

INTISARI

EKA WULANDARI YULIANTO, 2024, PENGUJIAN MUTU FISIK DAN PENENTUAN NILAI SPF DALAM PRODUK *LIP BALM* SECARA *IN VITRO* DENGAN METODE SPEKTRIFOTOMETRI UV-VIS, KARYA TULIS ILMIAH, PROGRAM STUDI D-III ANALIS FARMASI DAN MAKANAN, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI. Dibimbing oleh apt. Anita Nilawati, S.Farm., M.Farm.

Produk kosmetik seperti *lip balm* yang mengandung tabir surya memiliki keefektifan dapat dilihat dari nilai *Sun Protection Factor* (SPF) yang tertera pada label produk kemasan. Banyaknya produk tabir surya yang beredar dipasaran diperlukan pembuktian untuk melindungi konsumen dari kosmetik yang tidak memenuhi persyaratan standar mutu sediaan. Penelitian ini bertujuan untuk mengetahui mutu fisik, nilai SPF pada beberapa produk sampel *lip balm* di pasaran, dan kesesuaian nilai SPF pada label kemasan sampel produk *lip balm*.

Penelitian ini menggunakan 3 sampel produk *lip balm* merek X, Y, Z yang mencantumkan nilai SPF. Sampel dilakukan pengujian mutu fisik yang meliputi uji organoleptis, homogenitas, pH, daya sebar, daya lekat, dan titik lebur. Selanjutnya dilakukan pengukuran nilai SPF secara *in vitro* diukur absorbansinya menggunakan metode spektrofotometri UV-Vis dengan panjang gelombang 290 – 320 nm interval 5 nm dan hasil uji dianalisis berdasarkan persamaan Mansur.

Hasil pengujian mutu fisik pada penelitian ini menunjukkan bahwa sampel memenuhi kriteria mutu fisik sediaan *lip balm* yang baik yaitu seluruh produk homogen, memenuhi rentang persyaratan pH bibir, memiliki daya sebar dan daya lekat yang baik. Ketiga sampel produk *lip balm* merek X, Y, Z yang terukur secara *in vitro* metode spektrofotometri UV-Vis memiliki rata – rata nilai SPF sebesar 17,5989; 12,6685; dan 11,5038. Hal tersebut tidak sesuai dengan label kemasan sampel produk *lip balm*.

Kata kunci: *lip balm*, tabir surya, uji mutu fisik, spektrofotometri UV-Vis

ABSTRACT

EKA WULANDARI YULIANTO, 2024, PHYSICAL QUALITY TESTING AND DETERMINING SPF VALUE IN LIP BALM PRODUCTS IN VITRO USING UV-VIS SPECTROPHOTOMETRY METHOD, SCIENTIFIC PAPERS, DIPLOMA OF PHARMACY AND FOOD ANALYSIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY. Supervised by apt. Anita Nilawati, S. Farm., M. Farm.

Cosmetic products such as lip balm that contain sunscreen have their effectiveness, which can be seen from the Sun Protection Factor (SPF) value stated on the product packaging label. The large number of sunscreen products on the market requires proof to protect consumers from cosmetics that do not meet the requirements for product quality standards. This research aims to determine the physical quality, SPF value of several sample lip balm products on the market, and the suitability of the SPF value on the packaging labels for sample lip balm products.

This research used 3 samples brand of lip balm products X, Y, Z which included SPF values. Samples were subjected to physical quality testing which included organoleptic tests, homogeneity, pH, spreadability, stickiness and melting point. Next, the SPF value was measured in vitro and the absorbance was measured using the UV-Vis spectrophotometric method with a wavelength of 290 – 320 nm at 5 nm intervals and the test results were analyzed based on the Mansur equation.

The results of physical quality testing in this study showed that the samples met the physical quality criteria for good lip balm preparations, namely that the entire product was homogeneous, met the lip pH requirement range, had good spreadability and adhesion. The three samples brand of lip balm products X, Y, Z which were measured using the in vitro UV-Vis spectrophotometry method had an average SPF value of 17,5989; 12,6685; and 11,5038. This does not match the lip balm product sample packaging label.

Keywords: lip balm, sunscreen, physical quality test, UV-Vis spectrophotometry