Kajian kuantitatif risiko kebakaran dan ledakan pada mobil tangki bahan bakar minyak studi kasus di terminal bahan bakar minyak X Jakarta tahun 2015 = quantitative fire and explosion risk assessment of fuel truck tank case study at fuel terminal X Jakarta year 2015

Laksita Ri Hastiti, author

Abstrak

Tingginya jumlah dan volume distribusi bahan bakar minyak, salah satunya dengan moda transportasi mobil tangki, memiliki risiko yang semakin kompleks terkait potensi kebakaran dan ledakan. Berbagai penelitian dan laporan kasus membuktikan tingkat kecelakaan atau kebakaran dan ledakan mobil tangki masih terus terjadi. Kajian kuantitatif risiko kebakaran dan ledakan dilakukan untuk mengetahui tingat risiko individu dan sosial. Perhitungan frekuensi dilakukan dengan menggunakan Event Tree Analysis (ETA) dan konsekuensi dengan perangkat lunak ALOHA® (Areal Locations of Hazardous Atmospheres) berdasarkan skenario terburuk. Studi kasus dilakukan di filling shed Terminal Bahan Bakar Minyak X Jakarta. Penelitian dilakukan dengan desain studi deskriptif dan analitik melalui data primer hasil observasi dan wawancara serta data sekunder perusahaan dan literatur. Penelitian ini menggambarkan risiko individu dan sosial masing-masing masuk dalam kategori masih dapat diterima dan dapat ditoleransi. Perusahaan perlu mempertahankan sistem keselamatan kebakaran yang ada dan meningkatkan sosialisasi terhadap karyawan dan masyarakat karena dampak yang ditimbulkan mulai dari manusia, aset, material, ekonomi dan reputasi perusahaan.

<hr>The high amount and volume distribution of fuel which one of them is by truck tank as the mode of transportation, have increasingly complex risks related to the potential of fire and explosion. Various studies and case reports have proven that the level of accidents or fire and explosions of truck tank is continuing to occur. The quantitative fire and explosion risk assessment purpose was to determine the level of the individual and societal risk calculation. Event Tree Analysis (ETA) was used for calculating the frequency and ALOHA® (Areal Locations of Hazardous Atmospheres) software was used to calculate the consequences arise from fire and explosion based on the worst case scenarios. Case study was conducted in filling shed Fuel Terminal X Jakarta.

The study was conducted by descriptive and analytic design through primary data observations and interviews as well as secondary data from company and literature. This study describes that the individual and societal risks of each category are still acceptable and tolerable. Companies need to maintain the existing fire safety system and improve the dissemination to the employee and community because of the impact on humans, assets, material, economic and corporate reputation.