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# BIOMONITORING OF PGE (PT, PD, RH) IN THE OCCUPATIONALLY EXPOSED TRAFFIC POLICE OFFICERS OF HYDERABAD CITY

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## Abstract

An attempt was made to study the concentrations of PGE released into the respirable suspended particulate matter (RSPM) samples of selected sites in Hyderabad city. These metallic concentrations were also studied in blood samples of traffic police officers of Hyderabad city to assess the risk associated with PGE to humans. The maximum concentration of platinum group elements in air dust samples of Hyderabad city were as follows: Pt = 1,416 μg/$m^3$, Pd = 1,024 μg/$m^3$, and Rh = 1,352 μg/$m^3$. The blood samples of occupationally exposed personnel of Hyderabad city showed Pt as high as 6.65μg/L, Pd as high as 2.15 μg/L, and Rh as high as 4.95 μg/L. The results reflected an important tendency of bioaccumulation of these metals in humans with increase in age and years of occupational exposure. The results of the study have revealed higher concentrations of Pt, Pd and Rh in these traffic police officers operating in high density traffic sensitive zones in comparison to those in industrial and residential areas. In particular among the PGE, platinum accumulation was more.

*Keywords:* PGE, Emission source, Health risk, Cation Exchange Chromatography, HR-ICP-MS.