ABSTRAK

Telah dilakukan analisis formaldehida pada empat merek popok bayi (*disposable diapers*). Dari identifikasi formaldehida dengan larutan $FeCl_3$ 0,5% dan H_2SO_4 pekat didapatkan hasil bahwa tiga dari empat merek popok bayi (*disposable diapers*) positif mengandung formaldehida, sehingga dilakukan penetapan kadar formaldehida pada ketiga merek popok bayi (*disposable diapers*) tersebut. Penetapan kadar dilakukan dengan metode spektrofotometri sinar tampak menggunakan pereaksi Nash. Pereaksi Nash digunakan untuk menghasilkan senyawa dihidropiridin yang berwarna kuning stabil jika bereaksi dengan formaldehida agar serapan dapat diukur pada pada daerah sinar tampak. Ekstraksi formaldehida dari sampel dilakukan dengan metode absorpsi uap. Dari dua ratus gram sampel popok bayi (*disposable diapers*), diperoleh kadar formaldehida pada sampel A, B, dan C masing-masing sebesar 0,265, 0,285, dan 0,165 mg/kg. Jumlah formaldehida yang terdapat di tiap pad popok bayi (*disposable diapers*) pada sampel A, B dan C masing-masing sebesar $2{,}65x10^{-5}$, $2{,}85x10^{-5}$, dan $1{,}65x10^{-5}$ % b/b. Validasi metoda yang digunakan pada penelitian ini menunjukkan nilai presisi akurasi 101,67 %; RSD 1,621 %, r = 0,998; batas deteksi (BD) 0,739 mg/L dan batas kuantitasi (BK) 1,534 mg/L.

ABSTRACT

Analysis of formaldehyde on four brands of disposable diapers have been done. From identification of formaldehyde with $FeCl_3$ 0,5% solution and concentrated H_2SO_4 show that three of the four disposable diapers positive contained formaldehyde, thus the determination of formaldehyde level was mode on three brands of disposable diapers. The determination of formaldehyde levels was performed by visible spectrophotometry method using Nash reagent. Nash reagent was used to produce a stable yellow color of dihydropiridine when reacted with formaldehyde so that absorption can be measured on a visible region. Formaldehyde was extracted from sample using vapour absorption method. From two hundred grams of disposable diapers were obtained formaldehyde in sample A, B and C 0.265, 0.285, and 0.165 mg/kg respectively. Each pad of disposable diapers was found to contain formaldehyde in sample A, B and C in amount of $2.65x10^{-5}$, $2.85x10^{-5}$, and $1.65x10^{-5}$ % b/b respectively. Validation of the analytical method showed that accuracy value was 101.67 %; RSD value was 1.621%; r = 0.998; limit of detection (LOD) value was 0.739 mg/L and limit of quantitation (LOQ) value was 1.534 mg/L.