DETERMINATION OF HEAVY METALS CONCENTRATION IN LIPSTICK SAMPLES

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ABSTRACT

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In this study, wet digestion method is used to digest the organic compound present in the samples due to semi-solid composition of the samples. The Instrument Detection Limit (IDL) and calibration curve for both metals were determined in prior before the samples were analyzed. Three samples of different brand names of lipstick were analyzed in this study, namely sample A, sample B and sample C. Sample A and C show concentration of Nickel and Lead at range 0.30 ppm – 0.45 ppm while sample B shows that it contain the lowest concentration of metals contaminant from all three samples that is 0.03 ppm for Lead contaminant and 0.228 ppm for Nickel contaminant. All three of the samples showed low level of metals contaminant that is within the safe range of permissible limit of metals listed by Food and Drug Association (FDA). Thus, the levels of contaminant are not dangerous and the product is safe for a long term usage. Wet digestion method using Hydrochloric acid (HCl) as digesting agent give quite low metals recoveries when compared to the usage of perchloric acid ($HClO_4$) in previous researches that may influence the results. Thus, for better results in future studies, the use of HCl can be substituted with $HClO_4$.