

INTISARI

ANI, F., 2019, PENETAPAN KADAR AKRILAMIDA YANG DIPENGARUHI OLEH JENIS MINYAK DALAM PENGGORENGAN KENTANG SECARA SPEKTROFOTOMETRI UV-VIS, KARYA TULIS ILMIAH, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI SURAKARTA

Akrilamida merupakan senyawa kimia yang bersifat karsinogenik dihasilkan akibat pemanasan suhu tinggi ($>120^{\circ}\text{C}$) yang dapat menyebabkan penyakit kanker. Kentang (*Solanum tuberosum* L.) banyak mengandung karbohidrat dan protein yang dikonsumsi dengan cara penggorengan menggunakan berbagai jenis minyak. Penelitian ini bertujuan untuk menganalisa terbentuknya senyawa akrilamida, untuk mengetahui kadar dan perbedaan signifikan kadar akrilamida pada kentang yang dipengaruhi oleh berbagai jenis minyak dalam penggorengan.

Penelitian ini menggunakan metode Spektrofotometri Uv-Vis. Kentang yang digoreng dengan berbagai jenis minyak diekstraksi dengan diklorometana kemudian hasil ekstraksi dilarutkan 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 pada sampel kentang goreng dengan minyak kelapa sawit sebesar 0,0182% b/b; minyak kedelai sebesar 0,0096% b/b; minyak zaitun sebesar 0,0087% b/b dan minyak biji bunga matahari 0,0069% b/b. Berdasarkan hasil penelitian kadar akrilamida dalam sampel kentang yang tertinggi yaitu pada sampel kentang goreng minyak kelapa sawit dan kadar akrilamida terendah pada sampel kentang goreng minyak biji bunga matahari.

Kata kunci : akrilamida, jenis minyak penggorengan kentang, Spektrofotometri UV – Vis

ABSTRACT

ANI, F., 2019, THE DETERMINATION OF THE ACRYLAMIDE LEVELS WHICH AFFECTED BY THE TYPE OF OIL IN THE POTATO FRYING PAN SPECTROPHOTOMETRY UV-VIS, A SCIENTIFIC WRITING, FACULTY OF PHARMACY, SETIA BUDI UNVIVERSITY OF SURAKARTA

Acrylamide is a carcinogenic chemical compound produced due to the high-temperature heating (>120°C) which is able to cause cancer disease. Potatoes (*Solanum Tuberosum L*) is a plant that contains of many carbohydrates and proteins, that are consumed by frying process using various types of oil such palm oil, soybean oil, olive oil, and sunflower seed oil. This research was conducted the analysis of acrylamide which was influenced by oil in the potato frying pan using UV-Vis Spectrophotometry.

The potatoes were fried using various types of extracted oil with dichloromethane then the results of the extraction were dissolved with the mixing of Acetonitrile: H₂O: 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 the acrylamide rates in palm oil samples amounting to 0,0182% b/b; the content in the soybean oil samples amounted to 0,0096% b/b; the content in the olive oil samples amounted 0,0087% b/b and the rate in the sample of sunflower seed oil 0,0069% b/b. The results of the study of acrylamide in the potato samples of the highest in the palm oil potato samples and the lowest rates of acrylamide in the sunflower oil potato samples.

Keywords: acrylamide, potato frying oil type, spectrophotometry Uv-Vis