

## ABSTRAK

Lydia Amanda Putri, 2023, ANALISIS CEMARAN LOGAM MERKURI DAN TIMBAL SERTA HIDROKUINON DALAM KRIM WAJAH YANG BEREDAR DI PALANGKA RAYA, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.

Krim merupakan sediaan emulsi setengah padat. Krim wajah mengandung logam merkuri dan timbal serta hidrokuinon mampu menimbulkan bintik hitam di kulit, gangguan sistem saraf karena bersifat toksik. Tujuan penelitian ialah untuk mengetahui kadar cemaran logam merkuri dan timbal serta hidrokuinon pada sampel krim pemutih wajah yang beredar di Palangka Raya.

Metode penelitian menggunakan tiga produk sampel krim pemutih wajah yang beredar di Palangka Raya. Analisis kuantitatif hidrokuinon menggunakan pereaksi benedict dan analisis kuantitatif menggunakan spektrofotometri UV-Vis. Analisis kuantitatif cemaran logam menggunakan pereaksi KI, NaOH, HCL dan analisis kuantitatif menggunakan spektrofotometri serapan atom.

Hasil uji kuantitatif hidrokuinon diperoleh sejumlah tiga sampel positif mengandung hidrokuinon dengan kadar A 3,11%; B 2,81%; C 2,72%. Perolehan nilai presisi 0,5%, LOD 0,34 ppm, LOQ 1,03 ppm, dan akurasi 99,89%. Kadar hidrokuinon pada semua sampel lebih dari 0% sehingga tidak memenuhi syarat oleh BPOM No. 17 tahun 2022. Hasil uji kuantitatif cemaran logam terdapat satu sampel mengandung merkuri dengan kadar sampel A 0,63254 mg/L, dan satu sampel mengandung timbal dengan kadar sampel C 346,099 mg/L. Kadar merkuri sampel A kurang dari 1 mg/L memenuhi syarat. Sedangkan, kadar timbal sampel C lebih dari 20 mg/L sehingga tidak memenuhi syarat oleh BPOM No. 12 tahun 2019.

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**Kata kunci:** Krim wajah, hidrokuinon, cemaran logam merkuri dan timbal, spektrofotometri Uv-Vis, spektrofotometri serapan atom.

## ABSTRACT

Lydia Amanda Putri, 2023, ANALISIS CONTAMINATION OF HEAVY MERKURY AND LEAD AND HYDROQUINON IN FACIAL CREAMS CIRCULATING IN PALANGKA RAYA, THESIS PROPOSAL, FACULTY OF PHARMACEUTICAL, SETIA BUDI UNIVERSITY, SURAKARTA.

Cream is a semi-solid emulsion preparation. Face cream containing mercury metal and lead and hydroquinone is able to cause dark spots on the skin, nervous system disorders because it is toxic. The purpose of the study was to determine the levels of mercury or lead metal contamination and hydroquinone in samples of face whitening creams circulating in Palangka Raya

The research method used three sample products of face whitening creams circulating in Palangka Raya. Quantative analysis of hydroquinone using benedict reagent and quantitative analysis using UV-Vis spectrophotometry. Quantative analysis of metal contamination using KI, NaOH, HCL reagents and quantitative analysis using atomic absorption spectrophotometry.

The quantitative test results of hydroquinone obtained a number of three positive samples containing hydroquinone with an A content of 3.11%; B 2.81%; C 2.72%. Obtained precision value of 0.5%, LOD 0.34 ppm, LOQ 1.03 ppm, and accuracy of 99.89%. Hydroquinone levels in all samples are more than 0% so that they cannot be qualify by BPOM No. 17 of 2022. The results of quantitative tests of metal contamination contained one sample containing mercury with a sample A content of 0.63254 mg / L, and one sample containing lead with a sample C content of 346.099 mg / L. The mercury content of sample A less than 1 mg / L can be qualify. Meanwhile, the lead content of sample C is more than 20 mg / L so it cannot be qualify by BPOM No. 12 of 2019.

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**Keywords:** Face cream, hydroquinone, contamination of heavy merkury or lead, spectrophotometer Uv-Vis, spectrophotometer atomic absorption.