

ABSTRACT

QUANTITATIVE ANALYSIS OF FORMALDEHYDE CONTENT IN LIQUID SOAP COSMETIC PRODUCTS BY UV-VIS SPECTROPHOTOMETRIC METHOD

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Cosmetics are products that are applied to the outside of the body with the aim of cleaning, repairing or maintaining the body to keep it in good condition. Liquid bath soap is a liquid cosmetic preparation used to cleanse the skin, made from soap base with the addition of surfactants, foam stabilizers, preservatives, dyes and fragrances that are permitted and used for bathing without causing irritation. Every liquid soap has preservatives added, the purpose of which is to prevent or slow down spoilage caused by chemical changes, such as oxidation or mold growth. Preservatives used in liquid soap are generally formaldehyde and preservatives that can release formaldehyde. The formalin preservative added according to BPOM NO. 23 of 2019 is no more than 0.2%. Meanwhile, formalin-releasing preservatives such as DMDM Hydantoin have a maximum usage limit of 0.6%. The sampling method used purposive sampling technique. Testing liquid bath soap samples in this study has the following stages of the procedure: selection of samples, standardization of formalin standard solution, preparation of nash reagent, preparation of nash reagent without acetyl acetone, determination of maximum wavelength, preparation of calibration curve, testing on UV-Vis spectrophotometry. Based on the results of quantitative analysis research on 9 liquid soaps that have been carried out with nash reagent, there are 4 samples containing formalin releaser DMDM Hidantoin, 4 unlabeled samples, and 1 sample containing formalin. The sample that has the lowest formalin content is SMC 3, with a formalin content of 0.0151% or equivalent to 151.3184 ppm. And the sample that has the highest formalin content is SMC 7, with a formalin content of 0.0488% or equivalent to 488.0903 ppm. So, it can be concluded that the 9 liquid soap samples that have been studied are safe and do not cause irritation to the skin.

Keyword: Liquid soap, Spectrophotometer UV-Vis, Nash reagent, formaldehyde