



Estimation of hazardous waste factors

Özlem Karahan^{a,*}, Rüya Taşlı^a, Ebru Dulekgurgen^{a,b}, Erdem Görgün^{a,c}

^aFaculty of Civil Engineering, Environmental Engineering Department, Istanbul Technical University, 34469 Maslak, Istanbul, Turkey

Tel. +90 212 2856579; email: ozlem.karahan@itu.edu.tr

^bFaculty of Engineering, Environmental Engineering Department, Pamukkale University, Kinikli 20070, Denizli, Turkey

^cio Çevre Çözümleri Ar-Ge Ltd. Şti. İTÜ Ayazağa Yerleşkesi Teknokent ARI 1 No: 3 Maslak, Istanbul, Turkey

Received 26 November 2009; Accepted 9 June 2010

ABSTRACT

The first step of establishing a reliable waste inventory is the determination of waste factors. This study presents a detailed survey for the estimation of waste factors from different manufacturing sectors. Waste factors were obtained in units of “tons of hazardous waste generated per 1 ton of production of related industry” using waste generation figures given by Turkish Statistics Institute (TURKSTAT) and production figures given by The Union of Chambers and Commodity Exchanges of Turkey (TOBB). Estimated waste factors were cross-checked with the information obtained from field surveys conducted for basic metal and metal finishing industries. The hazardous waste factors obtained from TURSTAT and TOBB data for Basic Metal Industries (37) and Manufacture of Fabricated Metal Products, Machinery and Equipment (38) are 0.0035 and 0.0068, respectively. From the field surveys, the average hazardous waste factor of eight facilities in category (37) is estimated as 0.054 and that for six facilities in category (38) is determined as 0.007. In a parallel evaluation, hazardous waste factors obtained from production and waste generation figures declared by nine facilities in Basic Metal category (37) and 16 facilities in Metal Finishing category (38) are calculated as 0.017 and 0.012, respectively. These varying results indicate that for reliable waste factors estimation, hazardous waste generation and production figures of the industries should be attained correctly and checked with various data obtained from different sources before they are used for establishing the waste inventories.

Keywords: Hazardous waste; Inventory; Waste lists; Waste factors

*Corresponding author.