

AHS23-019

Stability And The Effectiveness Test of Halal Sunscreen Containing *Catharanthus roseus* L. Leaves Extract

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Abstract

In this study, we investigated the stability and effectiveness of halal sunscreens containing *Catharanthus roseus* L. leaves extract in protecting the skin from harmful effect of ultraviolet rays. Indonesia is a tropical country with a majority Muslim population, the development of sunscreen is aimed at being halal. One of the critical points for halal cosmetics is the ingredients halal sunscreens containing *Catharanthus roseus* L leaves extract was made in 4 formulations with different proportions of extract. Stability test by measurement pH test using pH indicator paper, homogeneity test, spreadability test, adhesion test, emulsion type test, cycling test by observations of color, smell and texture changes at 40 and 400 for 6 cycles with 24 hour each cycles, photostability test by irradiating UV light and then identified with a spectrophotometer at a wavelength of 293,4nm and 366nm. Effectiveness test by measurement of erythema area after application of halal sunscreen on the backs of mice that exposed to UV-B. The results showed that halal sunscreen containing *Catharanthus roseus* L leaves extract is stable and can protect the skin from harmful effect of ultraviolet rays. It has the potential to be mass produced and marketed. The formula of sunscreen using halal materials that comply with the LPPOM-MUI halal guarantee system makes sunscreen provide comfort and safety to Muslim and tropical countries customers. This study also showed that the addition of extract concentrations showed better protection that can be used for the next study about development of sunscreen herbal and halal.

Keywords: *stability, effectiveness, halal sunscreen, Catharanthus roseus L.*

