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Method Development for Determination of Total Fatty Matter and Synthetic Surface-Active Agents in Bathing Bar

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Abstract

A bathing bar is a product containing both soap and non-soap detergents. It contains soap of fatty acids and synthetic surface-active agents as the active ingredients. Generally, the amount of these substances is verified at the Sri Lanka Standard Institute. However, the results obtained from the test methods available in SLS 1220:2016 are found to give a higher variation in both total fatty matter (TFM) and synthetic surface-active agents. Therefore, the objective of this study was to develop a test method to reduce the variation. In our finding we managed to reduce the variation of synthetic surfactants from 63.9% to 39.7% by using the centrifuged portion of the sample solution at the very initial step of the protocol. For the determination of TFM, two modifications have been made. First modification was to use diethyl ether for solvent extraction step, and it reduced the variation from 17.7% to 1.48%. The second modification was to use anhydrous sodium sulphate at the final stage of the analysis which reduced the variation from 11.2% to 3.60%. From this study, it was found that the variation could be reduced by following the suggested modifications, especially for TFM determination.

Keywords: Bathing bar, Total fatty matter, Synthetic surface-active agents