Abstrak
Estimasi Sebaran Karbon Monoksida (CO) dan Analisis Risiko Karbon
Monoksida (CO) di Jalan Raya Menggunakan Program Caline4
Studi Kasus Jalan Slamet Riyadi Kota Surakarta Jawa Tengah

Aktivitas kendaraan di jalan raya menghasilkan banyak polutan yang memiliki dampak negatif bagi tubuh. CO merupakan polutan paling banyak yang dihasilkan oleh asap kendaraan. CO yang terdapat di udara apabila terhirup oleh manusia dapat menimbulkan dampak negatif bagi tubuh. CO dianalisis untuk mengetahui besarnya konsentrasi pencemar, membandingkan hasil pengukuran dengan baku mutu, pembuatan estimasi sebaran, dan perhitungan analisis risiko di area Pasar Sidodadi, Solo Square dan RS Kasih Ibu. Pengukuran dilakukan pada tengah minggu *(weekday)* dan akhir minggu (*weekend*). Alat yang digunakan adalah CO meter, pengukuran dilakukan selama 1 jam, tiap 5 menit konsentrasi CO dicatat lalu dirata-rata. Konsentrasi rata-rata CO Area Pasar Sidodadi paling tinggi didapat saat pengukuran akhir minggu *(weekend)*, area Solo Square konsentrasi tertinggi saat pengukuran tengah minggu *(weekday)* dan area RS Kasih Ibu konsentrasi CO tertinggi juga saat tengah minggu *(weekday)* . Setelah didapatkan konsentrasi pencemar pada masing-masing area, langkah selanjutnya adalah pembuatan estimasi sebaran dengan menggunakan software Caline4. Berdasarkan perhitungan analisis risiko, dapat diambil kesimpulan bahwa besarnya risiko total pada seluruh titik sampling kurang dari 1 (RQ<1) , sehingga paparan CO yang diterima oleh masyarakat tidak berisiko bagi kesehatan.

Kata Kunci : Pencemaran Udara, CO, Estimasi sebaran, Analisis Risiko

Abstract

Estimation of Carbon Monoxide Distribution (CO) and Risk Assassment of Carbon Monoxide (CO) on the Highway with Caline4 Program. Study Case Jalan Raya Slamet Riyadi, Kota Surakarta, Jawa Tengah.

Vehicle activities on the highway produce many pollutants that have negative impact on body. CO is the pollutant most produced by vehicle fumes. CO in the air when inhaled by human can give negative impact to the body. CO was analyzed to determine the amount of pollutant concentration, compare the measurement result with the quality standard, make the estimation of the spread using Caline4 software, and calculate risk analysis in Pasar Sidodadi area, Solo Square and RS Kasih Ibu. Measurements were conducted in midweek and weekends. The equipment used was CO meter, the measurement was conducted for 1 hour, every 5 minutes CO concentration was recorded and then averaged. The average concentration of CO in Pasar Sidodadi Area was highest in the time of weekend measurement, Solo Square area's highest concentration was during weekday measurement and RS Kasih Ibu area's highest CO concentration was also on weekday. Once the pollutant concentration was obtained in each area, the next step was making estimation of the spread using Caline4 software. Based on the calculation of risk analysis, it can be concluded that the total risk in all sampling points was less than 1 RQ <1, so the CO exposure received by the public was not at risk for health.

Keywords: Air Pollution, CO, Distribution Estimation, Risk Analysis