

ABSTRACT

Background : Nitrogen Dioxide (NO₂) enters the pollutant produced from various sources in an environment, especially the transportation zone. As an overview, the transportation zone is a contributor to NO₂ pollutants by 69% in urban areas, followed by industry and households. The groups that have the greatest potential to be affected by air pollution are residents who often pass by on the highway, residents who live on the edge of the highway, as well as residents who work near the highway, one of which is Road Sweeper workers.

Methods : The design of this research study used the method of Risk Assessment. The Risk Assessment method was used to determine the magnitude of the health risk due to exposure to Nitrogen Dioxide (NO₂) on Street Sweepers in Jambi City in 2021.

Result : The results showed that the realtime risk level of Street Sweepers when the research was conducted at points 1 – 4 was a maximum of 0.0706487. All of these results indicate that the RQ value is less than one ($RQ < 1$). For the lifespan or exposure for the next 30 years at point 1 – point 4 a maximum of 0.1513901.

Conclusion : The conclusion of this study means that currently street sweepers in Jambi City are still safe at the research site within 7 hours/day, 365 days/year and street sweepers in Jambi City remain safe for a maximum of 30 years.

Keywords : Risk Assessment, Nitrogen Dioxide (NO₂), Street Sweeper

ABSTRAK

Latar Belakang : Nitrogen Dioksida (NO_2) masuk kedalam pencemar yang dihasilkan dari berbagai sumber di suatu lingkungan paling utama zona transportasi. Sebagai gambaran umum, zona transportasi ialah penyumbang polutan NO_2 sebesar 69% di perkotaan, berikutnya perindustrian serta rumah tangga. Kelompok yang berpotensi besar terserang akibat polusi udara ialah warga yang kerap berlalu-lalang di jalan raya, warga yang bertempat tinggal di tepi jalan raya, maupun warga yang bekerja di dekat jalan raya, satu antara lain adalah pekerja Penyapu Jalan.

Metode : Desain studi penelitian ini menggunakan metode analisis risiko kesehatan lingkungan (ARKL). Metode ARKL digunakan untuk mengetahui besarnya risiko kesehatan akibat paparan Nitrogen Dioksida (NO_2) terhadap Penyapu Jalan di Kota Jambi tahun 2021.

Hasil : Hasil penelitian didapatkan bahwa tingkat risiko *realtime* Penyapu Jalan pada saat penelitian dilakukan pada titik 1 – titik 4 maksimal sebesar 0,0706487. Hasil tersebut seluruhnya menunjukkan nilai RQ yang kurang dari satu ($\text{RQ} < 1$). Untuk *lifespan* atau paparan 30 tahun kedepan pada titik 1 – titik 4 maksimal sebesar 0,1513901.

Kesimpulan : Kesimpulan dari penelitian ini artinya saat ini Penyapu jalan di Kota Jambi masih aman berada di lokasi penelitian dalam 7 jam/hari, 365 hari/tahun dan Penyapu jalan di Kota Jambi tetap aman selama maksimal 30 tahun mendatang.

Kata Kunci : Analisis Risiko Kesehatan Lingkungan, Nitrogen Dioksida (NO_2), Penyapu Jalan