

# Health risk assessment bahaya kimia dan fisika pada area hydro cracking complex hcc di PT Pertamina persero refinery unit ii Dumai tahun 2017 = Health risk assessment chemical dan physical hazard at hydro cracking complex hcc area in PT Pertamina persero refinery unit ii Dumai 2017

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## Abstrak

Proses kerja pada area Hydro Cracking Complex HCC memiliki risiko bahaya kesehatan kimia dan fisika bagi pekerja. Penelitian ini menilai gambaran bahaya risiko kesehatan dan Health Risk Assessment HRA dengan menggunakan metode semi kuantitatif untuk menentukan skor durasi, exposure, konsekuensi, dan likelihood yang selanjutnya akan dihitung dalam Risk Assessment Matriks RAM. Pedoman yang digunakan untuk menghitung yaitu International Petroleum Industry Environmental Conservation Association IPIECA dan International Association of Oil Gas Producers OGP tahun 2006.

Berdasarkan hasil perhitungan prioritas pengendalian risiko di area HCC bahaya kesehatan fisika dan kimia berada pada 4 tingkat yaitu: tidak perlu dilakukan tindakan segera, prioritas pertama, kedua, dan ketiga untuk dilakukan tindakan. Penilaian HRA menunjukkan terdapat bahaya fisika berupa bahaya pencahayaan, heat stress, dan bising. Sedangkan bahaya kimia yang ditemukan yaitu uap Hidrocarbon, Fuel Gas CO, Fuel Gas H<sub>2</sub>S, Fuel Gas CO<sub>2</sub>, Ammonia NH<sub>3</sub>, Benzene Toluene Xylene BTX, Soda Api NaOH, Katalis, Steam H<sub>2</sub>, Ceceran fuel oil, N<sub>2</sub>, SO<sub>2</sub>, LPG, Indoor Air Quality CO, CO, O<sub>2</sub>, Nox, SO<sub>x</sub>, dan Lube oil. Tingkat risiko bahaya kesehatan dapat dikurangi dengan melakukan hirarki kontrol, yaitu dengan mengeliminasi bahaya, menambah intensitas cahaya, pembatasan area kerja, rotasi pekerja, penggunaan APD yang sesuai, dan perhitungan kadar paparan bahan kimia.

.....Working processes at Hydro Cracking Complex HCC have chemical dan physical hazards for the workers. This study assessed about health risk hazard and Health Risk Assessment HRA by using semiquantitative method to determine score, exposure, consequence, and likelihood, then we calculate them into Risk Assessment Matriks RAM. The guideline that we use is from International Petroleum Industry Environmental Conservation Association IPIECA and the International Association of Oil Gas Producers OGP.

Based on the calculation we found 4 level of risk hazard control for chemical dan physical hazards, there are, no need immediate action, first, second, and third priority of action. HRA result shows there are some physical hazards, lighting, heat stress and noise. There were also found chemical hazards, they are Hidrocarbon, Fuel Gas CO, Fuel Gas H<sub>2</sub>S, Fuel Gas CO<sub>2</sub>, Ammonia NH<sub>3</sub>, Benzene Toluene Xylene BTX, NaOH, Katalis, Steam H<sub>2</sub>, fuel oil, N<sub>2</sub>, SO<sub>2</sub>, LPG, Indoor Air Quality CO, CO, O<sub>2</sub>, Nox, SO<sub>x</sub>, and Lube oil. The level of risk can be reduced by applying control of hierarchy, such as eliminating hazard, increasing light intensity, limiting working area, worker rotation, using appropriate PPE, and measure chemical hazard exposure.