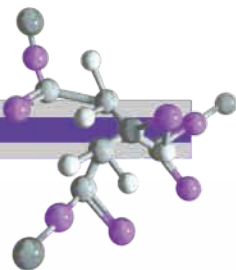


SILVÉRIION[®] 2400



SILVÉRIION[®] 2400 Antimicrobial Preservative for Personal Care



SILVÉRIION 2400 is a water-soluble natural antimicrobial preservative containing Silver Dihydrogen Citrate (SDC), a revolutionary, novel ionic silver technology for use in personal care formulations.

Features and Benefits

- Broad spectrum activity
- Low viscosity solution
- Excellent water solubility
- Effective at low concentrations
- Compatible with a variety of preservatives
- Good compatibility with cosmetic ingredients
- Stand-alone preservative in many formulations
- Easy to dose and formulate
- High bio-availability in the water phase
- Cost-effective preservative
- Use in diverse product forms, including clear gels
- Effective alternative to formaldehyde donors and parabens

**Differentiate your product
with SILVÉRIION[®] 2400**



SILVÉRIION® 2400

Antimicrobial Preservative

for Personal Care

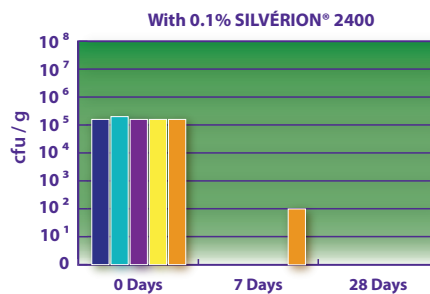
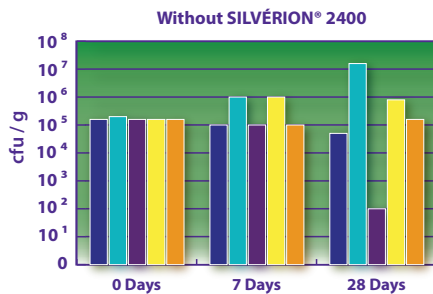
Cosmetic formulators need alternatives to existing preservation technologies due to toxicological concerns, insufficient efficacy or incompatibilities in formulations. SILVÉRIION 2400 is an effective alternative that does not compromise quality.

Effective Preservative for Rinse-off and Leave-on Formulations

SILVÉRIION 2400 shows broad-spectrum efficacy against Gram-negative and Gram-positive bacteria, yeast and mold. Preservative challenge tests demonstrate excellent efficacy in diverse formulation types.

Preservative Challenge Tests

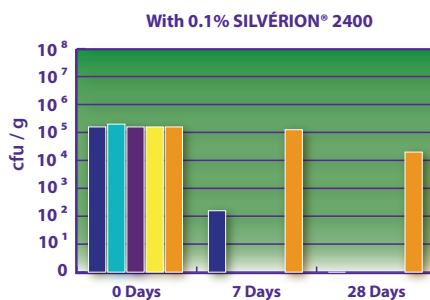
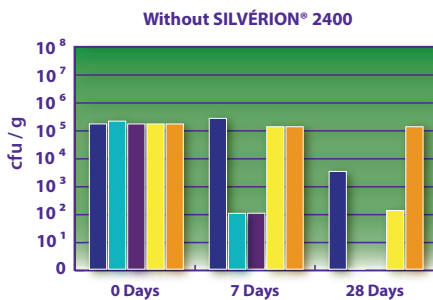
Face Lotion



- Escherichia coli ATCC 8739
- Pseudomonas aeruginosa ATCC 9027
- Staphylococcus aureus ATCC 6538
- Candida albicans ATCC 10231
- Aspergillus niger ATCC 16404

Samples were inoculated at time zero with the test organism to obtain 10⁵ - 10⁶ CFU per gram of product.

Shampoo



The contaminated products were stored at 22°C for the duration of the test.

The survival rate of microorganisms was determined at set time intervals by taking aliquots and counting the number of viable cells by means of the plate count method.

Versatile Use

- Proven effective in rinse-off formulations containing anionic, non-ionic and amphoteric surfactants.
- Emulsions of o/w and w/o type containing anionic and non-ionic emulsifiers can be preserved with low concentrations of SILVÉRIION 2400.
- 0.1% - 0.3% SILVÉRIION 2400 can act as a stand alone preservative in many formulations.
- Can be combined with most common preservatives in formulations that are difficult to preserve.

Easy to Formulate

- Low viscosity liquid which can be easily dosed and incorporated into the aqueous phase of gels, surfactants, and emulsions produced in cold process.
- Stable in a variety of formulation matrices.
- When manufacturing emulsions produced by hot process, SILVÉRIION 2400 must be added to the final formulation after the emulsion has cooled. Exposure of SILVÉRIION 2400 to pH higher than 7 should be avoided to achieve optimal formulation stability.

Use Levels

- Typical use concentration of SILVÉRIION 2400 is between 0.1% to 0.3% in leave-on and rinse-off formulations

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