INTISARI

KARAKTERISTIK FISIK DAN KIMIA SABUN MANDI *SCRUB* DENGAN PENAMBAHAN SERBUK *Sargassum polycystum*

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan serbuk *Sargassum polycystum* terhadap karakteristik fisik dan kimia sabun mandi *scrub*. Karakteristik fisik yang diamati terdiri dari kekerasan, stabilitas busa, dan warna. Sedangkan karakteristik kimia meliputi pH, kadar air, bahan tak larut dalam etanol, asam lemak bebas, dan aktivitas antioksidan. Hasil penelitian menunjukkan bahwa penambahan serbuk *Sargassum polycystum* berpengaruh signifikan terhadap parameter warna, pH, kadar air, bahan tak larut dalam etanol, asam lemak bebas, dan aktivitas antioksidan sabun mandi *scrub*. Namun tidak memberikan pengaruh yang signifikan terhadap parameter stabilitas busa dan kekerasan pada sabun. Nilai kekerasan sabun dengan penambahan serbuk pada konsentrasi 2%, 4% dan 6% berada pada kisaran 16,38–20,99 N; stabilitas busa 80,46–82,75%; *lightness* (L*) 44,74-61,79; *redness* (a*) 2,21-3,46; *yellowness* (b*) 9,64-15,22; pH 10,62-10,64; kadar air 7,78-10,62%; bahan tak larut dalam etanol 4,3-8,36%; asam lemak bebas 1,19-1,35%; dan aktivitas antioksidan terbaik pada perlakuan penambahan 6% serbuk *Sargassum polycystum* dengan nilai IC_{50} sebesar 17383,47 ppm.

Kata kunci: sabun *scrub*, saponifikasi, *Sargassum polycystum*, antioksidan

ABSTRACT

PHYSIC AND CHEMICAL CHARACTERISTIC OF SCRUB BATH SOAP ENRICHED WITH *Sargassum polycystum* POWDER

This study aims to determine the effect of adding *Sargassum polycystum* powder on the physical and chemical characteristics of scrub bath soap. The observed physical characteristics include hardness, foam stability, and color. While the chemical characteristics include pH, moisture content, ethanol-insoluble matter, free fatty acids, and antioxidant activity. The results showed that the addition of *Sargassum polycystum* powder significantly affected the color, pH, moisture content, ethanol-insoluble matter, free fatty acids, and antioxidant activity of the scrub soap. However, it did not significantly affect the foam stability and hardness of the soap. The values of the soap with the addition of powder at concentrations of 2%, 4%, and 6% were in the range of 16.38–20.99 N for hardness, 80.46–82.75% for foam stability, 44.74-61.79 for lightness (L*), 2.21-3.46 for redness (a*), 9.64-15.22 for yellowness (b*), 10.62-10.64 for pH, 7.78-10.62% for moisture content, 4.3-8.36% for ethanol-insoluble matter, and 1.19-1.35% for free fatty acids; and the best antioxidant activity was obtained with the addition of 6% *Sargassum polycystum* powder, with an IC_{50} value of 17383.47 ppm.

Keywords: scrub soap, saponification, *Sargassum polycystum*, antioxidant