INTISARI

Bentonit dipercaya memiliki kemampuan membersihkan kotoran dengan baik. Aspek kebersihan perhatian di masa pandemi COVID-19. Salah satu cara untuk mendapatkan manfaat bentonit sebagai bahan pembersih kulit adalah dengan membuat sabun cair bentonit. Sabun cair bentonit dibuat dengan kombinasi minyak biji bunga matahari dan *Virgin Coconut Oil* (VCO). Kombinasi keduanya dapat mempengaruhi sifat fisika-kimia dari sabun yang dihasilkan. Oleh karena itu, dilakukan optimasi untuk mendapatkan kombinasi minyak yang optimal dan memenuhi persyaratan SNI.

Pada penelitian ini, dibuat sebanyak lima formula dengan komposisi minyak yang berbeda. Parameter penilaian berupa uji organoleptik, daya dan stabilitas busa, pH, viskositas, asam lemak bebas, dan total bahan aktif. Hasil pengujian dianalisis menggunakan *Design Expert* menggunakan metode *Simplex Lattice Design.* Selanjutnya, dilakukan uji yang sama terhadap sabun cair formula optimum dan dilakukan verifikasi menggunakan *one sample t-test.* Dilakukan juga uji penerimaan kepada konsumen.

Prediksi formula terdiri dari kombinasi minyak biji bunga matahari 12,12% dan VCO 87,88%. Interaksi keduanya mampu memberikan pengaruh terhadap respon fisika-kimia sabun cair bentonit. Hasil analisis menunjukkan bahwa persamaan SLD yang diperoleh dapat digunakan untuk respon viskositas, asam lemak bebas, dan total bahan aktif. Sabun formula optimum yang dihasilkan memenuhi persyaratan SNI 4085:2017 dan dapat diterima oleh masyarakat.

Kata Kunci: sabun cair bentonit, minyak biji bunga matahari, VCO, optimasi formula

ABSTRACT

Bentonite is able to clean dirt well. The aspect of cleanliness being a concern during the COVID-19 pandemic. One way to get the benefits of bentonite as skin cleanser is to make bentonite liquid soap. Bentonite liquid soap is made from a combination of sunflower seed oil and virgin coconut oil (VCO). The combination of them can affect the physico-chemical properties of the soap. Therefore, optimization is carried out to get the optimal combination of oils and meet the requirements of SNI.

In this study, five formulas were made with different oil compositions. The assessment parameters were organoleptic tests, foam strength and stability, pH, viscosity, free fatty acids, and total active ingredients. The test results were analyzed using Design Expert using the Simplex Lattice Design method. Furthermore, the same test was carried out on the optimum formula liquid soap and verified using the one sample t-test. An acceptance test was also conducted on consumers.

Prediction formula consists of a combination of 12,12% sunflower seed oil and 87,88% VCO. The interaction of them is able to influence the physico-chemical response of bentonite liquid soap. The results of the analysis show that the obtained SLD equation can be used for the response of viscosity, free fatty acids, and total active ingredients. The optimum formula soap produced meets the requirements of SNI 4085:2017 and can be accepted by the consumers.

Keywords: bentonite liquid soap, sunflower seed oil, virgin coconut oil, formula optimization