INTISARI

Proses pencampuran, meliputi suhu pencampuran dan kecepatan putar *propeller mixer* dapat mempengaruhi sifat fisis dan stabilitas sediaan emulsi oral A/M ekstrak etanol buah pare (*Momordica charantia* L.). Kecepatan putar yang digunakan akan memberikan energi kinetik sehingga menyebabkan adanya gaya geser pada emulsi yang memungkinkan terjadi perubahan sifat fisis emulsi. Energi panas berupa suhu pencampuran dapat mempengaruhi tegangan permukaan sehingga menentukan sifat fisis emulsi.

Penelitian ini bertujuan untuk mengetahui sejauh mana efek suhu pencampuran dan kecepatan putar *propeller mixer* terhadap sifat fisis dan stabilitas fisis dari emulsi yang dihasilkan. Oleh karena itu, dalam penelitian ini digunakan metode desain faktorial dua faktor yaitu suhu pencampuran – kecepatan putar dan dua level yaitu level tinggi – level rendah. Sifat fisis emulsi oral yang diukur adalah ukuran droplet, viskositas, dan indeks *creaming*. Stabilitas emulsi oral yang diukur adalah profil ukuran droplet, viskositas, dan indeks *creaming* selama penyimpanan satu bulan. Signifikansi efek suhu pencampuran dan kecepatan putar terhadap sifat fisis dan stabilitas emulsi oral ekstrak etanol buah pare (*Momordica charantia* L) dianalisis secara statistik menggunakan *design expert 7.1.4*. pada taraf kepercayaan 95%.

Hasil penelitian ini menunjukkan bahwa interaksi antara suhu pencampuran dan kecepatan putar memberikan efek yang signifikan ($p<0.05$) terhadap indeks *creaming* sebagai parameter sifat fisis emulsi.

Kata kunci: suhu pencampuran, kecepatan putar *propeller mixer*, emulsi oral A/M, ekstrak etanol buah pare, desain faktorial

ABSTRACT

The mixing process, includes mixing temperature and propeller mixer's mixing rate can affect the physical properties and stability of *Momordica charantia* L. fruit ethanolic extract W/O oral emulsion. The mixing rate is used to provide kinetic energy to cause a shear force on the emulsion which changes the physical properties of emulsion. Heat energy in the form of mixing temperature can affects the surface tension which determines the physical properties of emulsion.

The aim of this study was to determine how far the effect of mixing temperature and propeller mixer's mixing rate on the physical properties and stability of the emulsion. Therefore, in this study used factorial design method with two factor mixing temperature-mixing rate and two level high level-low level. The emulsion physical properties measured were droplet size, viscosity, and index of creaming. The emulsion stability measured were droplet size shift over one month storage and the profiles of droplet size, viscosity, and index of creaming for one month storage. The significance effect of mixing temperature and mixing rate on physical properties and stability of *Momordica charantia* L. fruit ethanolic extract W/O oral emulsion were analyzed statistically using the design expert 7.1.4. at 95% level of confidence.

The result of this study showed that the interaction between mixing temperature and mixing rate provided a significant effect ($p < 0.05$) on the index of creaming as a physical property parameter of emulsion.

Keywords : mixing temperature, propeller mixer's mixing rate, oral W/O emulsion, *Momordica charantia* L. fruit ethanolic extract, factorial design