

ABSTRACT

The beauty clinic was an aesthetic clinic that has been operating in the central region of Java and Special Region of Yogyakarta. All services at the beauty clinic had the potential to produce hazardous and toxic waste, especially solid medical hazardous and toxic waste. The samples was taken randomly according to the type of waste produced. In this study, it was found 11 types of hazardous and toxic waste namely sponge, tissue, latex, powder mask used container, acupuncture needle, syringe (syringe), mask, serum container, plastic enzyme container, tweezers and blackhead cleaning knife (ekstraktor). Testing of test samples was carried out at the Environmental Engineering Laboratory, Faculty of civil engineering and planning, Universitas Islam Indonesia by testing physical characteristics and heating values. The analytical method used is the proximate analysis method and calorimeter bomb. The calorific value based on the proximate analysis and calorimeter bomb method is obtained by the amount of calorific value. Based on the results of the calculation, the sponge heating value of sharp object value was 5044.60 kal/g, the infectious type was 15283.72 kal/g, and pharmaceutical waste amounting to 15283.72 kal/g. Meanwhile, for the results of the calorimeter bomb test the tissue heating value of 18320 J/g and the former mask 5424 J/g were obtained. In conclusion, B3 waste in beauty clinic has the potential to convert waste into high energy and can be processed using incinerator technology according to the physical characteristics and calorific value of the waste produced.

Keywords: Beauty Clinic, Incinerator, Physical Characteristics, WtE

ABSTRAK

Klinik kecantikan X merupakan klinik estetika yang telah beroperasi di daerah Jawa tengah dan D.I Yogyakarta. Semua pelayanan di klinik kecantikan X berpotensi menghasilkan limbah B3 terutama limbah B3 medis padat. Pengambilan contoh uji ini diambil secara acak menurut jenis limbah yang dihasilkan. Dalam penelitian ini, didapatkan 11 jenis limbah B3 padat yaitu spons, tissue, latex, wadah bekas bubuk masker, jarum akupuntur, jarum suntik (*sprit*), masker, wadah bekas serum, wadah bekas enzim plastik, pinset dan pisau bekas pembersih komedo (*ekstractor*). Pengujian sampel uji dilakukan di Laboratorium Teknik Lingkungan FTSP UII dengan pengujian karakteristik fisik dan nilai kalor. Metode analisis yang digunakan adalah metode *proximate analysis* dan bom kalorimeter. Nilai kalor berdasarkan hasil uji *proximate analysis* dan metode bom kalorimeter diperoleh hasil nilai kalor sebesar Berdasarkan hasil perhitungan tersebut didapat nilai kalor spons sebesar nilai kalor benda tajam adalah sebesar 5044,60 kal/g, jenis infeksius sebesar 15283,72 kal/g, dan jenis limbah farmasi sebesar 15283,72 kal/g. Sementara itu, untuk hasil uji bom kalorimeter didapat hasil nilai kalor tissue sebesar 18320 J/g dan bekas masker 5424 J/g. Dalam kesimpulannya limbah B3 klinik kecantikan X memiliki potensi konversi limbah menjadi energi yang tinggi dan dapat diolah menggunakan teknologi alternative insinerator sesuai dengan karakteristik fisik dan nilai kalor limbah yang dihasilkan.

Kata Kunci: Karakteristik Fisik, Klinik Kecantikan, Insinerator, *WtE*