

# Why Choose a Pharmaceutical Detergent?

Advancing the Science of Contamination Control

## Formulated Cleaners

STERIS's detergents are engineered for your most difficult cleaning challenges. Unlike commodity chemicals, formulated cleaners employ a combination of cleaning mechanisms to function synergistically:

- Dissolution
- Chelation
- Surfactancy
- Solvation
- Dispersion
- Wetting

This superior blend of cleaning mechanisms allows STERIS's formulated cleaners to perform efficiently and effectively to reduce process wastes, such as:

- Process Time
- Maintenance Expenses
- Water Usage
- Energy Consumption

STERIS's formulated cleaners improve process efficiency by helping Customers decrease cleaning and maintenance time while reducing water and energy consumption. STERIS products and expertise help Customers meet environmental sustainability initiatives and manufacturing efficiency goals.

## CASE STUDY

### Improving Cleaning Performance & Reducing Water Usage

A biopharmaceutical manufacturer in northern Europe was faced with an increasing number of cleaning failures. This, combined with a company-wide initiative to reduce water usage, led this manufacturer to re-evaluate their cleaning processes. After engaging with STERIS, it was determined that a Process and Cleaner Evaluation (PACE®) would be the best method to determine the optimal cleaning parameters, including time, temperature, chemistry, and concentration.

Step	Legacy Cleaning Process			STERIS Optimized Cleaning Process		
	Cleaning Agent (L)	Water (L)	Time (min)	Cleaning Agent (L)	Water (L)	Time (min)
Pre-Rinse	–	1,000	5	–	1,000	5
Alkaline Cleaning	50	950	5	–	–	5
	50	950	90	15	735	35
Rinse	–	1,000	12	–	1,000	10
Acid Cleaning	200	800	130	15	735	70
Rinse	–	1,000	12	–	750	12
Rinse	–	1,000	5	–	1,000	5
Final Rinse	–	1,000	10	–	1,000	10
<b>TOTAL</b>	<b>300</b>	<b>7,700</b>	<b>269</b>	<b>30</b>	<b>6,220</b>	<b>152</b>

Following the PACE evaluation, the parameters were transferred to the manufacturer's site and implemented at commercial scale. This Customer was able to see considerable reduction in the volumes of cleaning agent and water required to clean the processing equipment. The table above summarizes the previous cleaning process and the new, optimized cleaning process.

## Applications



### Biofilm Remediation

ProKlenz® ONE, available in the United States, has biofilm claims to meet your validation objectives.



### Rouge Removal

ProKlenz® RESTORE High Performance Acid-Based Cleaner is a detergent for type I rouge removal at lower temperatures and concentrations.



### Stainless Steel Passivation

ProKlenz® TWO High Performance Acid Detergent and CIP 200™ Acid-Based Process & Research Cleaner are effective for stainless steel passivation.



### Air Liquid Interface Cleaning

CIP 100™ Alkaline Process and Research Cleaner is an alkaline product with a surfactant blend to clean water insoluble residues associated with rings.

STERIS products have an extensive documentation package to meet your validation objectives and are supported by the STERIS Technical Services team for individualized application and validation assistance. Our Formulated Chemistries Technical Services Group has the knowledge and the tools to deliver unparalleled service. A highly qualified, industry-recognized team of chemists, microbiologists, and engineers is available to offer product and process consultation for biofilm and rouge prevention and remediation as well as process optimization.