

Prapavarin Putthachong 2006: Study and Evaluation of Nitrocellulose Explosion in Storage Area. Master of Engineering (Safety Engineering), Major Field: Safety Engineering, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Thongchai Srinophakun, Ph.D. 94 pages. ISBN 974-16-1623-6

Results of Nitrocellulose explosion effected at case study company in Samuthprakarn Province by compare with TNT Equivalent found that 70 meters distance from source point can probably make total destruction of building, heavy machine tools, moved and badly damaged, very machine tools survive 150 meters distance from source point make 50% destruction brickwork of houses and 700 meters distance from source point make minor structural damage. Safety distance from source point is over 1,000 meters. Toxic gas from decomposition of Nitrocellulose are CO₂, CO and HCN. Results from ALOHA showed that CO₂ is heavy gas dispersion and disperse in ordinate direction 13 meters distance from source point at 40,000 ppm (IDLH value). CO is Gaussian gas dispersion and disperse in ordinate direction 243 meters distance from source point at 1,200 ppm (IDLH value). HCN is Gaussian gas dispersion and disperse in ordinate direction 663 meters distance from source point at 50 ppm (IDLH value).



Student's signature



Thesis Advisor's signature

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