</td>
<td></td>
<td>CFB3FA3009</td>
<td>CFB3FA3009</td>
<td>CFB3FA3109</td>
<td>CFB3FA3109</td>
</tr>
</tbody>
</table>

Your Customized Formulations

Our Buffer & Media Specialists will support you to create the solution that perfectly matches your expectations. For critical raw materials, you can either request specific suppliers or rely upon our established global network of qualified suppliers. Customized primary and secondary packaging and release assays are also available upon request to our specialists.

For more information, please contact your Sartorius Sales Representative or send your contact details to:
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America: CellCultureMedia.NA@sartorius.com
Sales and Service Contacts

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