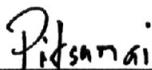


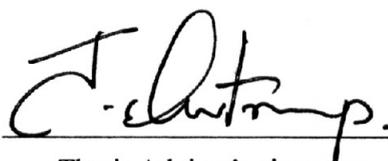
Pitsamai Chantaramai 2007: Simulation of Ventilation System Treating IPA Vapour Induced from Drug Mixing Process. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Assistant Professor Jarun Chutmanop, D.Eng. 105 pages.

This thesis is study the flow rate that is suitable for exhausting the Isopropyl Alcohol; (IPA) from the mixing drug room to reserve the employees healthy in that room. From the measure of the real state found that there is 5,515.333 ppm. IPA gas. For this cause we found that the employees in the mixing drug room are dizzy, pained eyes and sore throat even though they wear mask and safety glasses. So applied Fire Dynamic Simulator and redesign new air flow system to test the IPA gas evacuation rate in order to keep this gas concentration to be standard.

The result of the study above shows that if there is no gas evacuation system in the room, some IPA gas is released by the duct, but some IPA gas is diffuse over the floor of the mixing room. More over, most of IPA gas falls onto the floor and when the time pass it will be more accumulated. We have set the IPA gas evacuation by different flow rate and by Capture Velocity. The rate that is suitable for the evacuation of IPA gas is the flow rate at 6 m. /sec by sucker close up source. We used this rate to set the experiment by Smokeview program and found that the diffusion of IPA gas from the origin can filter all Particles by the gas evacuation system we have designed.



Student's signature



Thesis Advisor's signature

