

GAMBARAN KADAR DEBU LINGKUNGAN DI PERMUKIMAN SEKITAR PENGGILINGAN BATU CV. MUNCUL KARYA KAPANEWON PENGASIH, KULON PROGO

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INTISARI

Latar Belakang: Debu merupakan salah satu polutan dengan toksisitas tinggi yang dapat memengaruhi kesehatan manusia dan kualitas lingkungan. Salah satu sumber utama debu adalah aktivitas industri, seperti penggilingan batu. Berdasarkan hasil observasi, CV. Muncul Karya yang berlokasi di area permukiman warga menghasilkan debu dalam jumlah besar yang tersebar hingga ke jalan umum yang sering dilalui kendaraan warga. Kondisi ini dikhawatirkan dapat mengganggu aktivitas masyarakat dan memberikan dampak negatif terhadap ekosistem lingkungan sekitar.

Tujuan Penelitian: Menggambarkan kadar debu lingkungan industri dan permukiman terdekat dari industri.

Metode Penelitian: Jenis penelitian ini adalah deskriptif dengan menggunakan metode observasi kuantitatif. Pengambilan sampel debu pada penelitian ini di 2 titik dengan pengukuran *pre-post test* sebanyak 3 kali pengulangan menggunakan *Low Volume Air Sampler* (LVAS).

Hasil Penelitian: Hasil pengukuran menunjukkan bahwa kadar debu tertinggi di gerbang industri pada kondisi *pre* sebesar 1,10 mg/m³ dan meningkat menjadi 11,56 mg/m³ pada kondisi *post*. Di permukiman yang berjarak 38,5 meter dari industri, kadar debu tertinggi pada kondisi *pre* tercatat 0,22 mg/m³, dan meningkat menjadi 4,55 mg/m³ pada kondisi *post*.

Kesimpulan: Kadar debu tertinggi di lingkungan CV. Muncul Karya pada kondisi *post* mencapai 11,56 mg/m³, melebihi Nilai Ambang Batas (NAB) menurut Permenaker No. 5 Tahun 2018 sebesar 10 mg/m³. Permukiman terdekat yang berjarak 38,5 meter dari industri masih termasuk dalam zona tanggung jawab lingkungan industri sesuai Permenperin No. 40/M-IND/PER/6/2016. Meskipun demikian, kadar debu tertinggi di titik permukiman tercatat sebesar 4,55 mg/m³ saat *post*, yang masih berada di bawah baku mutu udara ambien industri.

Kata Kunci: Debu, Permukiman, LVAS, Penggilingan Batu

OVERVIEW OF ENVIRONMENTAL DUST LEVELS IN SETTLEMENTS AROUND THE CV. STONE MILL. MUNCUL KARYA, KAPANEWON PENGASIH, KULON PROGO

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ABSTRACT

Background: Dust is one of the pollutants with high toxicity that can affect human health and environmental quality. One of the main sources of dust is industrial activities, such as stone milling. Based on the results of observations, CV. Muncul Karya located in residential areas produces a large amount of dust that is spread to public roads that are often passed by residents' vehicles. This condition is feared to interfere with community activities and have a negative impact on the surrounding environmental ecosystem.

Objective: Describe the dust level of the industrial environment and the nearest settlements of the industry.

Method: This type of research is descriptive using quantitative observation methods. Dust sampling in this study was done at 2 points with 3 repetitions of pre-post test measurements using Low Volume Air Sampler (LVAS).

Results: The measurement results showed that the highest dust content in industrial gates at the pre condition was 1.10 mg/m³ and increased to 11.56 mg/m³ at the post condition. In settlements 38.5 meters away from industry, the highest dust level in pre conditions was recorded at 0.22 mg/m³, and increased to 4.55 mg/m³ in post conditions.

Conclusion: The highest dust levels in the CV environment. Appearing Works in post conditions reached 11.56 mg/m³, exceeding the Threshold Value (NAV) according to Permenaker No. 5 of 2018 of 10 mg/m³. The nearest settlement which is 38.5 meters away from the industry is still included in the industrial environmental responsibility zone according to Permenperin No. 40/M-IND/PER/6/2016. However, the highest dust level at the settlement point was recorded at 4.55 mg/m³ at post, which is still below the industrial ambient air quality standard.

Keywords: Dust, Settlements, LVAS, Stone Mill