

International Conference on

Pollution Control & Sustainable Environment

April 25-26, 2016 Dubai, UAE

Precursors influencing tropospheric ozone formation and apportionment in three districts of Ilupeju Industrial Estate, Lagos

Azeez L¹, Oyediji O A², Adewuyi S O³, Tijani K O⁴, Adebisi S A¹ and Olaogun M A⁵¹Osun State University, Nigeria²The Federal Polytechnic Ilaro, Nigeria³Ladoke Akintola University of Technology, Nigeria⁴Fountain University, Nigeria⁵Environmental Accord Nigeria Limited, Nigeria

This study determined concentrations of toxic pollutants, volatile organic compounds and meteorological parameters in three sampling locations (SL1, SL2 and SL3) at Ilupeju industrial Estate. Average concentrations of toxic pollutants CO (14.70 ppm), NO₂ (0.88 ppm), and SO₂ (0.55 ppm) and O₃ (17.67 ppb) were measured. They were temperature, wind speed, pressure and relative humidity dependent. In terms of air quality, unhealthy air quality was obtained for CO, NO₂ and SO₂ while O₃ gave a good air quality. Of seventeen VOCs species belonging to alkane, alkene, aromatic and chlorinated hydrocarbons measured, m/p - xylene was the most abundant species accounting for 16.28%, 11.66% and 14.06% at SL1, SL2 and SL3 respectively. Different ratios such as toluene/m,p - xylene, Σ Xylene/CO, trichloroethene/CO and tetrachloroethene/CO indicated solvent related emissions from these locations while Benzene/Toluene ratio indicated a traffic related emission. m/p - xylene and propene were the major contributors to O₃ formation at SL1, SL2 and SL3 respectively. Ozone determined was VOC sensitive at all locations. Factor analysis using principal component analysis suggested traffic and industrial related emission sources for toxic pollutants and these with solvent evaporation as sources for VOCs.

Biography

Azeez L obtained his PhD in 2013 from Ladoke Akintola University of Technology. He is currently a Lecturer I in the Department of Chemical Sciences, Osun State University. He has published 24 articles in learned journals with one accepted in the *Journal of Nanostructure in Chemistry* and he is currently into the use of nanoparticle for the improvement of nutritional compositions of vegetables. He is presently serving as the Managing Editor of *Fountain Journal of Pure and Applied Sciences* and Public Relation Officer of Chemical Society of Nigeria, Osun State Branch.

luqman.azeez@uniosun.edu.ng

Notes: