Risiko kesehatan pajanan benzena pada pekerja industri mebel di Klender Jakarta Timur 2015 = Health risks of exposure to benzene among furniture industry workers in Klender east Jakarta 2015

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Abstrak

Benzena merupakan bahan kimia yang terbukti karsinogenik serta bersifat genotoksik pada manusia. Salah satu penggunaan benzena adalah lem yang digunakan di industri mebel atau furniture. Penelitian ini dilakukan untuk mengestimasi tingkat risiko kesehatan pajanan benzena pada pekerja industri mebel. Yang menjadi tempat penelitian adalah workshop kayu yang berada Kawasan Gotong Royong, Klender, Jakarta Timur. Penelitian dilakukan selama bulan November hingga Maret 2016. Metode yang digunakan adalah metode Analisis Risiko Kesehatan Lingkungan (ARKL). Nilai estimasi risiko kesehatan non karsinogenik dinyatakan dengan Risk Quetient dan estimasi risiko kesehatan karsinogenik dinyatakan dengan Excess Cancer Risk.
Konsentrasi benzena di udara lingkungan kerja diukur dan karakteristik pola pemajanan responden didapatkan dari hasil wawancara langsung. Didapatkan bahwa nilai median konsentrasi benzena di udara lingkungan kerja di Kawasan Gotong Royong sebesar 0,508 mg/m3 atau 0,159 ppm. Nilai median dari intake non karsinogenik untuk durasi life span adalah 0,016 mg/kg/hari, sedangkan nilai median dari intake non karsinogenik real time sebesar 0,00073 mg/kg/hari. Nilai median dari intake karsinogenik sebesar 0,00026 mg/kg/hari.
Dari nilai intake, didapat besar tingkat risiko non karsinogenik (RQ) untuk durasi life span sebesar 1,90 dan RQ real time sebesar 0,085. Sedangkan tingkat risiko karsinogenik (ECR) dengan CSF minimal sebesar 0,4E-4 dan ECR dengan CSF maksimal sebesar 1,5E-4. Nilai RQ life span dan nilai ECR maksimal sudah melewati batas aman sehingga udara di lingkungan kerja Kawasan Gotong Royong sudah tidak aman dari risiko kesehatan non karsinogenik dan risiko kesehatan karsinogenik pajanan benzena dengan intake sesuai masing-masing responden. Diperlukan manajemen risiko untuk meminimalisir risiko kesehatan pajanan benzena.
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Benzene is a chemical that proven carcinogenic and genotoxic in humans. One of the uses of benzene is the glue used in the furniture industry. This study was conducted to estimate the health risks of exposure to benzene in the furniture industry workers which used the glue contains benzene. The research took place in some furniture production workshops in Kawasan Gotong Royong, Klender, East Jakarta. The study was conducted during the months of November to March, 2016. The method used is the method of Environmental Health Risk Analysis (HRA). The estimated value of non-carcinogenic health risk is expressed as Risk Quetient (RQ) and carcinogenic health risk estimates is expressed as Excess Cancer Risk (ECR).
The concentration of benzene in the air working environment is measured and the characteristic of exposure of respondents obtained from direct interviews. It was found that the median value of the concentration of benzene in the air working environment of the Kawasan Gotong Royong was 0,508 mg/m3 or 0,159 ppm. The median value of non-carcinogenic intake for the life span duration was 0,016 mg/kg/day, while the

median value of intake of non carcinogenic for the real time duration was 0,00073 mg/kg/day. The median value of the carcinogenic intake was 0,00026 mg/kg/day.

By the value of the intake, it was calculated the level of risk of non carcinogenic (RQ) for the life span duration was 1.90 and RQ for the real time duration was 0,085. While the level of carcinogenic risk (ECR) with a minimum of CSF was 0,4E-4 and ECR with CSF maximum was 1,5E-4. RQ value for the life span duration was >1 and the maximum value of ECR was >1E-4 suggested the air in the working environment of the Kawasan Gotong Royong was not safe from the health risks of non-carcinogenic and carcinogenic health risks of exposure to benzene based on the appropriate intake of each respondent. Risk management is required to minimize the health risks of exposure to benzene.