World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:9, No:05, 2015

Non-Methane Hydrocarbons Emission during the Photocopying Process

Authors : Kiurski S. Jelena, Aksentijević M. Snežana, Kecić S. Vesna, Oros B. Ivana

Abstract : The prosperity of electronic equipment in photocopying environment not only has improved work efficiency, but also has changed indoor air quality. Considering the number of photocopying employed, indoor air quality might be worse than in general office environments. Determining the contribution from any type of equipment to indoor air pollution is a complex matter. Non-methane hydrocarbons are known to have an important role of air quality due to their high reactivity. The presence of hazardous pollutants in indoor air has been detected in one photocopying shop in Novi Sad, Serbia. Air samples were collected and analyzed for five days, during 8-hr working time in three-time intervals, whereas three different sampling points were determined. Using multiple linear regression model and software package STATISTICA 10 the concentrations of occupational hazards and micro-climates parameters were mutually correlated. Based on the obtained multiple coefficients of determination (0.3751, 0.2389, and 0.1975), a weak positive correlation between the observed variables was determined. Small values of parameter F indicated that there was no statistically significant difference between the concentration levels of non-methane hydrocarbons and micro-climates parameters. The results showed that variable could be presented by the general regression model: y = b0 + b1xi1+ b2xi2. Obtained regression equations allow to measure the quantitative agreement between the variation of variables and thus obtain more accurate knowledge of their mutual relations.

Keywords : non-methane hydrocarbons, photocopying process, multiple regression analysis, indoor air quality, pollutant emission
Conference Title : ICEBESE 2015 : International Conference on Environmental, Biological, Ecological Sciences and Engineering
Conference Location : Amsterdam, Netherlands
Conference Dates : May 14-15, 2015