

ABSTRAK

FORMULASI, KARAKTERISASI DAN UJI AKTIVITAS ANTIOKSIDAN SEDIAAN *FACE MIST* EKSTRAK ETANOL TOMAT CERI (*Solanum lycopersicum* var. *cerasiforme*)

Stres oksidatif akibat radikal bebas dapat memicu penuaan dini pada kulit, sehingga diperlukan perlindungan antioksidan dari bahan alami seperti buah tomat ceri (*Solanum lycopersicum* var. *cerasiforme*). Penelitian ini bertujuan untuk mengformulasikan sediaan *face mist* berbasis ekstrak etanol tomat ceri serta mengevaluasi kandungan fitokimia, kadar likopen, aktivitas antioksidan, evaluasi mutu, dan tingkat kesukaan. Ekstraksi dilakukan secara maserasi dengan perlakuan pemanasan sampel (100°C, 5 menit). Sediaan *face mist* dibuat dalam empat formula, yaitu F0 (0% ekstrak), F1 (0,5% ekstrak), F2 (1% ekstrak), F3 (1,5% ekstrak). Hasil menunjukkan ekstrak positif mengandung karotenoid, flavonoid, saponin, dan steroid dengan kadar likopen 0,3704 mg/g dan IC_{50} Ekstrak etanol tomat ceri 27,0899 ppm. Sediaan *face mist* ekstrak etanol tomat ceri formula F0, F1, F2, dan F3 memiliki nilai IC_{50} Secara berturut-turut, yaitu 145,7528; 21,9390; 20,1645; dan 20,1809 ppm. Evaluasi mutu memenuhi persyaratan mutu dengan rentang bobot jenis 0,9683–0,9884 g/mL, viskositas 0,9860–1,1602 cP, daya sebar 5,80–7,43 cm, dan waktu kering 02.22–03.29 menit. Nilai pH F0 (0% ekstrak) yaitu 4,58 memenuhi standar pH kulit, namun peningkatan konsentrasi ekstrak menurunkan pH sediaan pada F1, F2, dan F3 berturut-turut 3,70; 3,58; dan 3,53 sehingga berada di luar rentang standar. Uji hedonik menunjukkan F1 paling disukai pada parameter aroma, sedangkan F2 paling disukai pada parameter warna dan tekstur. Ekstrak etanol tomat ceri berpotensi dikembangkan sebagai bahan aktif sediaan *face mist* yang efektif melindungi kulit dari radikal bebas.

Kata kunci: aktivitas antioksidan, DPPH, *face mist*, kadar total likopen, tomat ceri

ABSTRACT

FORMULATION, CHARACTERIZATION, AND ANTIOXIDANT ACTIVITY TEST OF FACE MIST PREPARATION OF CHERRY TOMATO (*Solanum lycopersicum* var. *cerasiforme*) ETHANOL EXTRACT

*Oxidative stress caused by free radicals can trigger premature skin aging, necessitating antioxidant protection from natural sources such as cherry tomato (*Solanum lycopersicum* var. *cerasiforme*). This study aimed to formulate a face mist preparation based on cherry tomato ethanol extract and evaluate its phytochemical content, lycopene level, antioxidant activity, physical quality, and hedonic preference. Extraction was carried out using the maceration method with heat pretreatment (100°C for 5 minutes). The face mist was prepared in four formulas: F0 (0% extract), F1 (0.5% extract), F2 (1% extract), and F3 (1.5% extract). The results showed that the extract was positive for carotenoids, flavonoids, saponins, and steroids, with a lycopene content of 0.3704 mg/g and an IC₅₀ value of 27.0899 ppm. The IC₅₀ values for the face mist formulations F0, F1, F2, and F3 were 145.7528, 21.9390, 20.1645, and 20.1809 ppm, respectively. Physical quality evaluations met the standard specifications, with specific gravity ranging from 0.9683 to 0.9884 g/mL, viscosity of 0.9860 to 1.1602 cP, spreadability of 5.80 to 7.43 cm, and drying time of 02.22 to 03.29 minutes. The pH value of F0 (0% extract) is 4.58 complied with the standard skin pH; however, increasing the extract concentration decreased the pH of F1, F2, and F3 to 3.70, 3.58, and 3.53, respectively, falling outside the acceptable range. The hedonic test revealed that F1 was the most preferred in terms of aroma, while F2 was preferred for color and texture. In conclusion, cherry tomato ethanol extract has potential as an active antioxidant ingredient in face mist formulations to effectively protect the skin from free radicals.*

Keywords: antioxidant activity, DPPH, face mist, total lycopene content, cherry tomato.