Praktek Kerja Profesi Apoteker di PT SOHO Industri Farmasi Kawasan Industri Pulogadung Jl. Pulogadung No. 6 Jakarta Periode 4 Maret - 31 April 2013

Cyntiani, author

Abstrak

Asam lemak adalah salah satu komponen penyusun minyak lemak. Komposisi asam lemak dalam minyak lemak berbeda satu dengan yang lain. Analisis dengan kromatografi gas secara langsung akan membutuhkan waktu analisis yang lama karena titik didih asam lemak yang sangat tinggi sehingga perlu dilakukan derivatisasi sebelum dianalisis. Penelitian ini bertujuan untuk memperoleh kondisi analisis optimum asam laurat, asam oleat, dan asam palmitat agar diperoleh metode yang valid yang selanjutnya digunakan untuk menetapkan kadar minyak lemak dalam produk obat gosok. Derivatisasi dilakukan dengan metode esterifikasi Lepage menggunakan reagen metanol-toluen 4:1 (v/v) dan katalis asetil klorida. Analisis dilakukan menggunakan kromatografi gas dengan kolom VB-wax (60 m x 0,32 mm), suhu kolom terprogram 170-1900C, kenaikan 20C/menit dan dipertahankan selama 3 menit. Suhu injektor dan suhu detektor masing-masing 230 dan 2500 C; laju alir gas helium 1,2 ml/menit, volume penyuntikan 1,0 µl, dan dideteksi dengan detektor ionisasi nyala. Pada kondisi optimum waktu retensi laurat termetilasi adalah 4,32 menit dengan faktor ikutan 1,36. Waktu retensi palmitat termetilasi adalah 6,723 menit, faktor ikutan 1,32. Waktu retensi oleat termetilasi adalah 9,789 menit, faktor ikutan 1,44. Metode yang diperoleh valid dengan presisi (KV) antara 0,11-0,36%, dan uji perolehan kembali 98,22-102,00%. Sampel A mengandung minyak kelapa dengan kadar rata-rata 49,95% , sampel B mengandung minyak zaitun dengan kadar rata-rata 18,99% , sampel C tidak mengandung minyak lemak.

.....

Fatty acid is one of the components that builds up the structure of lipid such as fat and oils. Each fatty acid composition present in lipid is different with one and another. Direct analysis performed by means of gas chromatography will require longer analysis time due to relatively high melting point of fatty acids hence derivatization is to be conducted in advance. This research was performed to achieve optimum analytical condition in order to obtain valid method which is required for subsequent determination of fatty acid contents present in liniment products. Derivatization was conducted by Lepage esterification using reagent such as methanol-toluene 4:1 (v/v) and acetyl chloride which was served as catalyst. On the other hand, the analysis process was done by gas chromatography using VB-wax column (60m x 0.32mm), the temperature of the column was set at 1700-1900C with the increase of 20/C and was kept for 3 minutes. The temperature of injector and detector were 2300 and 2500C, respectively; the flow rate of helium was 1.2 ml/minute with 1.0µl injection volume and detected by flame ionization detector. At the optimum condition, the retention time of methylated lauric and palmitic were 4.32 minutes with tailing factor of 1.36 and 6.723 minutes with tailing factor of 1.36, respectively. Meanwhile, the retention time required for methylated oleic was 9.789 minutes tailing factor of 1.44. The acquired method was valid within precision (CV) of 0.11-0.36%, and the approximate result of recovery test was 98.22-102.00%. The average content of coconut oil in sample A was 49.95%, the average content of olive oil in sample B was 18.99 %, meanwhile sample C had no fatty oil.