

## ABSTRACT

# SEMI QUANTITATIVE ANALYSIS OF FORMALIN IN HANDBODY LOTION PREPARATION WITH CHROMATROPHIC ACID

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Formaldehyde is used as a preservative to extend shelf life and prevent bacterial contamination. This is where it gets a little tricky and difficult to simply read the ingredient labels and avoid them, often the labels are disguised in the formulation with other names. Common formaldehyde releasers that may be seen in a product include: DMDM hydantoin, methylene glycol, quaternium 15, just to name a few. Semi-quantitative method using chromatrophic acid, this method was chosen because it is easy to apply and can react selectively to formaldehyde. Briefly, chromatrophic acid powder was dissolved in concentrated sulfuric acid. This solution changed color from clear to purple in the presence of formaldehyde, changes were observed on days 2 and 5. This study used 17 handbody lotion samples, of which 4 had formalin preservatives listed, while the other 13 did not have formalin preservative labels. Observations on days 2 and 5 showed that the formalin concentration in the samples had changed, with the positive concentration increasing from 29% on day 2 to 41% on day 5. The maximum formaldehyde concentration found in the products studied was <0.01% (100 ppm), below the limit of 0.05% (500 ppm) which must be declared as “containing formaldehyde”. Another study showed that personal care products often contain formaldehyde even though it is not declared. This can be caused by a lack of awareness of manufacturers or oxidation and degradation processes of other materials that produce formaldehyde inadvertently. Therefore, it is important to carry out rigorous testing of cosmetic products to ensure that the content of formaldehyde and other dangerous chemicals does not exceed the permitted limits for consumer safety.

**Keyword** : *Handbody lotion, Formaldehyde, semi-quantitative, chromatrophic acid.*