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**ANALISIS KONSENTRASI *PARTICULATE MATTER* 10 (PM₁₀)
DI DALAM RUMAH TINGGAL (*INDOOR AIR POLLUTION*)
DAN ANALISIS RISIKO KESEHATAN MASYARAKAT DI
PERUMAHAN UNAND ULU GADUT AKIBAT PABRIK
PT. SEMEN PADANG**

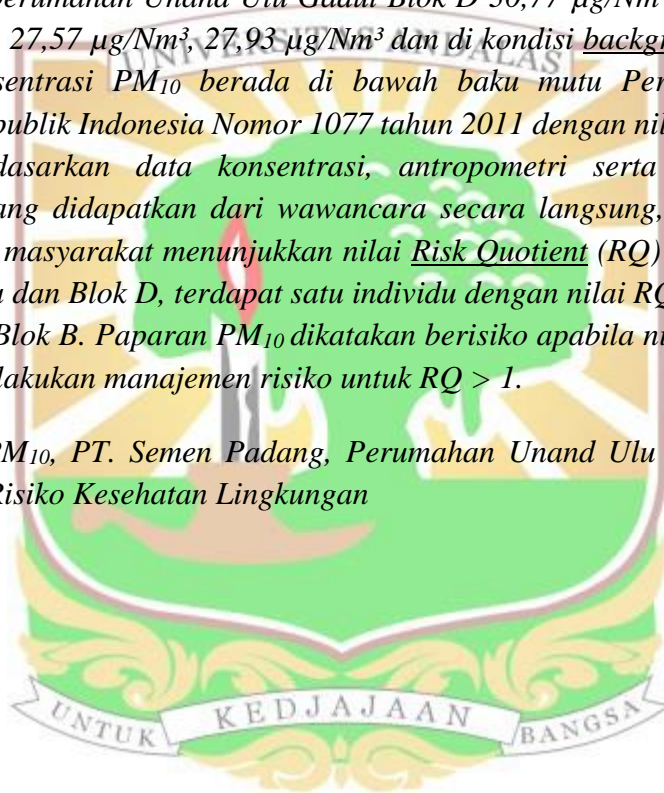


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ABSTRAK

Penelitian ini bermaksud untuk menganalisis Particulate Matter 10 (PM_{10}) dan risiko kesehatan yang diterima oleh masyarakat dari aktivitas pabrik PT Semen Padang di perumahan Unand Ulu Gadut. Pengukuran kualitas udara dilakukan di dalam rumah pada Perumahan Unand Ulu Gadut Blok B sebanyak 5 titik dan Blok D 5 titik. Pengukuran menggunakan Low Volume Sampler dilakukan selama 4 jam pada pukul 19.00-23.00 WIB. Selain itu juga dilakukan pengukuran pada kondisi background untuk melihat kontribusi emisi PT Semen Padang terhadap konsentrasi PM_{10} di dalam rumah. Berdasarkan hasil pengukuran diperoleh konsentrasi PM_{10} Blok B sebesar $22,84 \mu\text{g}/\text{Nm}^3$, $25,35 \mu\text{g}/\text{Nm}^3$, $20,80 \mu\text{g}/\text{Nm}^3$, $20,01 \mu\text{g}/\text{Nm}^3$, $20,49 \mu\text{g}/\text{Nm}^3$, dan perumahan Unand Ulu Gadut Blok D $30,77 \mu\text{g}/\text{Nm}^3$, $30,11 \mu\text{g}/\text{Nm}^3$, $26,77 \mu\text{g}/\text{Nm}^3$, $27,57 \mu\text{g}/\text{Nm}^3$, $27,93 \mu\text{g}/\text{Nm}^3$ dan di kondisi background yaitu $7,92 \mu\text{g}/\text{Nm}^3$. Konsentrasi PM_{10} berada di bawah baku mutu Peraturan Menteri Kesehatan Republik Indonesia Nomor 1077 tahun 2011 dengan nilai baku mutu $70 \mu\text{g}/\text{Nm}^3$. Berdasarkan data konsentrasi, antropometri serta pola aktivitas masyarakat yang didapatkan dari wawancara secara langsung, risiko paparan yang diterima masyarakat menunjukkan nilai Risk Quotient (RQ) < 1 di kawasan Blok B dewasa dan Blok D, terdapat satu individu dengan nilai RQ > 1 yaitu pada anak-anak di Blok B. Paparan PM_{10} dikatakan berisiko apabila nilai RQ > 1 , dan selanjutnya dilakukan manajemen risiko untuk RQ > 1 .

Kata kunci: PM_{10} , PT. Semen Padang, Perumahan Unand Ulu Gadut, Analisis Risiko Kesehatan Lingkungan



ABSTRACT

The purpose of this research are to analysis Particulate Matter 10 (PM_{10}) and health risks received by the community from the activity of the factory of PT Semen Padang in the housing Unand Ulu Gadut. Measuring air quality does in the house on housing Unand Ulu Gadut Blok B as much as 5 points and Blok D 5 points. Measuring PM_{10} uses Low Volume Sampler doing for 4 hours at 19.00-23.00 WIB. It also conducted a measurement on the condition of the background to determine the contribution of emissions of PT Semen Padang to the concentration of PM_{10} in the house. The results of the concentration of PM_{10} in Blok B are sebesar 22,84 $\mu\text{g}/\text{Nm}^3$, 25,35 $\mu\text{g}/\text{Nm}^3$, 20,80 $\mu\text{g}/\text{Nm}^3$, 20,01 $\mu\text{g}/\text{Nm}^3$, 20,49 $\mu\text{g}/\text{Nm}^3$, and the concentration of PM_{10} in Blok D are 30,77 $\mu\text{g}/\text{Nm}^3$, 30,11 $\mu\text{g}/\text{Nm}^3$, 26,77 $\mu\text{g}/\text{Nm}^3$, 27,57 $\mu\text{g}/\text{Nm}^3$, 27,93 $\mu\text{g}/\text{Nm}^3$ and background condition is 7,92 $\mu\text{g}/\text{Nm}^3$. The concentration of PM_{10} are under of the indoor air quality standard that exist on Permenkses RI No. 1077 Tahun 2011 which indoor air quality standard is 70 $\mu\text{g}/\text{Nm}^3$. Based on concentration, antropometri and the activity patterns of the community get from interview, the risk of exposure received by the public show the value of the Risk Quotient (RQ) < 1 in Blok B for adult and also Blok D, there is one individual with a value of the $RQ > 1$ is on children in Blok B. the exposure of PM_{10} were at risk if the value of $RQ > 1$, and the performed risk management for the $RQ > 1$.

Key words: PM_{10} , PT. Semen Padang, Housing Unand Ulu Gadut, Risk Analysis
Environmental Health