**PENETAPAN KADAR BENZOAT DI DALAM MINUMAN KEMASAN YANG BEREDAR DI SWALAYAN DI KOTA MEDAN**

**SECARA SPEKTROFOTOMETRI UV**

**KHAIRANI YUSDA SITORUS**

**NPM. 162114044**

**ABSTRAK**

Benzoat merupakan salah satu bahan pengawet yang sering diperbolehkan penggunaannya di dalam minuman untuk mencegah pembusukan akibat penguraian oleh mikroorganisme, namun bila penggunaannya berlebihan dapat menimbulkan berbagai dampak negatif bagi kesehatan. Saat ini di swalayan banyak beredar minuman ringan kemasan, yang kemungkinan mengandung benzoat. Menurut Clark’s (2004) asam benzoat di dalam pelarut metanol memberikan spektrum pada panjang gelombang 227 nm dengan nilai A11 895, maka penetapan kadarnya dapat ditentukan secara spektrofotometri ultraviolet, dan menurut Peraturan Menkes RI No.722/Menkes/Per/IX/1988 benzoat atau garam natrium benzoat diperbolehkan di dalam minuman maksimum 600 mg/kg bahan. Maka penulis melakukan analisis benzoat di dalam minuman kemasan yang beredar di swalayan di kota Medan unrtuk mengetahui kadarnya sesuai dengan Peraturan Menkes RI No.722/Menkes/Per/IX/1988.

Sampel diambil secara acak sederhana sebanyak 10 merek berdasarkan undian. Sebelum dilakukan penentuan kadar benzoat, sampel diidentifikasi terlebih dahulu untuk memastikan adanya benzoat dengan cara reaksi esterifikasi, dengan larutan feri klorida, reaksi kristal aseton air, dan sublimasi. Penentuan kadar benzoat dilakukan secara spektrofotometri ultra violet menggunakan pelarut metanol pada panjang gelombang sekitar 227 nm.

Hasil penelitian menunjukkan bahwa dari 10 sampel yang diperiksa seluruhnya mengandung benzoat, dan terdapat dua sampel yang tidak memenuhi persyaratan dari Peraturan Menteri Kesehatan No.722/Menkes/Per/IX/1988, dengan kadar benzoat lebih dari 600 mg/kg, sampel C = (3565,14 ± 91,20) mg/kg dan sampel E = (1502,88 ± 11,02) mg/kg

Kata kunci : *minuman kemasan, benzoat, spektrofotometri ultraviolet*

***THE DETERMINATION OF BENZOATE CONTENT IN THE PACKAGED BEVERAGES IN SUPERMARKETS IN MEDAN CITY THROUGH***

***UV SPECTROPHOTOMETRY***

**KHAIRANI YUSDA SITORUS**

**NPM. 162114044**

***ABSTRACT***

*Benzoate is one of the preservatives that are often allowed to use in beverages to prevent decay due to decomposition by microorganisms, but when excessive use can cause a variety of negative impacts to health. Currently in supermarkets many circulating soft drinks are packaged, which may contain benzoate. According to Clark’s (2004) benzoic acid in the methanol solvent gives the spectrum at a wavelength of 227 nm with a value of A11 895, hence its degree of determination can be determined in ultraviolet spectrophotometry, and according to the regulation of the Menkes RI No. 722/Menkes/Per/IX/1988. Benzoate or sodium benzoate salts are allowed in a maximum drink of 600 mg/kg of ingredients. Then the author performs analysis of Benzoate in bottled drinking circulating in supermarkets in the city of Medan for aware of its levels in accordance with the regulation of Menkes RI No. 722/Menkes/Per/IX/1988.*

*Samples were taken in a simple random 10 brands based on the lottery. Prior to the determination of benzoate rate, the sample was identified in advance to ensure that the benzoate was in a way of esterification, with a hydrochloric chloride solution, water acetone crystal recation, and sublimation. Determination of benzoate rate was performed in Ultra Violet spectrophotometry using methanol solvent at a wavelength of about 227 nm.*

*The results showed that out of 10 samples were examined entirely containing benzoate, and there were two samples that did not meet the requirements of the Minister of Health regulation No. 722/Menkes/Per/IX/1988, with Benzoate rate of more than 600 mg/kg, sample C = (3565.14 ± 91.20) mg/kg and drink E = (1502.88 ± 11.02) mg/kg*

*Keywords: bottled drink, benzoate, Ultraviolet spectrophotometry*