

**ANALISA TIMBULAN, KOMPOSISI, KARAKTERISTIK, DAN POTENSI
DAUR ULANG SAMPAH DI UNIVERSITAS INTERNASIONAL SEMEN
INDONESIA**

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ABSTRAK

Universitas Internasional Semen Indonesia merupakan perguruan tinggi yang menghasilkan sampah seperti instansi pendidikan lainnya. Penelitian ini bertujuan menganalisis timbulan, komposisi, karakteristik, dan potensi daur ulang sampah berdasarkan SNI 19-3964-1994. Analisa timbulan sampah dilakukan dalam satuan massa dan volume. Analisa komposisi dan potensi daur ulang sampah dilakukan berdasarkan persentase. Analisa karakteristik fisika berupa massa jenis sampah. Analisa karakteristik kimia meliputi *proxymate analysis*, *ultimate analysis*, serta nilai kalor. Hasil timbulan sampah dalam satuan massa adalah 0,022 (Kg/o/h), sedangkan dalam satuan volume adalah 0,839 (l/o/h). Hasil komposisi sampah terdiri dari sampah daun dan ranting 64,36%, sampah plastik 12,65%, sampah kertas 9,02%, sampah residu 8,41%, sampah sisa makanan 4,81%, sampah kaleng 0,42%, dan sampah *styrofoam* 0,33%. Hasil karakteristik fisika sampah 0,019 Kg/l. Hasil karakteristik kimia sampah anorganik yaitu pada *proxymate analysis* terdiri dari kadar air 5,62%, kadar abu 13,06%, kadar volatil 75,12%, *fixed carbon* 6,21%, dan nilai kalor 4.732 Kkal/Kg. Karakteristik kimia sampah organik yaitu pada *proxymate analysis* terdiri dari kadar air 51,91% , kadar abu 8,74%, kadar volatil 24,67%, *fixed carbon* 14,68%, *ultimate analysis* yaitu rasio C/N 126,94%, dan nilai kalor 3.210 Kkal/Kg. Hasil potensi daur ulang sampah berdasarkan *bank* sampah adalah 35,02% dengan total pendapatan Rp200.000/ bulan terdiri dari sampah plastik 31,16% dengan pendapatan sebesar Rp190.500/ bulan, sampah kertas 2,50% dengan pendapatan sebesar Rp3.700/ bulan, dan sampah kaleng 1,36% dengan pendapatan sebesar Rp6.000/ bulan.

Kata Kunci : Timbulan, Komposisi, Karakteristik, Potensi Daur Ulang

**ANALYSIS OF WASTE GENERATION, COMPOSITION,
CHARACTERISTICS, AND RECYCLING POTENTIAL AT SEMEN
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ABSTRACT

Semen Indonesia International University is a university that produces waste like other educational institutions. This study aims to analyze the waste generation, composition, characteristics, and recycling potential based on SNI 19-3964-1994. Waste generation analysis is carried out in mass and volume units. Analysis of waste composition and recycling potential is done based on percentage. Analysis of physical characteristics in the form of waste density. Analysis of chemical characteristics includes proxymate analysis, ultimate analysis, and calorific value. The result of waste generation in mass units is 0.022 (Kg/o/h), while in volume units is 0.839 (l/o/h). The results of waste composition consist of 64.36% leaf and twig waste, 12.65% plastic waste, 9.02% paper waste, 8.41% residual waste, 4.81% food waste, 0.42% can waste, and 0.33% styrofoam waste. The result of the physical characteristics of waste is 0.019 Kg/l. The results of the chemical characteristics of inorganic waste, namely in proxymate analysis, consist of 5.62% moisture content, 13.06% ash content, 75.12% volatile content, 6.21% fixed carbon, and a calorific value of 4,732 Kcal/Kg. The chemical characteristics of organic waste, namely in proxymate analysis, consist of 51.91% moisture content, 8.74% ash content, 24.67% volatile content, 14.68% fixed carbon, ultimate analysis, namely C/N ratio 126.94%, and calorific value 3,210 Kcal/Kg. The results of waste recycling potential based on waste banks are 35.02% with a total income of Rp200,000/month consisting of plastic waste 31.16% with income of Rp190,500/month, paper waste 2.50% with income of Rp3,700/month, and canned waste 1.36% with income of Rp6,000/month.

Keywords : *Generation, Composition, Characteristics, Recycling Potential*