

ABSTRACT

Analysis of Rhodamine B Content in Lipcream Products Sold in Surabaya City Using Thin Layer Chromatography (TLC) Method

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This research highlights the use of lip cream, a type of lipstick with a liquid or creamy texture, and the risks associated with the use of synthetic dyes such as Rhodamine B in cosmetics. Rhodamine B can cause harmful side effects on health, including irritation to the eyes and skin, as well as potential long-term carcinogenic and genotoxic effects.

The study utilizes Thin Layer Chromatography (TLC) method to identify the presence of Rhodamine B in lip creams circulating in Surabaya City. This method was chosen for its simplicity, affordability, selectivity, sensitivity, and the ability to visualize the yellow fluorescence of Rhodamine B under Ultraviolet (UV) 254 nm light. Suspicious lip cream samples were selected using purposive sampling based on their physical appearance and lack of BPOM registration numbers.

The research findings indicate that none of the four analyzed lip cream samples showed any signs of Rhodamine B presence. The use of polar eluents in the experiment was crucial to ensure effective separation of the polar Rhodamine B. Additionally, color reagent tests did not show similar color changes as the Rhodamine B standard. The Limit of Detection (LOD) calculations revealed that the samples did not contain Rhodamine B using the TLC method.

However, for more accurate and sensitive results, it is recommended to employ UV-Vis spectrophotometry for quantitative analysis of Rhodamine B. This research provides information to consumers regarding lip creams containing Rhodamine B and encourages the use of TLC as a simple and effective tool for detecting Rhodamine B in cosmetics.

It is hoped that this study will increase consumer awareness in selecting cosmetic products, particularly lip creams, and paying attention to product compositions to ensure their safety and health. Furthermore, the research results are expected to encourage cosmetic manufacturers to consider the side effects of the ingredients they use in their products and maintain safety standards for consumers.

Keywords: *Lipcream, Rhodamin B, Thin Layer Chromatography (TLC)*