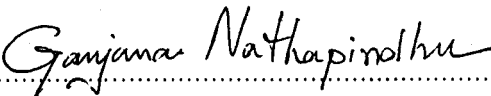
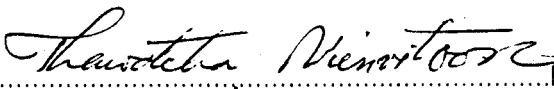


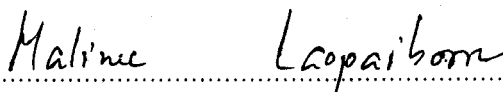
THESIS TITLE : THE SITUATION OF DUST IN ENVIRONMENT AND RESPIRABLE
DUST ON TRAFFIC POLICEMEN EXPOSED IN KHON KAEN
MUNICIPALITY

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ABSTRACT

This descriptive study was designed to determine the situation of dust in the environment and respirable dust on traffic policemen exposed in Khon Kaen Municipality from November 1996 to February 1997. Variables for this study were the total dust, suspended particulate matter in the environment, respirable dust on traffic policemen exposed and the primary data of traffic policemen samples. The samples were 28 traffic policemen who had to work in a four way intersection with traffic jams in Khon Kaen Municipality. The total dust was measured for an average 24 hours, the suspended particulate matter was measured for an average 24 hours and one hour in the environment by using Air Sampler High Volume. The respirable dust on traffic policemen was measured by using Air Sampler Personal Pump. Questionnaires were used in order to get personal information from the traffic

policemen . Range, mean and standard of deviation, percentage and Median are used for describing the data.

The results of the average total dust in 24 hours had a range of 0.38 - 0.70 mg/m^3 and an average mean of 0.48 mg/m^3 (S.D. 0.04 mg/m^3). It proved higher than the standard level. (The standard average 24 hours total dust equals 0.33 mg/m^3) The average suspended particulate matter in 24 hours had a range of 167.70 - 299.98 $\mu\text{g/m}^3$ and an average mean of 233.12 $\mu\text{g/m}^3$ (S.D. 8.82 $\mu\text{g/m}^3$). This value is higher than the standard level. (The standard average 24 hours suspended particulate matter equals 120.00 $\mu\text{g/m}^3$) The average suspended particulate matter in one hour had a range of 84.80 - 390.86 $\mu\text{g/m}^3$ and an average mean of 211.49 $\mu\text{g/m}^3$ (S.D. 49.32 $\mu\text{g/m}^3$). The maximum values had in 17.00 - 18.00 pm . And the respirable dust on traffic policemen exposed had a range of 84.68 - 274.02 $\mu\text{g/m}^3$ and an average mean of 155.58 $\mu\text{g/m}^3$ (S.D. 23.88 $\mu\text{g/m}^3$). The value was lower than the standard level. (The standard respirable dust equals 5000.00 $\mu\text{g/m}^3$ or 5 mg/m^3) The samples of 28 traffic policemen had a median duration time of working in traffic of 6 years. They stand in the traffic service area for a mean of 6 hours 22 minutes (S.D. 54 minutes) and 82.14 % (23/28) of the traffic policemen put on the personal protective devices (mask) while working, 69.57 % (16/23) used this equipment when the traffic was jammed.

In conclusion, the levels of total dust and suspended particulate matter in an average 24 hours in the environment of Khon Kaen Municipality are much over the standard level. This may have an affect on human and the environment. This problem must have an appropriate solution. Even though, the respirable dust on traffic policemen exposed was much lower than the standard level in this study. If it is not controlled in the the future, the respirable dust may increase and endanger traffic policemen and others. So, a project of health education for using dust protection masks on traffic policemen should be implemented.