

INTISARI

Minyak biji sacha inchi (*Plukenetia volubilis*) kaya akan asam lemak omega-3, omega-6, omega-9, serta tokoferol (vitamin E) yang berperan sebagai antioksidan, anti-aging, moisturizer, dan emolien. Sementara itu, ekstrak biji kelor (*Moringa oleifera*) mengandung flavonoid, fenolik, dan dengan aktivitas antibakteri, antijamur, *photoprotective*, *brightening*, dan *exfoliator*. Kombinasi kedua bahan ini berpotensi memberikan efek sinergis, di mana vitamin C pada biji kelor mampu mereduksi vitamin E teroksidasi, memperpanjang aktivitas antioksidannya.

Penelitian ini bertujuan mengembangkan *No Rinse Body Scrub* yang kaya antioksidan, memberikan efek *soothing*, dan tidak mengiritasi kulit melalui kombinasi minyak biji sacha inchi dan ekstrak biji kelor. Tahap awal dilakukan uji pendahuluan untuk menentukan konsentrasi optimal kombinasi minyak sacha inchi berdasarkan aktivitas antioksidan menggunakan metode ABTS. Formula optimal ditentukan dengan memvariasikan konsentrasi emulgator triethanolamine (TEA) dan diuji melalui evaluasi mutu fisik serta aktivitas anti radikal. Evaluasi mutu fisik dilakukan dengan membandingkan formula optimal dengan produk *body scrub* komersial, sedangkan uji aktivitas anti radikal membandingkan nilai IC₅₀ formula optimal, produk komersial, dan formula basis. Data dianalisis menggunakan perangkat lunak seperti SPSS.

Formula *no rinse body scrub* paling optimal (F3) menggabungkan minyak biji sacha inchi (*Plukenetia volubilis*) 5%, ekstrak biji kelor (*Moringa oleifera*) 4,5%, dan trietanolamin (TEA) 2% sebagai emulgator yang dipilih berdasarkan waktu kering, pH, viskositas, dan parameter daya sebar yang sesuai dengan standar dan kontrol positif. Hasil uji evaluasi mutu fisik formula optimal *no rinse body scrub* dengan konsentrasi triethanolamin (TEA) 2% menunjukkan karakteristik warna *cream*, aroma *coconut-vanilla* dengan sedikit bau khas biji kelor, konsistensi padat, tidak berminyak, homogen, dan larut dalam air (emulsi o/w). Waktu kering tercatat 1,91 menit sebelum uji stabilitas dan 1,82 menit setelahnya, nilai pH 6,66 menjadi 6,48, viskositas 16.941 cPoisies menjadi 16.998 cPoisies, serta daya sebar 3,22 cm menjadi 3,15 cm. Analisis *PAIRED T-TEST* dan *WILCOXON* menunjukkan perbedaan signifikan pada pH, sedangkan waktu kering, daya sebar, dan viskositas tidak mengalami perbedaan signifikan. Hasil ini memenuhi Standar Nasional Indonesia (SNI. 16-4399-1996) untuk nilai pH dan viskositas, persyaratan acuan untuk nilai daya sebar dan waktu kering, serta sesuai dengan kontrol positif.

Kata Kunci: *Body Scrub*, Minyak biji sacha inchi (*Plukenetia volubilis*), Ekstrak Biji Kelor (*Moringa oleifera*), Kosmetika, Trietanolamin, Anti Radikal.

ABSTRACT

Sacha inchi (*Plukenetia volubilis*) seed oil is rich in omega-3, omega-6, and omega-9 fatty acids, as well as tocopherol (vitamin E), which acts as an antioxidant, anti-aging agent, moisturizer, and emollient. Meanwhile, Moringa (*Moringa oleifera*) seed extract contains flavonoids, phenolics, and antioxidants. It has antibacterial, antifungal, photoprotective, brightening, and exfoliator activities. The combination of these two ingredients can provide a synergistic effect, where vitamin C in Moringa seeds can reduce oxidized vitamin E, prolonging its antioxidant activity.

This study aims to develop a No Rinse Body Scrub that is rich in antioxidants, provides a soothing effect, and does not irritate the skin through the combination of sachal inchi seed oil and moringa seed extract. In the initial stage, a preliminary test was conducted to determine the optimal concentration of sachal inchi oil combination based on antioxidant activity using the ABTS method. The optimal formula was determined by varying the triethanolamine (TEA) emulgator concentration and tested through physical quality evaluation and anti-radical activity. Physical quality evaluation was conducted by comparing the optimal formula with commercial body scrub products. In contrast, the anti-radical activity test compared the IC₅₀ values of the optimal formula, commercial product, and base formula. Data were analyzed using software such as SPSS.

The most optimal no rinse body scrub formula (F3) combines sachal inchi (*Plukenetia volubilis*) seed oil 5%, Moringa oleifera (*Moringa oleifera*) seed extract 4.5%, and triethanolamine (TEA) 2% as emulgator which is selected based on dry time, pH, viscosity, and spreadability parameters by standards and positive controls. The results of the physical quality evaluation test of the optimal formula of no rinse body scrub with a concentration of triethanolamine (TEA) 2% showed characteristics of cream color, coconut-vanilla aroma with a slight smell of moringa seeds, solid consistency, non-greasy, homogeneous, and soluble in water (o/w emulsion). Dry time was recorded as 1.91 minutes before the stability test and 1.82 minutes after, pH value of 6.66 to 6.48, viscosity of 16,941 cPois to 16,998 cPois, and spreadability of 3.22 cm to 3.15 cm. PAIRED T-TEST and WILCOXON analysis showed significant differences in pH, while dry time, spreadability, and viscosity had no significant differences. These results meet the Indonesian National Standard (SNI. 16-4399-1996) for pH and viscosity values, reference requirements for spreadability, and dry time values, and are by positive control.

Keywords: Body Scrub, Sachal inchi seed oil (*Plukenetia volubilis*), Moringa seed extract (*Moringa oleifera*), Cosmetics, Triethanolamine, Anti-radical.