World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:8, No:07, 2014

Zinc Contaminate on Urban Roadside in Rush Hour, Bangkok, Thailand

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Abstract : This research aims to study the Zinc (Zn) concentration in fine particulate matter on Rajchawithee roadside in rush hour. 30 Samples were collected in Jun to August 2013 by 8 stage non-avaible cascade impactor. Each samples (filter paper) were digest with nitric acid and analyed by atomic absorption spectrophotometer for Zinc determination. The highest value for the mean fraction (18.00 ± 9.28 %) is the size 9.0 – 110.0 micron follow by the range 3.3 – 4.7 micron (14.77 ± 14.66 %) and 1.1 – 2.1 micron (14.01 ± 11.77 %) .The concentration of Zn in the particulate matter of range 0.43 – 0.7 µm, 0.7 – 1.1 µm, 1.1 – 2.1 µm, 2.1 – 3.3 µm, 3.3 – 4.7 µm, 4.7 – 5.8 µm, 5.8 – 9.0 µm, 9.0 – 10.0 µm, were 41.56 – 217.62 µg/m3 (175.86 ± 32.25 µg/m3), 152.60 – 217.24 µg/m3 (187.71 ± 17.42 µg/m3), 142.90 – 214.67 µg/m3 (180.95 ± 18.71 µg/m3), 155.48 – 218.19 µg/m3 (183.22 ± 19.94 µg/m3), 151.72 – 217.39 µg/m3 (181.85 ± 17.57 µg/m3), 133.86 – 220.17 µg/m3 (178.78 ± 23.45 µg/m3), 160.00 – 220.35 µg/m3 (182.58 ± 18.08 µg/m3), 153.30 – 226.70 µg/m3 (181.52 ± 20.05 µg/m3), repectively. The Zn concentration in each size of particulate matter was not statistically significant different ($p > .005$)

Keywords : air pollution, particulate matter, size distribution, zinc
Conference Title : ICEBESE 2014 : International Conference on Environmental, Biological, Ecological Sciences and Engineering
Conference Location : Prague, Czechia
Conference Dates : July 10-11, 2014