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CHEMICAL
COMPANY®**

Laurest® Controls *Staphylococcus aureus* with Minimal Risk of Irritation

The results of in-vitro studies by MB Research Laboratories and Microchem Laboratory show when up to 10% Laurest® is added to a skin lotion, it reduces *Staphylococcus aureus* while remaining “non-irritating”.

This unusual combination of qualities makes Laurest® an attractive ingredient for skin care products intended for people who are susceptible to microbial flare-ups and persistent infections but whose skin is too sensitive to tolerate other conventional or natural antimicrobials.

Results of MatTek EpiDerm™ Skin Irritation Testing: “Non-Irritating” Source: MB Research Laboratories

MB Research Laboratories used an irritation testing method developed to avoid animal testing while enhancing precision and reproducibility, the MatTek EpiDerm™ Viability Assay. Instead of a test animal, the subject of EpiDerm™ consists of human skin cells (keratinocytes) specifically cultured to form multiple, differentiated, and distinct layers in a manner very close to the way in which the human epidermis self-organizes.

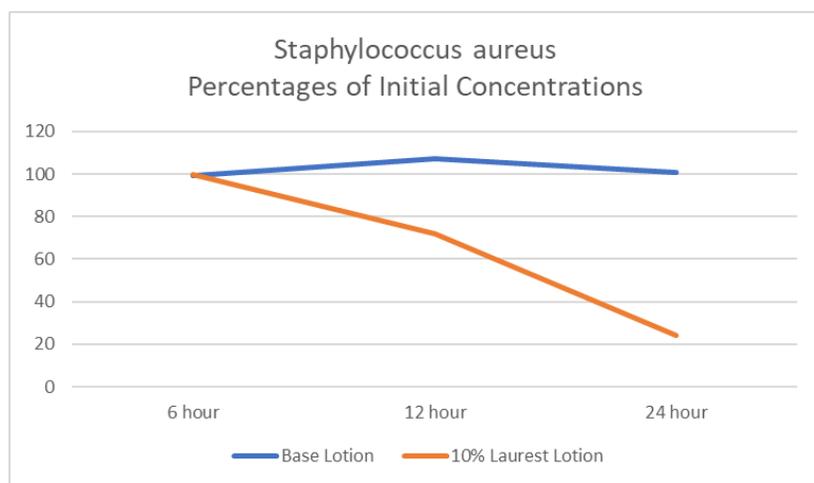
MB Research found that the tissue culture responses showed that all the Laurest® lotion samples were well within the “non-irritant” range.

For more details see the Epi-Derm™ Skin Irritation Testing bulletin, please visit our website:

[Copperhead Chemical Company](#) under [Products_Preservatives and Cosmetic Ingredients_Laurest](#)

Results of Microchem Laboratory STK Testing: *Staphylococcus aureus* Reductions

Microchem Laboratories tested splits of the same skin lotion samples using a Suspension Time-Kill (STK) procedure against *Staphylococcus aureus*. Their results showed that the control lotion without Laurest® was bacteriostatic, and the 10% Laurest® lotion reduced *Staphylococcus aureus* concentrations by 33% and 76% at 12 and 24 hours, respectively.



The general findings of these tests are consistent with experiences of testers of Laurest® product prototypes: no noticeable irritation but positive skin changes consistent with prevention and/or reduction of uncontrolled microbial growth.

Laurest® does not attempt to eradicate *Staphylococcus aureus*. Instead, it mimics innate natural antimicrobial lauric esters and acid in healthy skin, suppressing growth below “quorum” thresholds at which the organisms become virulent.

The skin lotion vehicle used for these tests is not a commercial product but a generic prototype. The process of selecting products is done in collaboration with customers in order to optimize both customer preferences and efficient delivery of Laurest®. Quantitative testing of microbial burden reductions on human skin should also be formulation-specific.

About Copperhead Chemical Company®: Copperhead is a leading manufacturer of active pharmaceutical ingredients and specialty chemicals located in Tamaqua, PA USA. Copperhead is dedicated to quality and operates in accordance with Good Manufacturing Practice regulations enforced by the U.S. FDA.

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