Thesis Title	A Comparative Study of Measuring Techniques for Ambient Suspended Particulate Matter
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Date of Graduation	16 June B.E. 2535 (1992)

Abstract

Ambient suspended particulate matter was measured by using four measuring samplers, namely High Volume Air Sampler (General Metal Works Ltd., Model GMW 2000 H), Andersen Air Sample (Sibata Scientific Technology Ltd., Model SIBATA AN-200) , PM_{10} High Volume Air Sampler (General Metal Works Ltd., Model GMW IP-10 , Cascade Impactor (Kimoto Ltd., Model Kimoto 130) , at 3 different locations in Bangkok Metropolitian Area. They are classified as residential area,commercial area, and industrial area. All four samplers were run simultaneously at each location, using glass ffiber filter as collection medium. For each sampler, thirty 24-hours samples were collected at each location. This study done during to October, 1992.

Result show that concentration of total suspended particulate (TSP) matter (particle diameters smaller than 100 micrometers) obtained from GMW 2000 H are comparalable with those obtained from SIBATA AN-200 at 95 % confident level with correlation coefficient (r) of 0.81. However, GMW 2000 H reported 16 % higher than Kimoto 130 with r = 0.84

Concentrations of respirable suspended particulate (RSP) matter (particle diameters samller than 10 micrometers) are not different significantly from those reported by Kimoto 130 at 95 % confident level with r = 0.83. GMW IP-10, however, repotred RSP 20 % less than SIBATA AN-200.

The average ratio of RSP : TSP measured by GMW IP-10 and GMW 2000 H, respectively, is 0.66 with a best fit equation obtained from linear regression as $Y = 1.03x + 40.2$ (Y = TSP from GMW 2000 H, X = RSP from GMW IP-10) and r = 0.75.

It can be concluded from the study that the samplers which are designed to measure RSP, and can also report TSP, cannot reported significantly results of TSP and RSP at the same time by used only one sampler.