

Stabilization of Color Of Heavy-Duty Liquid Detergent by Simultaneously Working on Two Problematic Reactions: Reaction of Product Base With Colorant and Reaction of the Product Base With Fragrance Composition

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One of the biggest problems of formulating stable heavy duty liquid detergents is the change of product color. Interactions between product base, colorant and scent are common denominators. To provide solution to this problem without major changes in formulation by adding polymers and to keep formulation as sustainable as possible we approached the problem by conjoining solutions from the colorant and fragrance sides.

During testing process, it was observed that fragrance has far greater effect on the product color than colorant. By further inspection hypostasis on Schiff base formation was appointed and confirmed by different methods such as UV-Vis and IR-spectrophotometry.

Interaction of aldehydes in the fragrance, and the amines from the base formulation changes color of the product even if the colorant is not present.

To counteract the problem with the base product changing color, fragrance composition was reformulated to remove aldehydes and exchange them with less reactive fragrant compounds of a similar scent profile.

To provide the best possible results the colorant of the product was also exchanged for one of the greater stability in the given base.

Results provided HDLD of vivid, longer term stable blue color.

Biography:

Maja Anicic has a doctorate in Chemical Engineering and since 2009 has been working in Saponia (R&D department of liquid detergent), whose main products are detergents and cleaning agents in general. She is dedicated to the development of formulations of liquid detergents, with emphasis on interactions between raw materials, especially in heavy duty liquid detergent.

Valentina Nova ki has a MSc in Inorganic Chemistry and since 2021 has been working in Saponia (R&D/QC department of Perfumery). She is dedicated to the development of formulations of functional fragrances, with emphasis on interactions between fragrant raw materials and product bases.