

Solvents Completely Replaced by Detergents when Cleaning Waterproof and Pigmented Make-Up

Application: Soaking (mixers, tanks)

Segment: Personal care (makeup)

Challenge: Identification of a solvents alternative (hard-to clean waterproof mascaras and pigmented makeup)

Recommended product: Maxi

Situation

A contract manufacturer and a market leader in the production of **mascara** located in Italy was having difficulty in removing waterproof mascara and pigmented makeup from its mixing equipment. The company, specializing in the manufacture of color cosmetics, **required an alternative solution to its current use of solvents**, that were becoming more and more expensive due to increasing costs of raw materials.

On top of the high costs, they were experiencing **safety concerns** related to flammability risks, as well as operators using large amounts of solvents manually with limited protection from the company's current PPE protocols. Additionally, production volumes increased suddenly as the COVID-19 pandemic and accompanying restrictions began to wane. The client experienced an urgent need to **reduce downtime while increasing production capacity**, an effort stymied by their current protocols. A more effective solution was needed.

Solution

After an initial contact with Ecolab, a **site survey** was performed to determine worst case cleaning scenarios, **review existing cleaning procedures**, assess machines used in the process, and the **wastewater system**. From this review, Ecolab discovered that the previous cleaning solution comprised mainly solvents (isododecane) and in-house raw materials (myristate). Five samples of the most difficult to clean products were then

tested and recommendations introduced for best cleaning procedures.

After an on-site visit by Ecolab to assist adapting and scaling up the recommended cleaning procedures, the client implemented **Ecolab's Maxi**, an alkaline detergent designed for soaking and foaming applications in personal care and cosmetics processing. Maxi is ideal for the water-based removal of fatty, waterproof pigmented soils in mixers not designed for CIP cleaning.

All efforts were reviewed with the QA manager to evaluate necessary supporting documentation and establish a strategy of cleaning validation to evaluate final residues of detergents.

Results

Ecolab's solution created **an optimal cleaning performance, enhanced operator safety, decreased downtime, allowed for an increase of production time, and reduced the impact on additional downstream processes (waste disposal)**.

The client estimates these changes have led to impressive savings (detailed right). The customer is now partnering with Ecolab's technical team to introduce a new CIP system to further optimize water and energy consumption.

ANNUAL SAVINGS FOR CLEANING 1 MIXER OF 1000 L



PROFITABILITY

Chemistry savings

\$102K



PRODUCTIVITY

Time saving: 225 hours

= 32 extra batches/year

= equivalent to

\$681K



WATER

Wastewater savings

\$17K



TOTAL VALUE DELIVERED

\$800K

ECOLAB MAXI

Liquid alkaline detergent with high surfactant content for soaking and foaming applications

- ▼ Versatile: suitable for use in older equipment; designed for CIP systems as well as for cleaning surfaces
- ▼ Effective: High surfactant content makes Maxi ideal as a standalone detergent for the removal of organic and pigment containing products such as mascaras, lipsticks, foundations, sunscreens, and more



How Ecolab adds value



Site surveys

Ecolab offers site-surveys from a trained technical team to review new or existing manufacturing and cleaning process.

VALUE+

- Technical recommendations are matched to your most relevant objectives and key performance indicators (safety, water savings, efficiency, etc.)
- Formal report summarizes potential savings
- Delivers implementation strategy that minimizes production disruptions



Lab studies

Ecolab offers a laboratory team that can analyze soils, identify residues and test samples.

VALUE+

- Creates a quicker and more successful cleaning recommendation
- Ensures the chemistry solution is effective against your unique, targeted soils
- Helps determine optimal dilution and implementation parameters



Automated bio-decontamination to meet your needs

Ecolab has automated bio-decontamination solutions to create a validated 6-log sporicidal kill using Bioquell™ Hydrogen Peroxide Vapor.

VALUE+

- Save time and reduce waste by decreasing the risk of shutdown, production stoppage or product failure due to an environmental contaminant
- Help avoid time intensive investigations and potential patient and reputational harm

USE BIOQUELL PRODUCTS SAFELY. ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE.

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Validation assistance

Ecolab can assist with the complex validation process and change controls by providing guidance and documentation.

VALUE+

- Guidance includes:
 - Cleaning process design and development
 - Cleaning process validation
 - Continuous cleaning process verification
- Helps ensure process stays in line with regulatory expectations and acceptance criteria



Dedicated regulatory team

Ecolab leverages industry expertise to deliver insights and guidance on regulatory expectations, trends and available tools to help ensure compliance for product safety and quality.

VALUE+

- Helps ensure compliance with cGMP to ensure cleaning and disinfection meet product safety and quality requirements
- Help implement validations that meet regulatory expectations



Customer training

Ecolab's team is comprised of experts to help you implement, manage, and maintain quality & compliance requirements and protocols.

VALUE+

- Gain valuable best-practices and implementation strategies from trained field and technical experts
- Reduce troubleshooting time from on-site support and process training to resolve problems quickly