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DETERMINATION OF AIR CHANGE RATES BY USING INDOOR CO AS TRACER: APPLICABILITY AND ENVIRONMENTAL ISSUES

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Abstract

Air change rates and ventilation of a room was determined by CO Tracer Decay Technique. The tracer was generated by burning bulk amount of mosquito coils, an easy and low cost method of CO generation. The temporal decay in CO concentration in indoor air under closed and open room conditions were determined by collecting indoor air periodically at a few minutes interval in Tedler Bags and analyzing the same for CO. The air changes rate per hour (ACH) was calculated from the temporal decline of indoor CO concentration in indoor air. The study indicated that CO generated by a low cost and easily applicable method like combustion of organic materials could be used as a tracer to determine ACH and ventilation rate. Background CO in air could be suitably used for ventilation studies in rural/urban slum dwellings in India and many other countries where substantial CO is found indoors due to combustion of biomass, incense sticks and mosquito coils.

Key words: ACH, rural housing, tracer decay, urban slum, ventilation

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