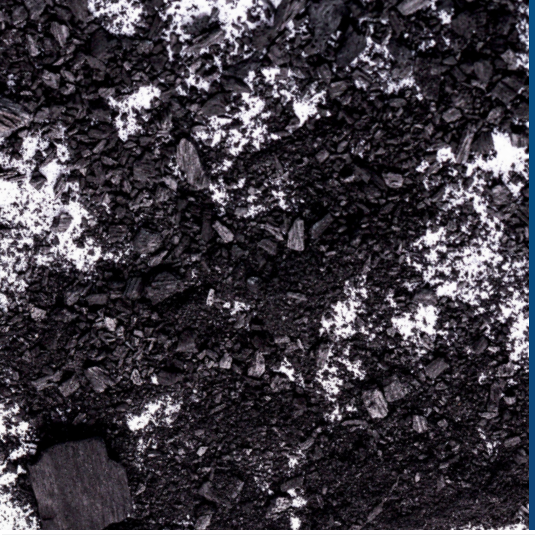
Best Practices to Remove Hard to Clean Cosmetics Residues

ECOLAB®



Charcoal

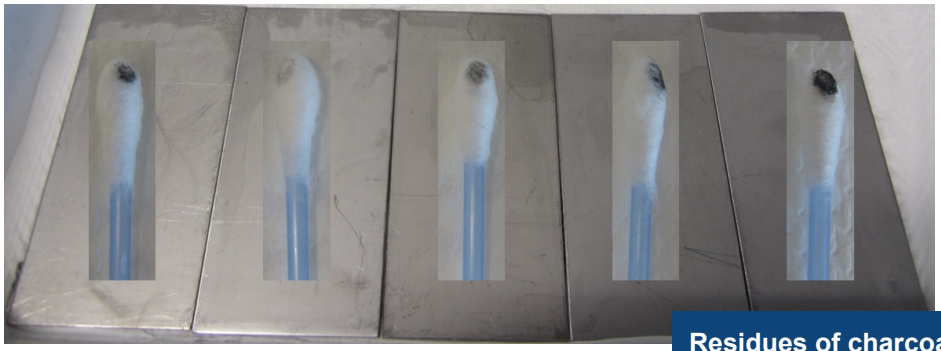
Technical recommendation

- Charcoal can be tenacious since it's a chemically inert soil, making it difficult to clean. Ecolab recommends an alkaline detergent used in tandem with an oxidizing booster to help penetrate the residue
- Utilize a 2% concentration of main detergent + 1% booster
- The higher the temperature, the better
- Even though the equipment might seem visually clean, if you wipe the surface of the tank you might see some black residues meaning it's not properly cleaned (see picture below)

Ecolab solution

Risil Mat is an alkaline detergent designed for cleaning complex emulsions and pigments

Stabicip Oxi is a cleaning additive used with alkaline and acid clean in place (CIP) detergents for the removal of complex soils



Residues of charcoal after swabbing visually clean coupons

Foundation

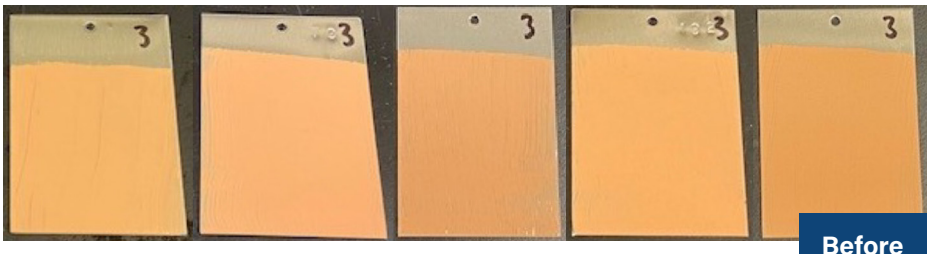
Technical recommendation

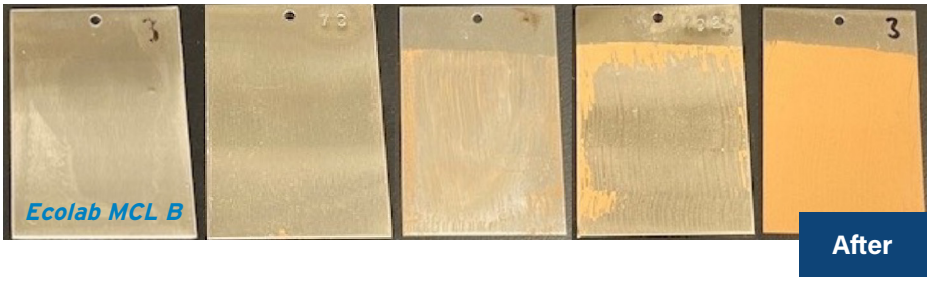
- Foundation can contain tough to clean pigments, such as titanium dioxide (TiO_2). When foundations are exposed to high temperatures and long cleaning time, TiO_2 gets stuck to the stainless steel. Therefore, it is recommended to limit the temperature as much as possible to clean TiO_2 residues
- Good mechanical action is critical for successful cleaning. We recommend implementing high-impact sprayballs, turbulence in the piping, etc.

Foundation Cleaning Test

Soil	Liquid Foundation	Temp	140 °F (60 °C)	Time	30 minutes

Detergent	Cleaning time (minutes)
Ecolab MCL B	15
Competitor A	Unable to clean in 30 minutes
Competitor B	Unable to clean in 30 minutes
3% NaOH	Unable to clean in 30 minutes
Water	Unable to clean in 30 minutes





Ecolab solution

MCL B is a high performance alkaline cleaner formulated for cleaning soils with pigmented and mineral containing loads

Sunscreens

Technical recommendation

- Sunscreens are thick and oily products that can contain tough to clean pigments, such as zinc oxide and titanium dioxide. A detergent with high sequestering power is needed to remove these pigments. Additionally, a mixture of surfactants is required to emulsify and remove the oily components of the material
- The temperature should be selected based on the melting point of the ingredients of the product
- Recommended concentration is typically 2-3%
- Good mechanical action is critical for successful cleaning (implement high-impact sprayballs, turbulence in the piping, etc.)

Ecolab solution

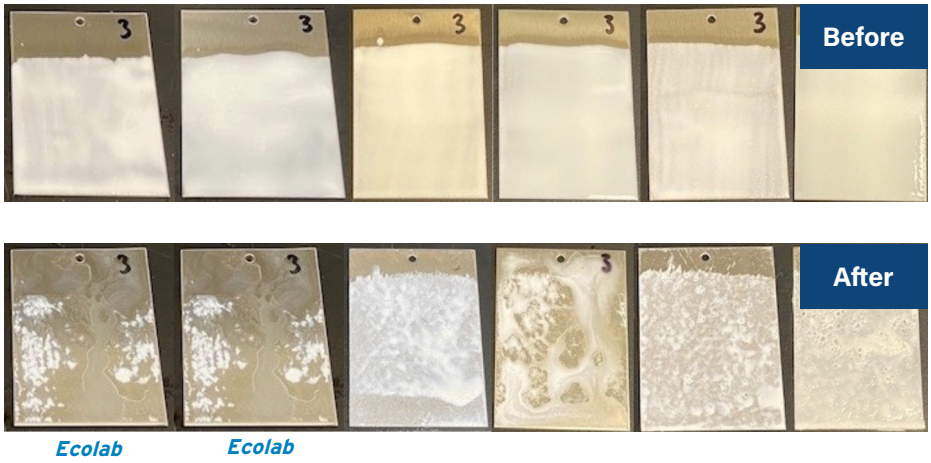
MCL B is a high performance alkaline cleaner formulated for formulated for cleaning soils with pigmented and mineral containing loads

Maxi Plus is a high performance alkaline cleaner formulated to remove waterproof products

Sunscreen Cleaning Test

Soil	Sunscreen	Temp	140 °F (60 °C)	Time	30 minutes

Detergent	Soil removed by weight (%)
Ecolab MCL B	96
Ecolab Maxi Plus	99
Competitor A	53
Competitor B	82
3% NaOH	50
Water	20



Toothpaste

Technical recommendation

- Toothpaste contains relatively high amounts of inorganic compounds, such as calcium carbonate, therefore, it is recommended to clean these products utilizing an acid detergent that is able to easily dissolve the materials. When toothpastes are exposed to high temperatures and long cleaning time, TiO_2 gets stuck to the stainless steel, therefore, it is recommended to limit the temperature as much as possible to clean TiO_2 residues

Testing conditions

Soil	Calcium carbonate toothpaste	Temp	80 °C	Time	20 minutes	Conc.	2%

Detergent	Cleaning effectiveness: 0 (no cleaning effect) to 5 (visually clean)	Observation
Ecolab P3-Horolith PA	5	
Competitor A	2	
Demin. Water	2	

Ecolab solution

Horolith PA (Europe) is a surfactant-free cleaner based on phosphoric acid

AC-55-5 (North America) is a highly concentrated blended acid specially formulated for CIP and COP cleaning of processing equipment

Creams based on zinc oxide

(e.g. baby creams for irritated skin)

Technical recommendation

- Creams are thick and oily products that can contain tough to clean pigments, such as zinc oxide. A detergent with high sequestering power is needed to remove these pigments. Additionally, a mixture of surfactants is required to emulsify and remove the oily components of the material
- The temperature should be selected based on the melting point of the ingredients of the product
- Recommended concentration is typically 2-3%
- Good mechanical action is critical for successful cleaning (implement high-impact sprayballs, turbulence in the piping, etc.)

Ecolab solution

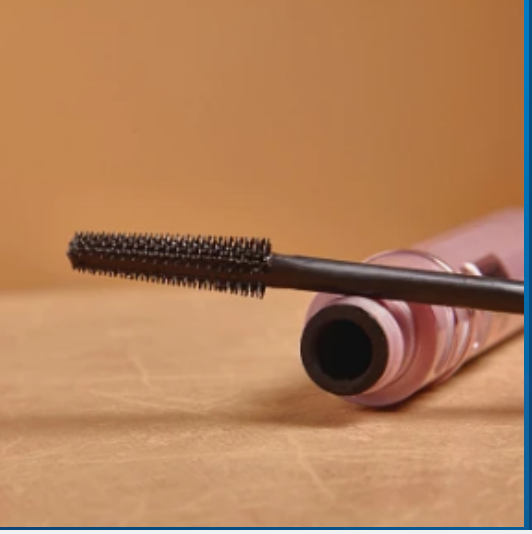
MCL B is a high performance alkaline cleaner formulated for formulated for cleaning soils with pigmented and mineral containing loads

Maxi Plus is a high performance alkaline cleaner formulated to remove waterproof products

Testing conditions

Soil	Creams based on zinc oxide	Temp	80 °C	Time	30 minutes

Detergent	Cleaning effectiveness: **0** (no cleaning effect) **to 5** (visually clean)	Observation
3% Ecolab MCL B	4 Residue mostly removed	
3% Alkaline Cleaner	1 Residue partly removed	



Mascara

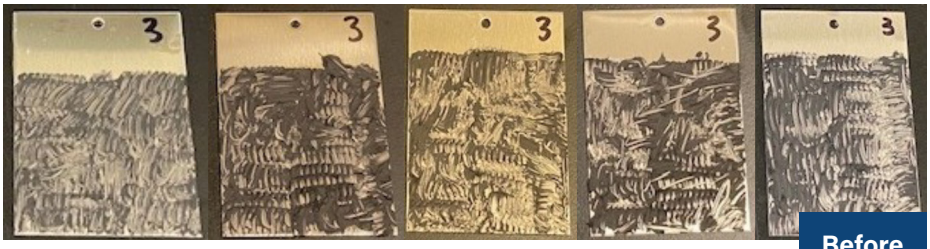
Technical recommendation

- Mascara can have relatively high pigment and mineral loads and requires a detergent with high sequestering to remove them. Additionally, a mixture of surfactants is required to emulsify and remove the oily components of the material
- For waterproof mascara the advice is to avoid water pre-rinse

Testing conditions

Soil	Mascara	Temp	140 °F (60 °C)	Time	-

Detergent	Soil removed by weight (%)
Ecolab MCL B	78
Competitor A	2
Competitor B	-13
3% NaOH	2
Water	1



Ecolab MCL B

Ecolab solution

MCL B is a high performance alkaline cleaner formulated for cleaning soils with pigmented and mineral containing loads

Confidently clean
Visually & beyond

Confidently clean right the first time, visually and beyond, thanks to Ecolab experts that help you to review and improve your cleaning and disinfection protocols, implementing chemistry highly effective for the removal of hard-to-clean cosmetics residues; they train operators to ensure that your new SOPs are implemented correctly, and in case of any contamination issues they can promptly assist you onsite.

For expert implementation of cleaning and disinfection measures in facilities contact your Ecolab Account Manager or visit www.ecolab.com/personalcare

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