

## ABSTRAK

Tanaman lidah buaya memiliki banyak aktivitas salah satu diantaranya sebagai antibakteri. Ekstrak lidah buaya terbukti memiliki aktivitas sebagai antibakteri. Ekstrak lidah buaya diformulasikan kedalam gel *hand sanitizer* dengan keuntungan yaitu mudah dan nyaman saat diaplikasikan, mudah dibawa dan tidak lengket.

Penelitian ini merupakan jenis penelitian eksperimental dengan tujuan untuk mengetahui pengaruh kombinasi dari CMC-Na sebagai *gelling agent* dan gliserin sebagai humektan terhadap sifat fisik dan stabilitas fisik gel *hand sanitizer* serta memperoleh area komposisi yang optimum dari CMC- Na dan gliserin. Data sifat fisik dan stabilitas fisik berupa viskositas, daya sebar, pergeseran daya sebar dan pergeseran viskositas dipilih sebagai respon yang diteliti dan dianalisis dengan metode faktorial dan ANOVA dengan taraf kepercayaan 95% menggunakan Design Expert Version 13 (free trial), sumperimposed contour plot yang diperoleh digunakan untuk menentukan area optimum.

Hasil dari penelitian yaitu ditemukan kombinasi CMC-Na dan gliserin berpengaruh pada sifat fisik dan juga stabilitas sediaan gel *hand sanitizer* dan ditemukan komposisi formula optimum yaitu CMC-Na 1,125 gram dan gliserin 5 gram. Hasil uji stabilitas fisik sediaan gel *hand sanitizer* hanya formula ab yang memenuhi parameter sifat fisik dan stabilitas fisik gel hand sanitizer.

**Kata kunci :** ekstrak lidah buaya, CMC-Na, gliserin, gel *hand sanitizer*, desain faktorial.

## ABSTRACT

*Aloe vera has many activities, one of which is as an antibacterial. Aloe vera extract has been shown to have antibacterial activity. Aloe vera extract is formulated into a hand sanitizer gel with the advantages of being easy and comfortable when applied, easy to carry and not sticky.*

*This research is an experimental type of research with the aim of knowing the effect of the combination of CMC-Na as a gelling agent and glycerin as a humectant on the physical properties and stability of the hand sanitizer gel and to obtain the optimum composition area of CMC-Na and glycerin by using the factorial method. Data on physical properties and physical stability in the form of viscosity, dispersion, shift of spreadability and shift of viscosity were selected as responses which were studied and analyzed by factorial method and ANOVA with 95% confidence level using Design Expert Version 13 (free trial), superimposed contour plot obtained used to determine the optimum area.*

*The results of the research, it was found that the combination of CMC-Na and glycerin had an effect on the physical properties and also the stability of the hand sanitizer gel preparation and found the optimum formula composition, namely CMC-Na 1.125 grams and glycerin 5 grams. The results of the physical stability test for the hand sanitizer gel were only the formula ab that met the parameters of the physical properties and physical stability of the hand sanitizer gel.*

**Key words:** *aloe vera extract, CMC-Na, glycerin, hand sanitizer gel, factorial design.*