

Analisis risiko kesehatan pajanan xylene pada pekerja bengkel sepatu X di kawasan perkampungan industri kecil (PIK) Pulogadung Jakarta Timur 2010

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Abstrak

Pre-eliminatory study of xylene exposure in the occupational air of Workshop X had found the exceed xylenes concentration compared to the International Risk Information System reference dose (0,1 mg/m³). The footwear workers had a risk to exposed by xylene. The aim of this study is to determine the risk quotient (RQ) of xylene exposure on footwares workers using health risk assessment approach with its four important steps: hazard identification, dose-response assessment, exposure assessment and risk characterization.

Sample is 26 equal to number of population. Data is collected by interview and direct measurement. Risk assessment calculated by deviding intake with the reference dose of xylene.

The mean concentration of xylene in the occupational air of Workshop X is 0,05 mg/m³ with the highest concentration in the upper section (0,18 mg/m³). Anthropometric data showed 57 kilogram as the weight average of footwares workers. Activity pattern including the average of 14,58 hours a day as time exposure, 301,08 days a year as a frequency of exposure and 3,48 years as time living in the workshop. Risk Quotient for both individual and the population is still below the reference dose of IRIS. Prediction of individual risk quotient for 20 years ahead showed that 19 % workers will be exposed to xylene and became increased to 35% in the next five years. The workers who work at upper section supposed to get adverse effect of xylene exposure with the indicator value of risk quotient almost close to 1 based on 30 years prediction. Suggestion for safe concentration of xylene during 8 hours exposure is 0,36 mg/m³. Using xylene concentration which established in SNI give RQ>1.

Xylene concentration in the occupational air of Workshop X is still below the IRIS reference dose.

NAB xylene menurut SNI 2005 sebesar 434 mg/m³ perlu dikoreksi karena hasil simulasi menggunakan konsentrasi tersebut mendapatkan nilai RQ di atas satu.