ABSTRAK

Teh herbal daun jati cina (*Cassia angustifolia*) merupakan salah satu produk herbal yang banyak dikonsumsi masyarakat dan berpotensi mengalami cemaran logam berat, salah satunya timbal (Pb). Timbal merupakan logam berat toksik yang dapat terakumulasi dalam tubuh dan berpotensi menimbulkan gangguan kesehatan. Penelitian ini bertujuan untuk memvalidasi metode analisis dan menetapkan kadar timbal (Pb) pada sediaan teh herbal daun jati cina yang beredar di *e-commerce* menggunakan Spektrofotometri Serapan Atom (SSA). Sampel dipilih dengan metode *purposive sampling* berdasarkan kriteria inklusi dan eksklusi yang telah ditetapkan. Validasi metode dilakukan melalui pengujian linearitas, batas deteksi (LoD), batas kuantifikasi (LoQ), presisi, dan akurasi. Hasil uji linearitas menunjukkan persamaan regresi y = 0,0114x − 0,0003 dengan koefisien korelasi (**r**) sebesar 0,9998**.** Nilai LoD dan LoQ yang diperoleh berturut-turut sebesar 0,08733 ppm dan 0,29110 ppm. Uji presisi menghasilkan nilai %RSD sebesar 1,19%, sedangkan uji akurasi menghasilkan rata-rata %recovery sebesar 103,0249%. Hasil identifikasi dan penetapan kadar timbal menunjukkan bahwa tiga dari sembilan sampel terdeteksi mengandung timbal (Pb), yaitu sampel 2(B) sebesar 3,0702 mg/kg**,** sampel 5(E) sebesar 8,4795 mg/kg**,** dan sampel 6(F) sebesar 4,6784 mg/kg**.**

Kata kunci: teh herbal daun jati cina, timbal (Pb), Spektrofotometer Serapan Atom, validasi metode, logam berat.

ABSTRACT

Cassia angustifolia herbal tea is one of the herbal products widely consumed by the community and is potentially contaminated by heavy metals, particularly lead (Pb). Lead is a toxic heavy metal that can accumulate in the human body and cause adverse health effects. This study aimed to validate an analytical method and determine the lead (Pb) content in Cassia angustifolia herbal tea products marketed through e-commerce using Atomic Absorption Spectrophotometry (AAS). Samples were selected using a purposive sampling method based on predetermined inclusion and exclusion criteria. Method validation was carried out through linearity, Limit of Detection (LoD), Limit of Quantification (LoQ), precision, and accuracy tests. The linearity test produced a regression equation of y = 0.0114x − 0.0003 with a correlation coefficient (r) of 0.9998. The obtained LoD and LoQ values were 0.08733 ppm and 0.29110 ppm, respectively. The precision test showed a %RSD of 1.19%, while the accuracy test yielded an average recovery of 103.0249%. The identification and quantitative analysis revealed that three out of nine samples contained lead (Pb), namely sample 2(B) at 3.0702 mg/kg, sample 5(E) at 8.4795 mg/kg, and sample 6(F) at 4.6784 mg/kg.

Keywords: Cassia angustifolia herbal tea, lead (Pb), Atomic Absorption Spectrophotometry, method validation, heavy metals.