

Sureekarn Totaiya 2010: Effect for Health from Sulfuric Acid Evaporate at Fork-lift Battery. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Kiatkrai Ayuwat, M.Eng. 127 pages.

This thesis studied the sulfuric acid (H_2SO_4) evaporation during the fork-lift battery changing. In this study, pyrosim version 2010 was used to model the sulfuric evaporation compared to chemical test by Ion Chromatography Method. The results leaded to the suggestion of air ventilation and personal preventive standard.

The results illustrated that the battery charging released H_2SO_4 to air and spread over battery. Test chemical in the air by ion chromatography method contained 0.002 mg/m^3 H_2SO_4 which followed the standard of ACGIH (American Conference of Governmental Industrial Hygienists). After ventilator is operated all of H_2SO_4 can be eliminated. With 60% ventilator efficiency, the model of sulfuric evaporation showed unsignificated amount of H_2SO_4 which can gain energy conservation and H_2SO_4 was not over the standard at 0.2 mg/m^3 .

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Thesis Advisor's signature

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