

## INTISARI

### **ASTARI, D.R., 2019, PENETAPAN KADAR AKRILAMIDA YANG DIPENGARUHI PROSES PENGOLAHAN KENTANG SECARA SPEKTROFOTOMETRI UV – VIS, KARYA TULIS ILMIAH, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI SURAKARTA**

Kentang (*Solanum tuberosum L*) merupakan tanaman umbi yang kaya akan karbohidrat dan protein yang dikonsumsi dengan berbagai proses pengolahan seperti direbus, digoreng, dibakar, dan dioven. Pemanasan suhu tinggi tanpa disadari menyebabkan penyakit kanker. Suhu tinggi menyebabkan protein yang terdapat dalam kentang menjadi rusak dan menyebabkan akrilamida. Penelitian ini dilakukan analisa terhadap akrilamida yang dipengaruhi proses pengolahan kentang menggunakan Spektrofotometri UV-Vis.

Kentang berbagai pengolahan diekstraksi dengan diklorometana kemudian hasil ekstraksi larutkan dengan campuran asetronitril : aquadest : asam fosfat 10% (5 : 94 : 1) dan dibaca pada panjang gelombang 230 nm.

Validasi metode penelitian didapatkan hasil uji akurasi dengan nilai perolehan kembali berturut – turut 106,38%; 102,61%; dan 97,19%. Nilai LOD dan LOQ yang diperoleh berturut – turut sebesar 4,7018 dan 14,2479. Hasil penelitian ini diperoleh kadar akrilamida dalam sampel rebus sebesar 0,0028 %b/b; kadar dalam sampel oven sebesar 0,0036 %b/b; kadar dalam sampel bakar sebesar 0,0186 %b/b dan kadar dalam sampel goreng sebesar 0,0182 %b/b. Hasil penelitian tersebut kadar akrilamida dalam sampel kentang yang tertinggi pada sampel kentang bakar dan kadar akrilamida terendah pada sampel kentang rebus. Lamanya proses pengolahan kentang dan suhu yang digunakan dalam pengolahan kentang mempengaruhi kadar akrilamida dalam sampel kentang dengan berbagai proses pengolahan.

---

Kata kunci : akrilamida , proses pengolahan kentang , Spektrofotometri UV – Vis

## ABSTRACT

**ASTARI, D.R., 2019, THE DETERMINATION OF ACRYLAMIDE RATE INFLUENCED BY THE PORCESS OF POTATO PROCESSING OF SPECTROPHOTOMETRY UV-Vis, A SCIENTIFIC WRITING, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY OF SURAKARTA**

Potatoes (*Solanum tuberosum L*) is a tuber plant that is rich in carbohydrates and proteins that are consumed with various cooking process such as stewed, fried, burned, and oven. High temperature heating unknowingly causes cancer. High temperatures cause protein that is contained in potatoes to become damaged and cause acrylamide. This research was conducted the analysis of Acrylamides influenced by the process of potato processing using spectrophotometry UV - Vis.

The various processing of potatoes was extracted with dichloromethane then the results of the extraction was dissolved with a mixing of acetonitrile: H<sub>2</sub>O: Phosphoric acid 10% (5:94:1) and read at a wavelength of 230 nm.

The validation of this research methods was obtained by the results of the accuracy test with reacquisition value: 106.38%; 102.61%; and 97.19%. The acquired LOD and LOQ values were consecutive – 4.7018 and 14.2479. the results of this study gained that acrylamide rated in boiled samples of 0.0028% b/b; and oven sample rated of 0.0036% b/b; the rate in burn sample was 0.0186% b/b and the rate in fried sample was 0.0182% b/b. the results of the study of acrylamide in potato samples were highest in the sample of the roasted potato and the lowest acrylamide rate on the boiled potato sample. The duration of the processing potatoes and the temperature used in potato processing affects the level of acrylamide in potato samples with various processing processes.

---

Keywords: acrylamide, potato processing processes, spectrophotometry UV – Vis