



Chematic® 640 & 670 Application Guidelines

Instructions

Chematic® 640 and Chematic® 670 are formulated detergents that were designed for the removal of cosmetic/personal care products. Chematic® 640 can be used alone, or for more difficult to remove soils the addition of Chematic® 670 to the cleaning solution may facilitate residue removal. The detergents may be used in manual cleaning processes or in Clean-in-Place systems to remove residue from mix tanks, IBC's and packaging equipment. Just as conditions need to be correct to give a personal care product the right viscosity or to create an emulsion, detergents need to be applied with the correct cleaning process to give optimal residue removal.

Typical cleaning cycles for Chematic® 640 and Chematic® 670 look something like:

Chematic® 640 Process:

- Step 1:** Cold Water Pre-Rinse (May not be required)
- Step 2:** 3-5% Chematic® 640 at 50 - 75° C for 60 minutes
- Step 3:** Cold Water Rinse

Chematic® 640 & Chematic® 670 Process:

- Step 1:** Cold Water Pre-Rinse (May not be required)
- Step 2:** 3% Chematic® 640 and 1.5% Chematic® 670 at 50 - 75°C for 60 minutes
- Step 3:** Cold Water Rinse
- Step 4:** 0.5% Chematic® 670 at 50 - 75°C for 60 minutes
- Step 5:** Cold Water Rinse

The process steps outlined above are meant to be starting points for cleaning cycle development. The optimal cleaning cycle for each residue and process will depend on cleaning capabilities and the residue. These steps can be manipulated to give optimum cleaning.

Pre-Rinse

A cold water only pre-rinse may help in removing all residues left by sunscreens, lotions or gels.

- This step helps remove any heavy residue from the equipment following manufacturing.
- This step may or may not be required.
- If a pre-rinse is utilized it is recommended that this step be performed cold as spraying hot water on some cosmetic/personal care products can make residues more difficult to remove.

Concentration

- The concentration of Chematic® 640 should be set between 3-5%.
- If using Chematic® 640 in combination with Chematic® 670 the ratio of the detergents should be set at 2:1 Chematic® 640 to Chematic® 670.
- It is Dober's experience that a combination of Chematic® 640 and Chematic® 670, can be used on water based sunscreens and lotions as well as make-up products. A second detergent step of only Chematic® 670 may help any final residues.
- If the residue is alcohol based a 5% solution of Chematic® 640 alone has performed the best.

Temperature

Chematic® 640 and Chematic® 670 are designed to work in a temperature range between 40°C-50°C for manual application and 70°C-80°C for Clean-in-Place applications.

- The higher temperature of 70-80°C is required for Clean-in-Place applications that will recirculate the detergent solution. If the temperature falls below 70°C during recirculation foam may be generated.

Time

The time required for the detergent step will be dependent on the amount of residue on the equipment as well as the type of residue being removed.

Physical Properties

	Chematic® 640	Chematic® 670
Physical Form:	Liquid	Liquid
Appearance:	Clear, Colorless	Clear, Colorless
pH Use Solution: (0.5% - 5% v/v):	10.5 - 11.0	5.5 - 6.0
Specific Gravity at 68° F:	~1.020	~1.010

Substrate Compatibility

Product is safe on stainless steel, glass and many plastics and polymers. Product should be thoroughly rinsed off surfaces.

Cleaning Validation Support

HPLC, TOC and other detection methods are provided by Dober.

Availability

