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SAKONLAPUD MHEUANCHANCHERY : INVENTORY EQUIPMENT FOR REDUCING SURFACE COATED FUME USED IN SMALL SCALE SURFACE INDUSTRY, NAKHONPATHOM PROVINCE. THESIS ADVISER : SOMPONG THONGCHAI M.Sc., KASEM KULPRADIT M.Sc., VAJINEE AREEROB M.A., 151 P. ISBN 974 – 663 – 717 – 7

Surface coating fume is harzardous to inhalers' health, especially those working near the surfaces of the fumes. The study of chemical and physical qualifications of surface coating fumes aims to design and devise a fume reducing device which meets the standard criteria established by the Ministry of Industry and which can be an alternative guideline of technology properly applicable to deal with the environment. The procedure used in this study is experimental research in laboratory. The experimental sample consisted of 70 varieties of fumes. The data obtained were tested by Mode, Percentage and Chi square. The effectiveness of the two devices concerned the proper shapes of the device, the elimination of contaminated substances in the air by the device, and the effectiveness of the device in dealing with contaminate substances which were sprayed in the air.

The findings indicate that the contaminations having passed through the invented device resulted in the exact standardized amount delimited in the sixth article of the Proclamation of the Ministry of Industry (1997). The device was left open to function at a temperature between 166° C – 255° C during the process of surface coating spraying. The surface coating fume being reduced by the operation of the spraying machine under the pressure by 4.5, 5.5 and 6.5 kg/cm ^{2} accounts for 77%, 73% and 6.8% respectively. When the can spray is treated in four different patterns, the surface coating fumes will be reduced by between 55 – 63% or by an average of 59%. When the device is statistically tested for its effectiveness, the combustion output is not affected by the different spraying treatments at the significant reliability level of 0.05.