

ABSTRAK

Tanaman daun salam memiliki banyak manfaat salah satu diantaranya sebagai antibakteri. Ekstrak daun salam terbukti memiliki aktivitas sebagai antibakteri. Ekstrak daun salam diformulasikan dalam bentuk gel *hand sanitizer* karena kelebihanannya yaitu mudah dan nyaman saat pemakaian, tidak lengket serta mudah dibawa kemana-mana.

Penelitian ini merupakan penelitian eksperimental dengan tujuan untuk mengetahui pengaruh kombinasi *gelling agent* karbopol dan humektan propilen glikol terhadap sifat fisik dan stabilitas fisik gel *hand sanitizer* serta memperoleh area komposisi optimum. Data sifat fisik dan stabilitas fisik berupa viskositas, daya sebar, pergeseran viskositas dan pergeseran daya sebar dipilih sebagai respon yang diteliti dan dianalisis dengan metode faktorial menggunakan *Design Expert Version 13 (free trial)* dengan metode *two-way ANOVA* pada taraf kepercayaan 95%.

Hasil penelitian menunjukkan karbopol dan propilen glikol mempengaruhi sifat fisik dan stabilitas fisik formulasi sediaan gel *hand sanitizer* ekstrak daun salam yaitu memberikan respon yang signifikan terhadap viskositas, daya sebar, pergeseran viskositas dan pergeseran daya sebar. Peningkatan jumlah karbopol dapat meningkatkan viskositas dan menurunkan daya sebar, sedangkan peningkatan propilen glikol dapat menurunkan viskositas dan meningkatkan daya sebar sediaan gel *hand sanitizer*. Area komposisi optimum ditemukan dengan *superimposed contour plot*.

Kata kunci : ekstrak daun salam, karbopol, propilen glikol, gel *hand sanitizer*, desain faktorial

ABSTRACT

Bay leaf plants have many benefits, one of which is as an antibacterial. Bay leaf extract has been shown to have antibacterial activity. Bay leaf extract is formulated in the form of a hand sanitizer gel because of its advantages, which are that it is easy and comfortable when used, not sticky and easy to carry everywhere. This research is an experimental study with the aim of knowing the effect and interaction of the gelling agent carbopol and the humectant propylene glycol optimally so as to produce good physical properties and physical stability.

This research is an experimental research aimed to determine the effect of the gelling agent carbopol combination and the humectant propylene glycol on the physical properties and physical stability of hand sanitizer gel along with obtaining the optimum composition area. The data on physical properties and physical stability are in the form of viscosity, spreading power, viscosity shift and spreading power shift were selected as the response studied and analyzed by factorial method using Design Expert Version 13 (free trial) with two-way ANOVA method at 95% of confidence level.

The results showed that carbopol and propylene glycol affected the physical properties and physical stability of the bay leaf extract hand sanitizer gel formulation, namely giving a significant response to viscosity, spreadability, viscosity shift and spreadability shift. Increasing the amount of carbopol can increase the viscosity and reduce the spreadability, while increasing propylene glycol can reduce the viscosity and increase the spreadability of hand sanitizer gel preparations. The optimum composition area is found by a superimposed contour plot.

Key words : bay leaf extract, Carbopol, propylene glycol, hand sanitizer gel, factorial design