

Characterization of Industrial Waste from Industrial Estate In Map Ta Phut Area, Thailand

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Abstract

Industrial waste problem in Thailand is an important issue that should be managed urgently especially in large industrial area causing a lot of industrial waste in each year. This paper presents the characteristics of industrial waste generated from the Map Ta Phut Industrial Complex (MTPIC) area, which consists of four industrial estates, Map Ta Phut industrial estate (MTPIE), Padang industrial estate (PIE), Hemaraj Eastern industrial estate (HEIE), and Asia industrial estate (AIE), located in Rayong province, eastern of Thailand. Data of industrial waste generated from the four industrial estates from year 2006-2008 was gathered from the electronic waste management online system, Ministry of Industry, monitoring report, and data available at the Industrial Estate Authority of Thailand. Material flow analysis and material balance were applied to be as a method for characterized an industrial waste and created the waste flow diagram. The results found that the key component of industrial waste generated from the MTPIC area was sludge, which was 5,037,159.59 ton or 72.2 % of the total amount of industrial waste. Following with the next components were waste in other group and metal group, which were comprised of 888,258.27 ton or 12.73 % and 272,154.52 ton or 3.90 %, respectively. PIE showed the highest 3R waste ratio (3RWR), which demonstrated the highest potential for 3R waste management in the MTPIC area.

Keywords: Industrial waste; Map Ta Phut Area; 3R Waste; Waste Flow Analysis