

Kajian risiko kebakaran dan ledakan skid tank lpg dengan pendekatan kuantitatif : studi kasus distribusi LPG dari PT. X ke Sppbe Y tahun 2017 = Quantitative risk assessment of fire and explosion of LPG SKID tank case study of LPG distribution from PT. X to sppbe Y year 2017

Ivan Havosan, author

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Abstrak

LPG merupakan salah satu sumber energy alternatif pada saat ini, dengan adanya konversi, diversifikasi produk domestic gas, dan ekspansi bisnis LPG sebagai energi masa depan, dapat diestimasi trend insiden LPG akan meningkat. Analisa risiko dilakukan dengan menggunakan metode QRA; dengan analisis konsekuensi dilakukan dengan menggunakan software Excel dan ALOHA. LPG diasumsikan campuran tetap antara propana dan butana sebesar 50:50. Moda transportasi terbatas pada Skid Tank LPG Wagon dengan ukuran massa LPG yang diangkut seberat 15.000 kg dengan tekanan di dalam vessel 4 ndash; 6 kg/cm². Dari hasil penelitian didapatkan baik risiko individu maupun sosial menunjukkan bawa risiko masuk ke zona ALARP. Untuk memitigasi risiko tersebut lebih lanjut diperlukan pengendalian diantaranya beberapa elemen manajemen keselamatan proses seperti Hazard Analysis, Partisipasi Pekerja, Process Safety Information, Operating Procedure, Training, Kontraktor, Mechanical Integrity, Emergency Response, dan Compliance Audit. LPG is one of alternative energy sources at present, with the kerosene conversion, domestic gas product diversification, and LPG business expansion as the energy of the future, it can be estimated that LPG incident trend will increase. Risk analysis is done by using QRA method meanwhile analysis done using Excel and ALOHA software. LPG is assumed to be a fixed mixture of propane and butane at 50 50. The mode of transportation is limited to the Skid Tank LPG Wagon with a mass of 15,000 kg of LPG transported with pressure in a 4 6 kg cm². Results from the study both individual and social risk showed a risk level within ALARP zone. Risk mitigation are further required to control the hazard to be manifested this including some elements of process safety management such as Hazard Analysis, Workers Participation, Process Safety Information Operating Procedure, Training, Contractor, Mechanical Integrity, Emergency Response, and Compliance Audit.