

Kajian risiko kesehatan terkait pajanan benzene, toluene, dan xylene pada pekerja di Laboratorium Migas PT X tahun 2024 = Health risks assessment related to benzene, toluene, and xylene exposure in workers at PT X's Oil and Gas Laboratory in 2024

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Abstrak

Laboratorium Migas merupakan tempat kerja untuk melakukan pengujian, penelitian, dan pengembangan minyak mentah, produk sampingan, hingga produk jadi menggunakan peralatan dan bahan yang ada. Laboratorium memiliki banyak bahaya di dalamnya, tak terkecuali dengan bahaya kimia seperti benzene, toluene dan xylene (BTX). Oleh karena itu, diperlukan kajian risiko kesehatan di Laboratorium Migas untuk mengetahui seberapa besar tingkat risiko BTX terhadap pekerja laboratorium. Kajian risiko kesehatan ini akan mengacu pada CHRA DOSH Malaysia (2018) dimana data yang didapatkan dianalisis menggunakan IHSTAT. Kajian risiko kesehatan dilakukan menyesuaikan dengan SEG yang sudah ditentukan, yaitu unit Crude & Product Classification, unit Facility & Quality, unit Fuel, unit Analytical & Gas, serta unit Petrochemical. Hasil dari penelitian menunjukkan bahwa terdapat tingkat risiko yang tinggi pada pajanan benzene melalui rute inhalasi serta rute dermal terhadap unit Fuel. Sementara itu, pajanan xylene dan toluene berada pada tingkat risiko yang rendah untuk rute pajanan inhalasi serta berada pada tingkat pajanan moderat pada rute pajanan dermal. Dari hasil penelitian terkait tingkat risiko kesehatan pada pajanan benzene, toluene, dan xylene, diperlukan peningkatan kesadaran pekerja untuk menggunakan APD tambahan serta peningkatan sistem ventilasi di tempat kerja.

.....The Oil and Gas Laboratory is a workplace for conducting testing, research and development on crude oil, by-products and finished products using existing equipment and materials. Laboratories have many dangers in them, including chemical hazards such as benzene, toluene and xylene (BTX). Therefore, it is necessary to study health risks in oil and gas laboratories to find out how big the risk level of BTX is to laboratory workers. This health risk study will refer to CHRA DOSH Malaysia (2018) where the data obtained was analyzed using IHSTAT. Health risk studies are carried out in accordance with the SEGs that have been determined, namely the Crude & Product Classification unit, Facility & Quality unit, Fuel unit, Analytical & Gas unit, and Petrochemical unit. The results of the study show that there is a high level of risk of exposure to benzene via the inhalation route and the dermal route on Fuel units. Meanwhile, exposure to xylene and toluene is at a low risk level for the inhalation exposure route and at a moderate exposure level for the dermal exposure route. From the results of research regarding the level of health risk from exposure to benzene, toluene and xylene, it is necessary to increase worker awareness to use additional PPE and improve the ventilation system in the workplace.